

UTILITY
PATENT APPLICATION
TRANSMITTAL

<i>Attorney Docket No.</i>	100504.00008
<i>First Inventor</i>	Rhett Drugge
<i>Title</i>	Method for Total Immersion...
<i>Express Mail Label No.</i>	filed electronically

See MPEP chapter 600 concerning utility patent application contents.

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

1. ☐ **Fee Transmittal Form** (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☒ **Applicant claims small entity status.**
See 37 CFR 1.27.
3. ☒ **Specification** [Total Pages 35]
Both the claims and abstract must start on a new page
(For information on the preferred arrangement, see MPEP 608.01(a))
4. ☒ **Drawing(s)** (35 U.S.C. 113) [Total Sheets 5]
5. **Oath or Declaration** [Total Sheets 7]
a. ☐ Newly executed (original or copy)
b. ☒ A copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s)
name in the prior application, see 37 CFR
1.63(d)(2) and 1.33(b).
6. ☐ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or
Computer Program (Appendix)
☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission**
(if applicable, items a. – c. are required)
a. ☐ Computer Readable Form (CRF)
b. ☐ Specification Sequence Listing on:
i. ☐ CD-ROM or CD-R (2 copies); or
ii. ☐ Paper
c. ☐ Statements verifying identity of above copies

9. ☐ **Assignment Papers** (cover sheet & document(s))

Name of Assignee _____

10. ☐ **37 CFR 3.73(b) Statement** ☐ **Power of Attorney**
(when there is an assignee)

11. ☐ **English Translation Document** (if applicable)

12. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
☐ Copies of citations attached

13. ☐ **Preliminary Amendment**

14. ☐ **Return Receipt Postcard** (MPEP 503)
(Should be specifically itemized)

15. ☐ **Certified Copy of Priority Document(s)**
(if foreign priority is claimed)

16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i).
Applicant must attach form PTO/SB/35 or equivalent.

17. ☒ Other: Substitute Specification Statement;

Substitute Specification (Marked and Clean Copies)

☐ Continuation ☒ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 09/625,712

Art Unit: 3742

☒ The address associated with Customer Number: 21832 **OR** ☐ Correspondence address below

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Canfield Scientific - Exhibit 1038 Part 1
Canfield Scientific, Inc. v. Melanoscan, LLC
IPR2017-02125

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APPARATUS FOR TOTAL IMMERSION PHOTOGRAPHY

Field of the Invention

The present invention relates primarily to conditions pertaining to health and cosmetics. As such, the device allows for the imaging of total or subtotal non-occluded body surfaces in order to
5 detect health and cosmetic conditions and involves the measurement and analysis of an optically depicted image of a patient's surfaces by standard color imaging, heat, electromagnetic or chemical imaging. The present invention allows for image pixel acquisition, its data collection, data aggregation, data dissemination, data manipulation, and subsequent viewing. The present invention provides for tissue analysis of a patient such that relevant determinations may be made
10 such as detection of diseases or related problems of cosmesis.

Background of the Invention

The invention relates to the detection, diagnosis and treatment of skin cancer as well as other diseases and cosmetic conditions of the visible human.

Half of all new cancers are skin cancers. About 1.3 million new cases of skin cancer will
15 be diagnosed in the United States each year. About 80 percent of the new skin cancer cases will be basal cell carcinoma, 16 percent are squamous cell carcinoma, and 4 percent are melanoma.

Both basal cell carcinoma and squamous cell carcinoma have a better than 95 percent cure rate if detected and treated early. Squamous cell carcinoma of the skin accounts for about 2.3 thousand deaths annually.

20 The incidence of melanoma has more than tripled among Caucasians between 1980 and 2000. There will be about 47,700 new cases of melanoma in 2000. At current rates, one in 74 Caucasian Americans will develop melanoma. With that statistic, one person dies of melanoma every hour. This year, approximately 7,700 deaths will be attributed to melanoma in the ratio of 4,800 men and 2,900 women. Older Caucasian males have the highest mortality rates from
25 melanoma. In women under the age of 30, melanoma is more prevalent than breast cancer. All of these cancers are associated with sun exposure with the majority occurring after age 50. Furthermore, the incidence rates for all skin cancers are increasing with movement of white populations south to sunnier climates and the greater numbers of individuals living into their 80s.

With the "baby boomer" generation currently in their late 50s, the medical community is faced with an explosive skin cancer epidemic.

There is a need for practical device that allows for the rapid screening of individuals for skin cancer and other maladies of the skin in early stages of development.

5 Currently, clinical diagnosis of skin disease is generally accomplished by visual inspection under white light illumination. In this process, the reflectance light of a skin lesion is examined. Visual diagnosis alone may not be particularly accurate for early detection of skin cancer since many skin conditions have a similar appearance under white light. Therefore, when a suspect lesion is identified by visual examination, a biopsy is often performed for a definitive diagnosis.

10 Not only is it crucial to diagnose skin pre-cancer or skin cancer at an early stage when it is curable, but it is also important to improve the clinical diagnosis of suspected skin lesions so as to avoid unnecessary skin biopsies.

 Several approaches have been tried to improve skin cancer diagnosis. Digital processing of reflectance images has been extensively investigated recently and has been found in melanoma to

15 be more accurate than specialist diagnostic accuracy. An alternative approach is ultraviolet (UV), infrared (IR) or polarized light photography that extends visual perception of a physician to the UV, IR or polarized light reflectance patterns. A further alternative approach that is already in widespread medical use involves illuminating the skin with a "Wood's lamp" which consists of a mercury discharge lamp associated with a filter that transmits UVA light with a 365 nanometer

20 peak while absorbing visible light. When this device is used to assist in skin diagnosis, the eye serves as both the detector and the long pass filter. The eye is not sensitive to UV light, but is sensitive to visible fluorescence light. When the "Wood's lamp" is used in a darkened room, where the physician sees an image of a fluorescing disease site. The "Wood's lamp" is useful for the diagnosis of some skin conditions such as tinea capitis, tinea versicolor, erythrasma, and some

25 pseudomonas infections, as well as aiding in the detection and diagnosis of hypopigmented skin. It is of no value in conditions where the fluorescence is not in the visible spectrum. These techniques depend on lighting and sensor techniques and may be incorporated into the total immersion photography system.

Prior Disclosures

Currently, clinical diagnosis of skin disease is generally accomplished by visual, verbal and handwritten history taking and by inspection during a visit to the physician's clinic. Initial inspections are routinely performed by general practitioners. Dermatologists may be sought out by patients or used upon referral by general practitioners. Either way, an appointment is required. Visual inspections are often limited by the physician's schedule or patient modesty. The patient may only be willing to have the area of concern inspected. General practitioners, the HMO "gatekeepers", have been documented to be less effective in discerning potential cancerous lesions than dermatologists. If referrals are not made, possible malignancies may be overlooked. A second approach is chemical emulsion or digital photography that can extend visual perception of a physician to the UV or IR reflectance patterns. Such approaches have also been limited by the need for a "point-and-shoot" photographer. A more limited approach requires only images of those areas in question. This again leaves open the possibility of an incomplete diagnosis. This approach may be augmented by the use of skin surface epiluminescence microscopy. Epiluminescence light microscopy (ELM) represents a technique which permits examination of the surface of the skin and also--by using the oil immersion technique--of the dermal-epidermal junction zone. The commonly used method of epiluminescence microscopy is based on point and shoot techniques requiring a trained operator. Recently, there have been investigations into the use of digital imagery to aid with dermatologic diagnoses. The prevalent technique uses either digitally processed standard photography or direct digital photography of sections of the subject's body. These images are then stored for inspection, referral, and/or forwarding. For comprehensive surface imaging, this approach requires multiple posings by the photographer and the subject that may exceed 30 views in total. Depending on the medium used, review of the images may or may not be available for inspection during the same appointment. Specific applications include the MoleMap and MoleMax II systems. MoleMap uses a combination of three images (epiluminescence, macro and low resolution) to identify possible melanoma. Visual type resolution is used primarily for mapping suspicious locations. Images are diagnosed and reported on by dermatologists before being permanently archived on a computer system for future comparisons. The MoleMax II system combines epiluminescence microscopy and computer technology for data storage and retrieval. The system can be adapted for body surface imaging (using serial individually-photographed images). Images are available for inspection during the

current office visit, allowing simultaneous dermatologist/patient on-screen observation. Since the outcome of treatment of cancer is more favorable the earlier and more accurately the cancer is detected, the present invention is a substantial advancement in improving public health by eliminating the barrier of an available expert photographer or dermatologist for effective skin screening. This device provides a complete non-covered screening in an automated fashion, removing the intrusion of physical inspection and decreasing the possibility of missed lesions. The image acquisition does not require the presence of a physician or medical photographer, thereby increasing convenience to the patient/subject. This, in turn, would allow the placement of the device independent of the physician's or medical photographer's office, a benefit to public health programs.

Since the outcome of cancer treatment is more favorable the earlier and more accurately the cancer is detected, the present invention is a substantial advancement in improving public health by automating the imaging of potentially cancerous lesions in a more rapid and complete method. In light of the many advantages of early detection, there exists a clear need for a device that can greatly enhance the current methods of skin cancer screening. Furthermore, such a device will also find use in the cosmetic and beauty industry.

Summary of the Invention

The TIP system including the structure, infrastructure, and imaging system, requires little training, minimal staffing, and may be constructed with simple, easily available tools. TIP is a device that may be easily transportable, providing opportunity for skin screenings in diverse locations such as gym facilities, recreation centers, physician's offices, and other health oriented facilities. Medically under-served and restricted locales, e.g., rural areas and prison facilities, will also benefit from TIP system remote diagnostic capabilities (telemedicine), bringing the care of medical specialists to the patients.

The present invention, Total Immersion Photography (TIP), relates initially, and thus generally, to cancer detection and, more particularly, to skin cancer, e.g., melanoma, detection involving the measurement and analysis of an optical depiction of the subject patient's skin surface by standard color imaging, as well as heat, electromagnetic or chemical imaging. The present invention allows for subject acquisition, data collation, data aggregation, data

dissemination, data manipulation, data viewing in a preferable medium and analysis of a subject patient's skin surface, or other body tissue and, therefore, providing for the subject tissue's analysis such that relevant determinations may be made. TIP is a digital image acquisition device, the products of which, are capable of a variety of applications. For instance, panoramic mosaics of the body, 3-D models of the body, images for use with "machine vision", and interfacing with medical records are such possible uses.

The present invention is uniquely situated whereby TIP may operate as the screening test, as well as a confirmation of a positive result from a screening test, or even in a manner that provides for second opinions. In either circumstance, if the results of the administered test are confirmatory, *i.e.*, melanoma is detected or otherwise identified on the skin surface. If, on the other hand, it is determined that melanoma is not present on the skin surface and, consequently, that the screening test was erroneous, the patient is spared the trauma of having to undergo the full work-up including the biopsy. In that respect, confirmation of cancer by analyzing the skin surface as set forth herein has many significant advantages over conventional melanoma tests, as well as cancer detection methods in general.

TIP comprises an image acquisition device that is further comprised of an enclosed structure that is and can be designed and assembled according to the human physiology to be analyzed such that the enclosed structure maximizes the ease of acquisition of the human body with traditional and/or digital photography. For purpose of discussion herein, the TIP structure may be comprised of fourteen (14) "panels". These fourteen (14) panels should be set forth in such that one panel has a "mirror image" panel. Alternatively, the TIP device may be constructed in a circular derivative, or like structure, of the fourteen (14) panel embodiment or other such number of panels keeping with the operative requirements of the device.

Contained within the enclosed structure are devices capable of "photographing" the body in a static position (motion or time-lapsed photography is also be provided for). The photographic device(s) may be capable of "taking" the body through traditional photography means, and/or temperature, chemical or electromagnetic based means. For purposes of discussion herein, the photographic means, e.g. a camera or like device capable of "capturing" a still image or video streamed images, ("camera") array should consist of no less than forty (40) cameras. The camera(s), as envisioned and discussed herein are set forth in the fourteen "panels" such that there

are five (5) camera per vertical panel section (8 X 5 + top and bottom cameras =42). This structure of cameras and panels may be easily modified without departing from that which is taught, disclosed and intended. The basis for the panel-camera array is to accurately capture the physiological attributes desired from the subject patient. With subject placement, the camera array coordinates and distances are known in relation to the subject. These distances, in combination with focal length and resolution information, allows for the precise measurement of the human features of interest. The camera(s) may be left "on", engaged or otherwise activated at a desired time.

To effect the proper "picture" lighting or other optical, heat, chemical or electromagnetic, enhancement means may be affixed to, or placed around the structure such that the photographic device's "capturing" of the subject physiology may be optimized. Accordingly, for purpose of discussion herein in regard to traditional photographic means the photographic optimization may be accomplished via a lighting means consists of fluorescent lights. These lights should be situated and placed behind panels constructed of Lucite or like material containing the same or similar physical and optical properties. The lighting means may be on "on" or activated prior to engagement of the camera or photographic means, or further, remotely triggered at a predetermined time.

In the event the camera(s) and/or the lighting means are triggered remotely or upon a sequencing event the same can be controlled manually or through computer assistance. Should computers or like devices be used to facilitate the process, the same may consist of at least one (1) USB Hub, but as is contemplated herein ten (10) USB Hubs with 7 (7) USB ports per hub. In turn, there should be a data processor or like means that resides on a server or so similarly situated.

The subject patient or physiological area would enter or be placed into the TIP enclosed structure, and if need be into the specified position for imaging. When in position, the camera device and enhancement, if not engaged, are so engaged and the image(s) obtained. Thereafter, the images are transmitted from the camera device(s) through the USB(s) onto a server/computer means capable of aggregating, manipulating and disseminating the image(s) collected into a visually discernable format. As such, the images can be displayed synchronously in 2D format or processed into 3D renderings for desired or required viewing.

As a result of the aforementioned TIP device, a doctor or other individual interested in acquiring the imaging of an individual or physiological area is provided a device capable of acquiring specific imagery and related information that may be further viewed, and/or collected, registered and/or stored for analysis. And as is considered and contemplated herein in regard to conditions and diseases of the visible human (but to also include and not limited to general physical, topical and subcutaneous analysis).

Accordingly, the apparatus of the present invention provides means for diagnosis of a skin disease site using spectral analysis comprising: a light source for generating light to illuminate the disease site; a probe means to conduct the illumination light from the light source to the disease site and to collect the reflected and fluorescence light and conduct said light to be analyzed; and spectral analysis means optically connected to the probe means for generating and displaying spectral measurements of the fluorescence light and the reflectance light to assist the user in diagnosing the disease site.

In a further aspect, the present invention provides a method for diagnosis of a skin disease site using spectral analysis comprising the steps of: illuminating the disease site with a light source to generate fluorescence and reflectance light at the disease site; collecting the generated fluorescence and reflectance light; conducting a spectral analysis of the collected light using a spectrometer; displaying spectral measurements of the fluorescence light and the reflectance light; and analyzing the measured fluorescence and reflectance spectra together to make a diagnosis of the disease site.

In a preferred embodiment, the apparatus of the present invention includes a compact spectrometer connected to a computer, a fluorescence excitation light source with a shutter, a white light source with a shutter, a bifurcated fibre bundle, a light coupler, a skin probe, and controlling electronics. The system is designed to automatically switch between the fluorescence excitation light and the white light sources and complete fluorescence and reflectance spectral measurements of a skin disease site sequentially in a few seconds. The system exploits the spectral differences of different skin diseases to aid in the dermatologic diagnosis. In particular, the apparatus provides a low cost, compact system that is capable of quickly and efficiently performing combined fluorescence and reflectance spectral analysis.

Applications

Below are some examples, but not limited to, in regard to the invention's scope and intended applications of TIP:

Automated Acquisition

- 5 Storage and display of the non-occluded visible body surface properties including but not limited to diseases and cosmetic conditions of the skin, hair and nails and body measurements. In this application the body surface can be viewed and measurements taken, evaluated, viewed, collated, and cross-referenced in an easy and efficient manner.

Melanoma and Skin Cancer Screening

- 10 Large populations can be effectively screened in a short period of time for skin cancers and related maladies using this device. The consistent lighting and repeatability of the imaging technique make it ideal for replacing the skin cancer screening environment where poor lighting, patient movement and dialogue, patient modesty and other factors increase the likelihood of an incomplete examination. By removing most of these factors, the physician is allowed undistracted
15 viewing time of the patient's skin surface. In addition, the travel and time expense of skin cancer screenings at a location other than the physician's own office is large. For evaluations of change over time and detection of new lesions, 3-month, 6-month and yearly scans can be obtained and analyzed in relation to one another. All evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that patient, doctor and health care provider time is
20 minimized (and thus cost reduced). Data will be recorded and aggregated such that accurate assessments of the patient and population may be derived.

Medical Practice Aid/ Documentation System

- 25 The availability of images of a patient undergoing therapy is critical to a practicing dermatologist who bases his/her clinical evaluation on the "improvement" he/she sees in the patient over time. This is especially pertinent to chronic conditions such as acne, urticaria, atopic dermatitis, contact dermatitis, psoriasis, blistering disorders, etc. The system acts as a "medical memory" of the patient as he/she returns to the office for reevaluation.

Beauty Evaluations

Consumers flock to cosmetic counters to purchase makeup to hide their skin conditions. Eighty percent of skin cancers are found on the head and neck. A "beauty mark" that is identified by the patient on the face could be dermatosis nigra, seborrheic keratosis, compound nevus or melanoma. A raised pink or red "pimple" could be a basal cell carcinoma or granuloma or sarcoid lesion. Other conditions include broken blood vessels (red lines) which can be indicative for diagnoses of telangiectasias and rosacea. Pigment disorders such as vitiligo (lack of melanin), melasma (increased melanin), as well as discolorations due to excessive sun exposure are challenging to hide with makeup. Inflammatory skin conditions such as seborrheic dermatitis, psoriasis and eczema cause red, scaly patches which are chronic conditions falsely managed by moisturizers and makeup formulations. The information can be used to aid in makeover consultations. Consumers can be evaluated as to their current skin regimens and their conditions and followed over time as they undergo medical therapy. In addition, topical and internal medicines can be studied for their effectiveness over time.

Body Morphology Analysis- Shape Evaluation

Medically consequential conditions of the skeleton such as limb deformities and the spine deformities of kyphosis and scoliosis may be assessed photogrammetrically through TIP system. The consumer is also curious about what "shape" they are in mainly for appearance reasons. The physician or physical trainer is interested in the "shape" of the patient or client for both health and beauty reasons. This invention allows for a total body evaluation on several dimensions. Measurements and comparisons of body contours, fat deposit analysis, assymetry, etc. with volume measurements will be valuable for the cosmetic surgeon, the physician, the physical trainer, the clothier, etc. Medical and health decisions will be aided with such information. These evaluations can then be viewed, collated, and cross-referenced in an easy and efficient manner.

Cosmetic Surgery Applications

Preoperative evaluations as well as postoperative analysis and comparisons can be made using this device for all cosmetic surgery procedures. This is especially true for but not limited to facial surgery, eyelid surgery, face lifts, neck lifts, laser resurfacing, laser hair removal, soft tissue

augmentation and liposuction. The physician can look to reduce asymmetry of the patient's anatomy to enhance the outcome of cosmetic surgery. In addition, measurements of graft survival and soft tissue survival as well as measurements of soft tissue removal can be more accurately defined. These evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that studies can be made of the procedures where there are currently none.

Soft Tissue Manipulation

Volumetric measurements of soft tissue will facilitate studies of cosmetic procedures of the subcutis, glands, muscles, and skeleton. It will enhance the accuracy of body volume measurements for both soft tissue augmentation and soft tissue removal. Patients will be measured before soft tissue manipulation so that the procedure is more accurately applied to the areas to be treated. The volumetric data will serve as a baseline to study the effectiveness of the treatment and will also enhance postoperative evaluation. For soft tissue augmentation using live tissue, it will allow for survival studies to be conducted. This will be a significant improvement over the current water-displacement techniques and 2D renderings. These evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that patient and doctor time is minimized. Data can be reviewed in a postoperative environment to assess outcomes and be used for outcome studies.

Percent of Surface Involved Score Calculation

This device will be able to standardize the Percent of Surface Involved ("POSI") and Psoriasis Area Surface Involvement ("PASI") scoring for the evaluation of extent of disease of such skin diseases but not limited to psoriasis, pemphigus, burn victims, etc. Automation of the calculation will be critical. Topical and internal medicines can be studied for their effectiveness over time. These calculations can be collated and cross-referenced in manner such outcome studies of therapies can be collected for large populations and published.

Hair Loss Evaluation

Progression of hair loss and treatment evaluation can be monitored with such a device. Topical and internal medicines can be studied for their effectiveness over time. In addition, hair transplantation techniques (planning, mapping and performing) will be enhanced. Postoperative

and follow-up graft survival studies will also be more accurate. Such an evaluation procedure can be viewed by patient and health care professional alike, whereafter the same may be collated, and cross referenced in a manner such that time is minimized, data is accurately recorded and aggregated so an accurate assessment and prognosis may be made.

5 Wound Healing Evaluations

Therapeutic analyses for post operative wounds, traumatic wounds, ulcers, burns, scars, etc. collectively "wounds" can be made using this device. Measurements of the "wounds" at the outset of therapy and then at specific intervals of time allow for accurate evaluation of the progression of healing time and patient responsiveness to treatment. Topical and internal
10 medicines can be studied for their effectiveness over time. These evaluations and resulting analyses can be viewed, collated, and cross referenced in an easy and efficient manner such that time is minimized, data accurately recorded and aggregated for efficient and accurate assessments and prognosis made.

Remote Diagnostic Evaluations

15 This device will allow for both local and remote medical and cosmetic consultations. These evaluations and applications can be shared effectively using store-and-forward telemedicine techniques. The TIP data set can be viewed, collated, and cross referenced in an easy and efficient manner such that patient and doctor time is minimized, data accurately recorded and aggregated and thus efficient and accurate diagnoses.

20 Accordingly the following are a list, not inclusive, of those ailments, maladies and concerns that can be addressed by the device as disclosed herein: Disorders relating to and/or resulting from: altered reactivity; bacterial and fungal diseases; cell kinetics; cell differentiation; drugs and chemical agents; epidermal cohesion; epidermal appendages and related disorders; epidermal and appendageal tumors; hematology; infestations, bites, and stings; lymphomas and
25 pseudolymphomas; mechanical and physical factors; melanocytes; mucocutaneous integument; neoplasms; nutrition, metabolism, and genetics; organ systems: gastrointestinal, cardiovascular, pulmonary, endocrine, renal and other organ systems; persistent inflammation; rheumatology; including but not limited to sexually transmitted diseases.

Also identifiable are conditions of surgical dermatology, including but not limited to: cryosurgery; hair loss and transplant; liposuction; micrographic surgery; nail surgery; sclerotherapy; skin resurfacing; soft tissue augmentation and wounds.

Particularly the following, but not limited thereto, are capable of being identified through the use of the invention disclosed herein:

Abscess, Child Abuse, Drug Abuse, skin lesions, Physical Acantholytic Dermatoses, Transient Acanthosis Nigricans; Acarophobia; Acatalasia, Achromia Parasitica; Acne Artificialis; Acne Conglobata; Acne Cosmetica; Acne Excoriée; Acne Fulminans; Acne Keloidalis; Acne Mechanica; Acne Necrotica; Acne Neonatorum; Acne Rosacea; Acne Varioliformis; Acne Vulgaris; Chloracne; Cystic Acne, Halogen Acne, Pomade Acne, Steroid Acne, Tropical Acne, Acneiform Eruptions, Drug-Related Acne; Acrochordon; Acrocyanosis; Acrodermatitis Chronica Atrophicans; Acrodermatitis Continua; Acrodermatitis Enteropathica; Acrodermatitis of Hallopeau; Acrodermatitis Pustulosa Perstans; Papular Acrodermatitis of Childhood, Acrodynia; Acrokeratoelastoidosis; Acrokeratosis Verruciformis, Acromegaly, Acropachyderma, Acropustulosis, Acropustulosis Of Infancy, Acrosclerosis, Actinic Cheilitis, Actinic Dermatitis, Actinic Elastosis, Actinic Keratosis, Actinic Damage; Actinic Prurigo; Actinic Reticuloid; Actinomycosis, Actinophytosis, Acuminate Warts; Acute Febrile Neutrophilic Dermatoses, Drug Addiction, Addison's Disease; Sweat Gland Adenoma, Adenoma Sebaceum, Adenomatosis Oris, Adiposis Dolorosa, Agammaglobulinemia, AIDS, AIDS-Associated Syndromes, Ainhum, Albinism, Albright's Syndrome, Aldrich's Syndrome, Alkaptonuria, Allergic Contact Dermatitis, Allergic Vasculitis; Alopecia Areata, Alopecia Mucinosa, Alopecia Totalis, Alopecia Universalis, Androgenetic Alopecia, Scarring Alopecia, Amebiasis, Amputation Stump Dermatitis, Amyloidosis, Anagen Effluvium, Anaphylactoid Purpura, Anderson-Fabry Disease, Anemia, Anetoderma, Angiitis, Angioedema, Angiofibroma, Angioimmunoblastic Lymphadenopathy; Angiokeratoma & Other Benign Vascular Tumors; Angiokeratoma Corporis Diffusum, Angiolipoma, Angiolymphoid Hyperplasia, Angioma, Angioma Serpiginosum, Angioneurotic Edema, Anhidrotic Ectodermal Dysplasia, Animal Bites, Anthrax, Antiphospholipid Syndrome, Aphthous Ulcer, Aplasia Cutis Congenita, Apocrine Miliaria, Argyria, Arsenical Keratoses, Arteriolitis, Arteriovenous Malformations, Arthritis, Arthropod Bites And Stings, Ashy Dermatoses, Aspergillosis, Asteatosis, Ataxia-Telangiectasia, Atopic Dermatitis, Atrophic Nail

Disorders, Malignant Atrophic Papulosis, Atrophie Blanche, Anetoderma, Atrophy Unclassified, Atypical Fibroxanthoma, Atypical Mycobacterial Infections, Auricular Fistula, Autoeczematous Dermatitis, Autoerythrocyte Sensitization, Autosensitization Dermatitis, Pustular Bacterid, Balanitis Xerotica Obliterans; Balding, Basal Cell Carcinoma, Basal Cell Nevus Syndrome, 5 Battered Child, Bazin's Disease, B-Cell Disorders, Becker's Nevus, Behçet's Syndrome, Bejel, Benign Familial Chronic Pemphigus, Benign Mucous Membrane Pemphigoid, Benign Tumors,, Berloque Dermatitis, Biliary Cirrhosis, Birthmarks, Insect Bites, Spider Bites, B-K Mole Syndrome, Black Hairy Tongue, Black Heel, Blaschko Dermatitis, North American Blastomycosis, South American Blastomycosis, Blepharitis, Blister Agents, Blister Beetle 10 Dermatitis, Blood Dyscrasias, Bloom's Syndrome, Blue Nevus, Blue Rubber Bleb Nevus, Bockhart's Impetigo, Boil, Bornholm Disease, Botryomycosis, Bourneville's Disease, Bowenoid Papulosis, Bowen's Disease Or Intraepidermal Carcinoma, Branchial Cyst, Branchiogenic Cyst, Brazilian Pemphigus, Bromoderma, Brucellosis, Buerger's Disease, Bullous Dermatoses Of Childhood, Bullous Diabeticorum, Bullous Disorders, Bullous Pemphigoid, Burn, Buruli Ulcer, 15 Buschke-Ollendorff Syndrome, Cafe-Au-Lait Spots, Caffey's Syndrome, Calcifying Epithelioma, Calcinosis Cutis And Osteoma Cutis, Callus, Campbell De'morgan Spot, Candidiasis, Canities, Canker Sore, Capillary Hemangioma, Carbuncle, Carcinoid Syndrome, Epidermoid Carcinoma, Metastatic Carcinoma, Merkel Cell Carcinoma, Squamous Cell Carcinoma, Carotenemia, Caterpillar Dermatitis, Cat-Scratch Disease, Cellulite, Lymphangitis, Dissecting Cellulitis of the 20 Scalp, Cercarial Dermatitis, Chagas Disease, Chancre, Chancroid, Chédiak - Higashi Syndrome, Cheilitis, Cheilitis Glandularis, Cheilitis Granulomatosa, Chemical Blister Agents, Side-Effects of Cancer Chemotherapy, Cherry Angioma, Chickenpox, Chigger Bites, Chilblains, Child Abuse, Chloasma, Chloracne, Cholinergic Urticaria, Chondrodermatitis, Chromhidrosis, Chromoblastomycosis, Chromomycosis, Chronic Granulomatous Disease, Chrysiasis, Churg 25 Strauss, Cicatricial Alopecia, Cicatricial Pemphigoid, Cicatrix, Clavus, Clear Cell Acanthoma, Clubbing Of Fingers, Cobb Syndrome, Coccidioidomycosis, Cockayne's Syndrome, Cold Injury, Ulcerative Colitis, Perforating Collagenosis, Collodion Baby; Colloid Miliun, Comedones, Comedonal Nevus, Complement Deficiency Disorders, Compound Nevus, Condyloma Accuminatum; Condyloma Lata; Confluent And Reticulated Papillomatosis; Congenital 30 Disorders, Unclassified; Congenital Fistulae; Congenital Hair Disorders, Unclassified; Congenital Hypoplasia; Congenital Poikiloderma; Congenital Self-Healing Reticulohistiocytosis; Congenital

Syphilis; Congenital Vascular Neoplasm Syndromes; Connective Tissue Nevus; Conradi's Disease; Contact Dermatitis; Contracture, ; Unclassified; Copper Deficiency; Corns; Corticosteroid Effects; Cosmetic Procedures; Coumarin Reaction; Cowden's Disease; Coxsackie Infection; Craniofacial Angiomatosis; Creeping Eruption; Crest Syndrome; Crohn's Disease;

5 Cronkhite - Canada Syndrome; Cryofibrinogenemia; Cryoglobulinemia; Cryosurgery; Cryptococcosis; Cushing's Syndrome; Cutaneomeningospinal Angiomatosis; Cutaneous B-Cell Lymphoma; Cutaneous Horn; Cutaneous Markers Of Malignancy; Cutaneous Papillomatosis; Cutaneous Tag; Cutaneous T-Cell Lymphoma; Cutis Elastica; Cutis Laxa; Cutis Marmorata; Cutis Marmorata Telangiectetica Congenita; Cutis Rhomboidalis Nuchae; Cutis Verticis Gyrata; Cyclic

10 Neutropenia; Cylindroma; Cyst, Branchiogenic; Cyst, Epidermal Or Epithelial; Cyst, Keratinous, Pilar Or Sebaceous; Cyst, Mucous; Cyst, Pilar; Cyst, Sebaceous; Cyst, Synovial; Cytomegalovirus Infection; Dactylolysis; Dandruff; Darier - White Disease; Decubitus Ulcer; Deficiency, Mineral Or Vitamin; Degos Disease; Delusions Of Parasitosis; Demodex Folliculorum; Dental Abnormalities; Dental Sinus; Depigmentation; Depressive (Neurotic) Excoriations; Dercum's

15 Disease; Dermal Hypoplasia; Dermatalgia; Dermatitis Herpetiformis; Dermatitis Medicamentosa; Dermatitis Nodularis Necrotica; Dermatitis Papillaris Capillitii; Dermatitis Repens; Dermatitis Vegetans; Dermatitis, Acute, Unclassified; Dermatitis, Atopic; Dermatitis, Autosensitization; Dermatitis, Beetle; Dermatitis, Berloque; Dermatitis, Contact; Dermatitis, Diaper; Dermatitis, Drug Allergy; Dermatitis, Drug Toxicity; Dermatitis, Dyshydrotic; Dermatitis, Eczematous;

20 Dermatitis, Exfoliativa; Dermatitis, Facticial; Dermatitis, Infectious Eczematoid; Dermatitis, Irritant; Dermatitis, Nummular; Dermatitis, Occupational; Dermatitis, Perioral; Dermatitis, Photo; Dermatitis, Pregnancy; Dermatitis, Radiation; Dermatitis, Seborrheic; Dermatitis, Stasis; Dermatitis, Nutritional; Dermatofibroma; Dermatofibrosarcoma Protuberans; Dermatofibrosis Lent Diss& Osteopoikilosis; Dermatolysis; Dermatomyositis; Dermatophyte Infections, Unclassified;

25 Dermatophytid; Dermatophytosis; Dermatoses Papulosa Nigra; Dermographism; Dermoid Cyst; Dermoid Tumor; Desquamation, Unclassified; Diabetes Mellitus; Diabetic Dermodromes; Dialysis, Bullous Dermatoses Of Diaper Dermatitis; Disseminated Intravascular Coagulation; Diet & Dermatology; Digital Fibrokeratosis; Digitate Dermatoses; Diphtheria, Cutaneous; ; Discoid Lupus Erythematosus; Dissecting Cellulitis Of The Scalp; Disseminated Intravascular

30 Coagulation; Disseminated Lupus Erythematosus; Disseminated Super. Actinic Porokeratosis; Discoid Lupus Erythematosus; Animal Bites; Down Syndrome; Dracunculosis; Drug Abuse; Drug

Eruption; Drug Toxicity; Disseminated Superficial Actinic Porokeratosis; Dühring-Brocq Disease; Dupuytren's Contracture; Dyshydrotic Dermatitis; Warty Dyskeratoma; Dyskeratosis Congenita; Dyskeratosis Follicularis; Dysplastic Nevi Or Syndrome; Dysproteinemia; Dysraphism; Dystrophic Nails; Ecchymosis; Eccrine Gland Tumors; Eccrine Hydrocystoma; Eccrine Poroma;

5 Eccrine Spiradenoma; Ecthyma; Ecthyma Contagiosum (Orf); Ecthyma Gangrenosum; Ectodermal Defect, Congenital; Eczema Craquelé; Eczema Herpeticum And Vaccinatum; Eczema, Atopic; Eczema, Dyshydrotic; Eczema, Nummular; Edema, Angioneurotic; Edema, Legs, Hereditary; Edema, Unclassified; Ehlers-Danlos Syndrome; Ehrlichosis; Elastoidosis, Nodular With Cysts & Comedones; Elastolysis, Generalized; Elastoma, Juvenile; Elastosis

10 Perforans Serpiginosa; Elastosis, Actinic; Elastosis, Perforating; Elephantiasis; Elephantiasis Nostras Verrucosa; Emboli; Endocrinopathy, Miscellaneous; Endometriosis; Eosinophilic Fasciitis; Eosinophilic Granuloma; Eosinophilic Papulovesicular Derm Of Newborn; Ephelides And Lentigines; Epidermal Inclusion Cyst; Epidermal Necrolysis, Toxic; Epidermal Nevus; Epidermodysplasia Verruciformis; Epidermoid Carcinoma; Epidermolysis Bullosa; Epidermolytic

15 Hyperkeratosis; Epiloia; Epithelial Cyst; Epithelial Nevus; Epithelioma Adenoides Cysticum; Epithelioma, Arsenical; Epithelioma, Basal Cell; Epithelioma, Calcifying Of Malherbe; Epithelioma, Squamous; Erosio Interdigitalis Blastomycetica; Eruption Of Lymphocyte Recovery; Eruption, Creeping; Erysipelas; Erysipeloid; Erythema Ab Igne; Erythema Annulare Centrifugum; Erythema Chronicum Migrans; Erythema Circinatum; Erythema Dyschromicum Perstans;

20 Erythema Elevatum Diutinum; Erythema Figuratum Perstans; Erythema Gydatum Perstans; Erythema Gydatum Repens; Erythema Induratum; Erythema Infectiosum; Erythema Marginatum; Erythema Multiforme; Erythema Nodosum; Erythema Of Jacquet; Erythema Perstans; Erythema Toxicum Neonatorum; Erythema, Anatomic; Erythema, Noninfectious, Unclassified; Erythema, Toxic; Erythema, Unclassified; Erythralgia; Erythrasma; Erythrocyte Autosensitization;

25 Erythroderma, Exfoliative; Erythrokeratoderma Variabilis; Erythromelalgia; Erythroplasia Of Queyrat; Esthiomene; Exanthem Subitum; Exanthem, Bacterial; Exanthem, Viral; Excoriation, Depressive Or Neurotic; Exfoliation Of Palms And Soles; Exfoliative Dermatitis (Or See Cause); Extramammary Paget's Disease; Extramedullary Hematopoiesis, Cutaneous; Exudative Discoid And Lichenoid Dermatitis; Fabry's Disease; Facial Granuloma; Factitial Dermatitis; Familial

30 Benign Chronic Pemphigus; Familial Hemorrhagic Telangiectasia; Farber's Disease; Fasciitis, Necrotizing; Fat Dystrophy; Fat Necrosis; Favre - Racouchot Elastoidosis Syndrome; Favus;

Febrile Neutrophilic Dermatositis, Acute; Female Pattern Baldness; Fever Blisters, Aphthae; Fever
 Blisters, Herpes Simplex; Fibroepithelial Polyp; Fibroma; Fibromatosis Of Penis; Fibrous Papule
 Of Nose; Fibroxanthoma, Atypical; Fifth Disease; Figurate Erythema; Filariasis; Fissured Tongue;
 5 Fistulae, Congenital; Fixed Drug Eruption; Flat Warts; Flea Bites; Florid Oral Papillomatosis;
 Flushing, Non-Carcinoid; Focal Dermal Hypoplasia; Fogo Selvagem; Follicular Mucinosis;
 Folliculitis; Folliculitis Abscedens Et Suffodiens; Folliculitis Decalvans; Folliculitis Keloidalis;
 Fordyce Lesions Of Scrotum; Fordyce Spots; Foreign Body; Foreign Body Granuloma; Fox -
 Fordyce Disease; Freckles; Friction Blister; Frostbite; Fungal Cultures (Alphabetical By Genus);
 Fungal Infection, Deep, Unclassified; Fungal Infection, Superficial, Unclassified; Furuncle;
 10 Ganglion; Gangosa; Gangrene; Gardner's Syndrome; Gargoylism; Gastrointestinal Syndromes;
 Gaucher's Disease; Geographic Tongue; German Measles' Gi Disease, Skin ;Manifestations;
 Gianotti - Crosti Syndrome; Giant Cell Arteritis; Gingiva, Unclassified; Gingival Hypertrophy;
 Gingivitis, Unclassified; Glanders; Glandular Cheilitis; Glomus Tumor; Glossitis, Median
 Rhomboid; Glossitis, Unclassified; Glucagonoma Syndrome; Glycogen Storage Disease; Gold
 15 Pigmentation; Goltz Syndrome; Gonococcemia; Gonorrhea; Gougerot - Blum Disease; Gougerot -
 Carteaud's Papillomatosis; Gout; Gower's Panatrophly; Graft Vs. Host Reaction; Granular Cell
 Myoblastoma; Granuloma ; Annulare; Granuloma Faciale; Granuloma Fissuratum, Cutaneous;
 Granuloma Fissuratum, Mouth; Granuloma Inguinale; Granuloma Pyogenicum; Granuloma,
 Mosinophilic; Granuloma, Foreign Body; Granuloma, Meischer's; Granuloma, Swimming Pool;
 20 Granuloma, Unclassified; Granulomatosis Disciformis, Meischer; Granulomatosis, Chronic
 Familial; Granulomatosis, Wegener's; Granulomatous Disease, Chronic; Granulosis Rubra Nasi;
 Graves Disease; Grooved Tongue; Grovers Disease; Gumma; Guttate Hypomelanosis, Idiopathic;
 Guttate Morphea; Gynecomastia; Gypsy Moth Dermatitis; Hailey - Hailey Disease; Hair Collar
 Sign; Hair Excess; Hair Pigment Disorder; Hair Shaft Abnormalities; Hairy Leukoplakia (Aids
 25 Associated); Hairy Leukoplakia (Non-Aids Associated); Hairy Tongue; Halo Nevus; Halogen
 Acne; Hamartoma; Hand And Foot Eruption, Unclassified; Hand-Foot-And-Mouth Disease;
 Hand-Schuller-Christian Disease; Hansen's Disease; Hartnup Disease; Heat Injury; Heat Rash;
 Hemangiectatic Hypertrophy; Hemangioendothelioma; Hemangioma; Hematologic Disorders,
 Unclassified; Hematoma; Hemochromatosis; Hemosiderosis; Henoch-Schönlein Purpura; Hepatic
 30 Disease; Hepatitis; Hereditary Disorders, Unclassified; Hereditary Hemorrhagic Telangiectasia;
 Herpangina; Herpes Gestationis; Herpes Progenitalis; Herpes Simplex; Herpes Zoster; Hibernoma;

Hidradenitis Suppurativa; Hidradenitis, Palmar-Plantar; Hidradenoma Papilliferum;
 Hidrocystoma; Hidrotic Ectodermal Defect; Hippocratic Nails; Hirsutism; Histiocytoma;
 Histiocytoid Hemangioma; Histiocytosis X; Histoplasmosis; Hives; Hodgkin's Disease;
 Homocystinuria; Hookworm Infestations; Horn, Cutaneous; Housewife's Eczema; Howell Evans
 5 Synd; Hunter's Syndrome; Hurler's Syndrome; Hyalinosis Cutis Et Mucosae; Hydroa Aestivale;
 Hydroa Vacciniforme; Hygroma, Cystic; Hyper Ige Syndrome; Hypercholesterolemia;
 Hyperhydrosis; Hyperkeratosis Climactericum; Hyperkeratosis Follicularis (Kyrle's);
 Hyperkeratosis Lenticularis Perstans(Flegel); Hyperkeratosis Palmaris Et Plantaris;
 Hyperkeratosis, Epidermolytic; Hyperkeratosis, Unclassified; Hyperlipemia; Hyperpigmentation,
 10 Unclassified; Hypersensitivity Vasculitis; Hypertrichosis; Hypertrophic Nails; Hypertrophic Scar;
 Hypertrophy From Chronic Irritation; Hypohidrosis; Hypomelanosis, Unclassified; Hypoplasia,
 Congenital; Ichthyosis; Ichthyosis Hystrix; Ichthyosis Linearis Circumflex; Ichthyosis Vulgaris; Id
 Eruption; Idiopathic Guttate Hypomelanosis; Ige Syndrome; Immersion Foot; Immune Complex
 Disease; Immune Deficiency, Acquired (AIDS); Immune Deficiency, Unclassified (Not AIDS);
 15 Immunoblastic Lymphadenopathy; Immunoglobulin Deficiency Disorders; Impetigo, Impetigo
 Follicularis; Impetigo Herpetiformis; Impetigo Of Bockhart; Inclusion Cyst; Incontinentia
 Pigmenti; Infantile Lichenoid Dermatitis; Infections, Bacterial, Unclassified; Infections,
 Rickettsial, Unclassified; Infections, Viral, Unclassified; Infectious Eczematoid Dermatitis;
 Infectious Mononucleosis; Infundibulofolliculitis; Injury, Traumatic; Inoculation Tuberculosis;
 20 Insect Bites And Stings; Intaepidermal Carcinoma; Intertrigo; Iododerma; Irritant Dermatitis;
 Ischemia; Ischemic Ulcer; Itch, Unclassified; Jadassohn - Lewandowsky Syndrome; Jaundice;
 Jaw, Lumpy; Jellyfish Sting; Jessner's Lymphocytic Infiltration; Job's Syndrome; Junctional
 Nevus; Juvenile Elastoma; Juvenile Melanoma, Benign; Juvenile Xanthogranuloma; Kala Azar;
 Kaposi's Sarcoma (Aids Associated); Kaposi's Sarcoma (Not Aids Associated); Kaposi's
 25 Varicelliform Eruption; Kasaback-Merritt Syndrome; Kawasaki Disease; Keloid; Keloid Acne;
 Keloidal Blastomycosis; Keratinous Cyst; Keratoacanthoma; Keratoderma Blenorrhagica;
 Keratoderma Climactericum; Keratoderma Of Palms And Soles; Keratoderma Palmaris Et
 Plantaris; Keratolysis Exfoliativa; Keratolysis, Pitted; Keratosis Blenorrhagica And Reiter's Synd;
 Keratosis Follicularis; Keratosis Palmaris Et Plantaris; Keratosis Pilaris; Keratosis Punctata
 30 Palmaris Et Plantaris; Keratosis, Actinic; Keratosis, Follicle, Unclassified; Keratosis, Mouth;
 Keratosis, Seborrheic; Keratosis. Arsenical; Kerion; Kinky Hair Disease, Menke's; Klippel-

Trenaunay-Parkes-Weber; Knuckle Pads; Koh Preparation; Koilonychia; Kraurosis Vulvae; Kwashiorkor; Kyrle's Disease; Lamellar Dyshydrosis; Lamellar Ichthyosis; Larva Migrans; Laser Therapy; Leg Ulcer, Unclassified; Leiner's Disease; Leiomyoma; Leishmaniasis; Lentigo; Lentigo Maligna; Lentigo Maligna Melanoma; Leopard Syndrome; Leprosy; Lesch - Nyhan Syndrome;

5 Leser - Trélat Sign; Lethal Midline Granuloma; Letterer - Siwe Disease; Leukemia Cutis; Leukocyte Disorders, Unclassified; Leukoderma, Unclassified; Leukonychia; Leukoplakia And Keratosis, Mouth; Leukoplakia, Except Mouth; Lichen Amyloidosis; Lichen Aureus; Lichen Myxedematosus; Lichen Nitidus; Lichen Pilaris; Lichen Planopilaris; Lichen Planus; Lichen Sclerosus Et Atrophicus; Lichen Scrofulosorum; Lichen Simplex Chronicus; Lichen Spinulosus;

10 Lichen Striatus; Light Eruption Or Reaction; Light Therapy; Lindau-Von Hippel Disease; Linear & Whorled Nevroid Hyperpigmentation; Linear Iga Disease; Linear Nevus; Lip, Unclassified; Lipoatrophy; Lipodystrophy; Lipogranulomatosis; Lipoid Proteinosis; Lipoma; Livedo Reticularis; Loaisis; Lobo's Disease; Loxoscelism; Lumpy Jaw; Lupus Erythematosus, Discoid; Lupus Erythematosus, Neonatal; Lupus Erythematosus, Subacute Cutaneous; Lupus

15 Erythematosus, Systemic; Lupus Miliaris Disseminata; Lupus Miliaris Disseminata Faciei; Lupus Pernio; Lupus Profundus; Lupus Vulgaris; Lyell's Syndrome; Lyme Disease; Lymphadenosis Cutis; Lymphangioma; Lymphangitis; Lymphedema; Lymphoblastoma; Lymphocyte Recovery Eruption; Lymphocytic Infiltrate Of Jessner; Lymphocytoma Cutis And Lymphocytic Infiltrate; Lymphogranuloma Venereum; Lymphoma, Hodgkin's; Lymphoma, Non-Hodgkin's, Other;

20 Lymphomatoid Granulomatosis; Lymphomatoid Papulosis; Macrochelia; Macroglobulinemia; Macroglossia; Maculae Ceruleae; Macular Atrophy; Madelung's Disease; Madura Foot; Maduromycosis; Mafucci's Syndrome; Majocchi's Disease; Majocchi's Granuloma; Mal De Meleda; Mal Perforans Ulcer; Male Pattern Baldness; Malherbe, Calcifying Epithelioma Of; Malignancy Markers, Cutaneous; Malignant Atrophic Papulosis; Malignant Freckle; Malignant

25 Lentigo; Malignant Melanoma; Malignant Tumors, Unclassified; Marfan's Syndrome; Marjolin's Ulcer; Markers Of Malignancy, Unclassified; Mast Cell Tumor; Mastocytosis; Measles; Measles, German; Median Rhomboid Glossitis; Meischer's Granuloma; Melanoma, Lentigo Maligna; Melanoma, Malignant; Melanosis Circumscripta Precancerosa; Melasma; Melkersson-Rosenthal Syndrome; Meloidosis; Meningococcemia; Menkes Kinky Hair Syndrome; Mercury

30 Pigmentation; Merkel Cell Carcinoma; Metal Allergy; Metal Pigmentation; Metastatic Carcinoma; Mibelli, Angiokeratoma Of; Microscopic Examination; Midline Granuloma, Lethal; Miliaria;

Milium; Milker's Nodules; Milroy's Disease; Mite Dermatitis; Mixed Connective Tissue Disease;
 Mohs Micrographic Surgery; Mole; Molluscum Contagiosum; Mondor's Syndrome; Mongolian
 Spot; Mongolism; Monilethrix; Moniliasis; Morbus Moniliformis; Morphea; Morquio's Disease;
 Mucha-Habermann's Disease; Mucinosi, Focal; Mucinosi, Reticular Erythematous; Mucinous
 5 Cyst; Mucocutaneous Lymph Node Syndrome; Mucopolysaccharidoses; Mucormycosis; Mucosa,
 Oral, Unclassified; Mucous Cyst; Multicentric Reticulohistiocytosis; Multiple Benign Cystic
 Epithelioma; Multiple Endocrine Neoplasia Synd; Multiple Hamartoma Syndrome; Multiple
 Idiopathic Hemorrhagic Sarcoma; Multiple Mucosal Neuroma; Multiple Myeloma; Mumps;
 Munchausen Syndrome; Mycetoma; Mycobacterial Infections, Atypical; Mycosis Fungoides;
 10 Myiasis; Myoblastoma; Myoepithelioma; Myoma And Leiomyoma; Myxedema And Localized
 Myxedema; Myxoid Cyst; Nail Disorders Assoc. With Internal Disease; Nail Dystrophy,
 Unclassified; Nail Pits; Nails, Normal Variants; Narcotic Dermopathy; Nasal Glioma; Necrobiosis
 Lipoidica; Necrobiotic Xanthogranuloma; Necrolysis, Toxic Epidermal; Necrolytic Migratory
 Erythema; Necrosis, Unclassified; Necrotizing Fasciitis; Necrotizing Vasculitis; Needle Marks;
 15 Neonatal Acne; Neonatal Lupus Erythematosus; Netherton's Syndrome; Neurilemmoma;
 Neurodermatitis; Neurofibroma, Neurofibromatosis; Neurotic Excoriations; Neutrophilic
 Dermatosi, Acute Febrile; Nevoxanthoendothelioma; Nevoxanthogranuloma; Nevus Anemicus;
 Nevus Angiolipomatosis; Nevus Araneus; Nevus Caeruleus; Nevus Cell Nevus; Nevus
 Comedonicus; Nevus Depigmentosus; Nevus Elasticus; Nevus Flammeus; Nevus Of Ito; Nevus
 20 Of Ota; Nevus Sebaceous; Nevus Syringocystadenoma Papilliferum; Nevus Unius Lateris; Nevus,
 Blue; Nevus, Blue Rubber Bleb; Nevus, Compound; Nevus, Dermal; Nevus, Epidermal; Nevus,
 Epithelial; Nevus, Halo; Nevus, Junctional; Nevus, Linear; Nevus, Organoid; Nevus, Pigmented;
 Nevus, Spider; Nevus, Spindle Cell; Nevus, Verrucous; Nevus, White Spongy Of Mucosa; Nickle
 Allergy; Niemann - Pick Disease; Nocardiosis; Nodular Dermal Allergide; Nodular Elastoidosis;
 25 Nodular Fasciitis; Nodular Fat Necrosis; Nodular Subepidermal Fibrosis; Nodular Vasculitis;
 Nodules, Milker's; Nodules, Rheumatoid; Noma; Non-Venereal Treponematoses; Normal
 Variants; North American Blastomycosis; Norwegian Scabies; Nummular Dermatitis; Nutritional
 Or Vitamin Deficiency; Occupational Acne; Occupational Dermatosis, Unclassified;
 Occupational Leukoderma; Ochronosis; Ocular Pemphigus; Oid-Oid Disease; Omphalitis;
 30 Onchocerciasis; Onychauxis; Onychia; Onychodystrophy, Unclassified; Onychogryphosis;
 Onycholysis; Onychomycosis; Ophioid; Oral Florid Papillomatosis; Oral Mucosa, Unclassified;

Oral Tumors; Oral, Unclassified; Oral-Facial-Digital Syndrome; Orf; Organoid Nevus; Oroya
 Fever; Osler-Rendu-Weber Disease; Osteoarthritis; Osteodermatopoikilosis; Osteogenesis
 Imperfecta; Osteoma Cutis; Other Syndromes, Unclassified; Oxyuriasis; Pachydermoperiostosis;
 Pachyonychia Congenita; Pagetoid Reticulosis; Paget's Disease; Painful Bruising Syndrome;
 5 Palate, Unclassified; Palmar Erythema; Palmar Fibromatosis; Palmar-Plantar Hidradenitis;
 Palmoplantar Keratosis; Palmoplantar Pustulosis, Unclassified; Panatrophs Of Gower;
 Panniculitis; Papilloma, Mucous Membrane; Papilloma, Skin; Papillomatosis, Cutaneous;
 Papillomatosis, Florid Oral; Papillon-Lefèvre Syndrome; Papular Dermatitis Of Pregnancy;
 Papular Mucinosis; Papular Urticaria; Papulonecrotic Tuberculid; Papulosis, Malignant Atrophic
 10 Of Degos; Paracoccidioidomycosis; Paraffinoma; Paraneoplastic Syndromes; Parapsoriasis,
 Acute; Parapsoriasis, Chronic; Parasitic Infestations, Unclassified; Parasitosis, Delusions Of;
 Paronychia; Pasini Et Pierini Syndrome; Patch Testing, Pathergic Granulomatosis; Pearly Penile
 Papules; Pediatric Dermatosis; Pediculosis; Pelade; Pellagra; Pemphigoid, Benign Mucous
 Membrane; Pemphigoid, Bullous; Pemphigoid, Cicatricial, Mucosal; Pemphigoid, Unclassified;
 15 Pemphigus Erythematodes; Pemphigus Foliaceus; Pemphigus Vegetans; Pemphigus Vulgaris;
 Pemphigus, Brazilian; Pemphigus, Drug; Pemphigus, Familial Benign Chronic; Pemphigus,
 Hailey-Hailey; Pemphigus, Unclassified; Penile Pearly Papules; Perforating Collagenosis;
 Perforating Dermatitis; Perforating Folliculitis; Periapical Mucosa Necrotica Recurrens;
 Perianal Protrusions, Pyramidal; Perianal Strep; Periarteritis Nodosa; Perifolliculitis Capitis
 20 Abscedens Et Suff.; Perioral Dermatitis; Perlèche; Pernicious Anemia; Pernio; Petechiae; Peutz-
 Jeghers Syndrome; Peyronie's Disease; Phagedena; Phenylketonuria; Phlebotomy; Phlebitis;
 Phototherapy; Phrynodermia; Phthiriasis; Phymosis; Pian; Piebaldism; Piedra; Piezogenic
 Pedal Papules, Painful; Pigmentary Hairy Nevus; Pigmentation, Anatomic; Pigmentation, Hair;
 Pigmentation, Nail; Pigmentation, Unclassified; Pigmented Purpuric Eruptions; Pilar Cyst; Pilar
 25 Tumor; Pilomatricoma; Pilonidal Cyst; Pinta; Pinworm Dermatitis; Pitted Keratolysis; Pitted
 Nails; Pityriasis Alba; Pityriasis Capitis; Pityriasis Lichenoides Chronica; Pityriasis Lichenoides
 Et Varioliformis Acuta; Pityriasis Rosea; Pityriasis Rubra Pilaris; Pityriasis Streptogenes;
 Pityriasis Versicolor; Plant Dermatitis; Plantar Wart; Plasmacytoma; Pleva; Podagra;
 Poikiloderma; Poikiloderma Congenitale; Poikiloderma Of Civatte; Poikiloderma Vasculare
 30 Atrophicans; Poison Ivy Dermatitis; Poliosis; Polyarteritis Nodosa; Polychondritis; Polycythemia
 Vera; Polydactyly; Polymorphic Light Eruption; Polyostotic Fibrous Dysplasia (Albright's);

Polyp, Fibroepithelial; Pompholyx; Porokeratosis; Poroma; Porphyria; Port Wine Stain; Portugese
 Man-Of-War Sting; Post-Inflammatory Hyperpigmentation; Post-Inflammatory
 Hypopigmentation; Postmastectomy Lymphangiosarcoma; Pregnancy, Dermatitis In; Pressure
 Sore; Pretibial Myxedema; Prickle Cell Carcinoma; Prickly Heat; Primary Syphilis; Progeria;
 5 Progressive Bacterial Synergistic Gangrene; Progressive Pigmentary Dermatoses; Proteinosis,
 Lipoid; Prurigo Gestationis; Prurigo Gravidarum; Prurigo Nodularis; Pruritic Urticarial Papules
 Plaques Of Preg.; Pruritis, Signs, Unclassified; Pruritus Gravidarum; Pseudoacanthosis Nigricans;
 Pseudoatrophoderma Colli; Pseudocyst Of The Auricle; Pseudofolliculitis Barbae;
 Pseudolymphoma Of Speigler-Fendt; Pseudomonas Infection; Pseudopelade; Pseudosarcoma;
 10 Pseudotuberculosis; Pseudoverrucous Papules; Pseudoxanthoma Elasticum; Psoriasis; Pterygium;
 Punctate Keratosis Of Palms And Soles; Puppp Syndrome; Purpura And Ecchymosis; Purpura
 Annularis Telangiectoides; Purpura Fulminans; Purpura Pigmentosa Chronica; Purpura
 Rheumatica; Purpuric Pigmented Lichenoid Dermatitis; Pustular Bacterid; Pustular Dermatitis,
 Subcorneal; Pustular Eruption Of Palms And Soles; Pustular Perifolliculitis; Pustulosis Palmaris
 15 Et Plantaris; Pyoderma And Folliculitis; Pyoderma Faciale; Pyoderma Gangrenosum; Pyogenic
 Granuloma; Pyramidal Perianal Protrusion; Radiation Dermatoses; Radiation Therapy; Ragweed
 Dermatitis; Ranula; Raynaud's Disease Or Phenomenon; Reactive Perforating Collagenosis;
 Reflex Sympathetic Dystrophy; Reiter's Syndrome; Relapsing Polychondritis; Relapsing Self-
 Healing Blaschko Dermatitis; Rem Syndrome; Rendu-Osler-Weber Syndrome; Retention Cysts Of
 20 Lips; Reticular Erythematous Mucinosi; Reticulohistiocytosis, Multicentric;
 Reticulohistiocytosis, Cong Self-Healing; Reticuloid, Actinic; Reticulum Cell Sarcoma;
 Rheumatoid Arthritis; Rheumatoid Nodule; Rhinophyma; Rhinoscleroma; Rhinosporidiosis; Rhus
 Dermatitis; Rickettsial Infections; Riehl's Melanosis; Ringed Hair; Ritter's Disease; Rocky
 Mountain Spotted Fever; Rodent Ulcer; Romberg's Disease; Rosacea; Rosacea-Like Tuberculid
 25 Of Lewandowsky; Roseola Infantum; Rothman-Makai Syndrome; Rothmund-Thomson
 Syndrome; Rubella; Rubeola; Sarcoid; Sarcoma; Sarcoma, Kaposi's (Aids-Associated); Sarcoma,
 Kaposi's (Not Aids); Sauriasis; Scabies; Scalded Skin Syndrome; Scar; Scarlet Fever; Schamberg's
 Disease; Schistosomiasis; Scleredema; Sclerema; Sclerodactyly; Scleroderma;
 Sclerodermatomyositis; Scleromyxedema; Sclerosing Hemangioma; Sclerosing Lymphangitis,
 30 Penis; Sclerosis, Diffuse Systemic; Sclerotherapy; Scratch Marks; Scrofuloderma; Scrotal Tongue;
 Scurvy; Seabather's Eruption; Sebaceous Adenoma; Sebaceous Cyst; Sebaceous Epithelioma;

Sebacous Gland Carcinoma; Sebaceous Gland Tumors, Benign; Sebaceous Hyperplasia; Sebaceous Nevus; Seborrheic Dermatitis; Seborrheic Keratosis; Secondary Syphilis; Seneer-Usher Syndrome; Senile Elastosis; Senile Keratosis; Senile Purpura; Septicemia; Serum Sickness; Sézary Syndrome; Shingles; Sick Cell Ulcer; Sjögren's Syndrome; Skin Tag; Skin Tests For Allergy; 5 Smallpox; Snake Bites; Sneddon-Wilkinson Subcorneal Pustulosis; Solar Atrophy; Solar Keratosis; Solar Urticaria; South American Blastomycosis; Speigler-Fendt Sarcoid; Spider Bites; Spider Nevi; Spinal Dysraphism; Spindle Cell Nevus; Spiradenoma; Spitz's Juvenile Melanoma; Sporotrichosis; Squamous Cell Carcinoma; Staphylococcal Scalded-Skin Syndrome; Stasis Dermatitis; Steatocystoma Multiplex, Steroid Acne, Steroid Effects, Unclassified; Stevens- 10 Johnson Syndrome; Stings, Insect; Stings, Other Than Insects And Spiders; Stings, Spider; Stomatitis; Stomatitis, Aphthous; Storage Disease, Glycogen; Striae; Stucco Keratosis; Stump Dermatitis; Sturge-Weber Syndrome; Subacute Bacterial Endocarditis; Subcorneal Pustular Dermatoses; Subcutaneous Fat Necrosis; Subepidermal Nodular Fibrosis; Sulzberger-Garbe Disease; Sunburn; Supernumerary Digit; Supernumerary Nipple; Surfer's Nodule; Surgery; Sweat 15 Gland Carcinoma; Sweat Gland Disorders, Unclassified; Sweat Gland Necrosis; Sweat Gland Tumors, Benign; Sweet's Syndrome; Swimmer's Itch; Swimming Pool Granuloma; Sycosis; Symmetric Lividity Of The Soles; Symmetrical Peripheral Gangrene; Syndactyly; Synovial Cyst; Syphilis, Congenital; Syphilis, Primary; Syphilis, Secondary; Syphilis, Tertiary; Syringocystadenoma Papilliferum; Syringoma; Systemic Lupus Erythematosus; Systemic 20 Therapy; Tags, Skin; Tar Melanosis; Tattoo; T-Cell Disorders; Teaching Slides; Teeth Abnormalities, Unclassified; Telangiectasia; Telangiectasia Macularis Eruptiva Perstans; Telangiectasia, Hereditary Hemorrhagic; Telogen Effluvium; Temporal Arteritis and other such like diseases and maladies now known and unknown.

Without doubt the invention disclosed herein served many well and long felt needs and 25 concerns among the public and health care professionals.

Objects of the Invention

In view of the foregoing, it is therefore an object of the invention to provide a detection device for skin cancer and other diseases of the skin.

It is a further objective of the invention to provide a detection device for skin cancer and

other maladies of the skin that is neither invasive nor destructive to the tissue being examined.

A further object of the invention is to provide a device that may be used as a mirror for anyone wishing to view his/her body but have been unable to do so, such as in gym facilities, homes, physician's offices, and other health care facilities.

5 A further object of the invention is to provide detection means that does not involve biopsy or contact with the skin.

Another object of the invention is to provide detection means that does not have side effects on the skin.

10 A further object of the invention is to provide a means for remote viewing of patients for telemedical diagnostic means, such as in prison facilities, remote locations or other areas that are similarly deficient in highly qualified or experts in a medical field.

A further object of the invention is to provide a cost-effective device.

Another object of the invention is to provide a device that may be easy to employ.

15 A further object of the invention is to provide a device that may be assembled with minimal professional carpenter assistance.

A further object of the invention is to provide a device that may be easily transportable.

Another object of the invention is to provide a device that is capable of being used in a system for reducing maladies of the skin

20 A further object of the invention is to provide a device that allows for automated acquisition of human physiological characteristics.

A further object of the invention is to provide a device that allows for melanoma and skin cancer screening.

A further object of the invention is to provide a device that allows for POSI score calculation.

A further object of the invention is to provide a device that allows for hair loss and/or growth evaluation(s).

A further object of the invention is to provide a device that allows for wound healing evaluations.

5 A further object of the invention is to provide a device that allows for remote diagnostic evaluations.

A further object of the invention is to provide a device that allows for viewing and analysis of cosmetic surgery applications.

A further object of the invention is to provide a device that allows for beauty evaluations.

10 A further object of the invention is to provide a device that allows for body morphology analysis.

A further object of the invention is to provide a device that allows for viewing and analysis of soft tissue augmentation.

15 A further object of the invention is to provide health care professionals with a device that will make doctor-patient interface time more efficient.

Another object of the invention is to provide a device capable of allowing health care professional(s), doctor(s), nutritionist(s), physical trainer(s) and individual person(s) the ability to view, monitor, evaluate and render decisions based upon that which is captured, viewed and or compared to prior analysis utilizing the device as disclosed herein.

20 A further object of the invention is to provide a device that may reduce patient time spent in a health care professional's, doctor's, nutritionist's, physical trainer's facility where said individual may review an his/her health, etc.

A further object of the invention is to provide a device that may reduce the related costs associated with an analysis as described herein.

25 Another object of the invention is to provide a device that may reduce the cost to insurance

programs reimbursing applicable healthcare and related professions for their time and effort associated with the rendering of care to such an insured individual.

Another object of the invention is to improve the quality of life.

Another object of the present device disclosed herein is to allow for a better and more efficient rendering of all forms of health care where visualization of the human body, including parts thereof, is required.

The invention thus provides a device for the identification, diagnosis and subsequent treatment of maladies of the skin that is time and cost efficient and effective with no side effects.

Having thus described the invention, it will be apparent to those of skill in the art that modifications can be made within the scope of the invention without departing from the scope or breath of that which is intended and disclosed herein.

Brief Description of the Drawings

Figure 1 (FIG 1) depicts a horizontal cross-section of an imaging system in accordance with the present invention.

Figure 2 (FIG 2) depicts a vertical panel of an imaging device in accordance with the present invention.

Figure 3 (FIG 3) depicts a horizontal cross section of an alternate embodiment of an imaging system in accordance with the present invention utilizing a circular periphery.

Figure 4 (FIG 4) depicts an exemplary imaging device, e.g., camera, and actuation means.

Figure 5 (FIG 5) is a schematic of a complete imaging system in accordance with the present invention.

Detailed Description of the Preferred Embodiment

This invention teaches a TIP device that provides non-occluded images by employing an

array of imaging devices and thereafter combining individual images to form a continuous image. It has been heretofore contemplated that the device could find use as an aid in screening and diagnosis of conditions of soft tissue, hair and nails. Furthermore, it could also find use as a beauty aid to consult those considering cosmetic surgery or changes in personal appearance.

5 Thus, the following detailed description, read with the above-described drawings will serve to explain various preferred embodiments and components of the present invention.

FIG 1 depicts a horizontal cross section of an embodiment of the TIP system 100 in accordance with the present invention. The system may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be
10 sized such that the person could easily stand at the center 108 of the device 100 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would fit comfortably at center 108. The system 100 is comprised of several panels 109. In this particular
15 embodiment, fourteen (14) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, an 8-sided polygon was chosen. The shape is arbitrary, however, the only requirement is that the panels are set up in mirrored pairs. Each panel 109 is
20 comprised of an imager array 102, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature, chemical information or other information of interest. In this embodiment, we
25 assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 101 are utilized. While fluorescent tubes are the preferred means, any type of illumination can be used, for example, a Wood's lamp may be used. These light sources 101 can be always on, or, alternatively, only activated when the cameras are
30 operating. Supporting the imager array 102 is the perimeter wall 103. The perimeter wall can be made of plywood, particle board or any other structural material capable of supporting the structure. In front of the light sources 101 and imager array 102 is shield 107. Shield 107 protects the imager array 102 and light sources 101 from contact with the subject. Standard 1/8" obscured plexiglass can be used as shield 107, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 109, there are dividers 106. Dividers 106 function to provide stability for shield 107, and also, when made opaque, reduce light interference between

adjacent imager arrays 102. To effect access and egress, panels 104 function as a doorway. By rotating on hinge 105, panels 104 swing outward, thus allowing access to the interior of system 100. A system 100 is also contemplated without doorway 104 that can be used for examining small objects, such as the scalp or hands, for example.

5 FIG 2 depicts an exemplary panel 200 of a TIP system in accordance with the present invention. Supporting the panel 200, is perimeter wall 207. Perimeter wall 207 can be flat, curved or angled in any fashion to accommodate the desired perimeter shape. Supported by the perimeter wall 207 are imaging arrays 205 and 206 and light sources 202 and 208. While this exemplary panel utilizes dual imaging arrays 205, 206 and light sources 202, 208, the panel may be
10 configured in any fashion utilizing at least one imaging array. Light sources 202, 208 are optional, and depending on the type of imaging done, e.g., chemical, may be unnecessary. However, in the present embodiment, light sources 202 and 208 are taken to be standard fluorescent tubes. They could also be, for example, Wood's lamps. Imaging arrays 205 and 206 comprise a plurality of
15 imaging devices 203. Imaging devices 203 may be a standard or digital camera, or any other type of device capable of capturing the desired information from the subject with the imaging system. Imaging devices 203 are controlled through cables 204. These cables may be used to remotely trigger a mechanical actuator or, as is contemplated herein, act as part of an electronic interface such as USB. Imaging arrays 205 and 206 are depicted herein as vertical arrays of 5 imaging
20 devices 203. In practice, the array can vary greatly. For use in smaller examinations, e.g., the scalp, it is suggested that less imaging devices 203 would be required to generate a complete image.

FIG 3 depicts a horizontal cross section of an alternate embodiment of an imaging system 300 in accordance with the present invention utilizing a circular periphery. The system 300 may be sized in any fashion to accord with the application. For example, should the system be used to
25 image an entire person, the system will be sized such that the person could easily stand at the center 308 of the device 300 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would comfortably at center 308. The system 300 is comprised of several panels 309. In this particular embodiment, eight (8) panels are used. The panels are
30 interconnected to form an enclosed structure. In this particular embodiment, a circle was

constructed. The shape is arbitrary, however, the only requirement is that the panels are set up in mirrored pairs. Each panel 301 is comprised of an imager array 302, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information. In this embodiment, we
5 assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 303 are utilized. While fluorescent tubes are the preferred means, any type of illumination can be used. These light sources 303 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 302 is the perimeter wall 310. The perimeter wall can be made of plywood, particleboard or any other
10 structural material capable of supporting the structure. In front of the light sources 303 and imager array 302 is shield 309. Shield 309 protects the imager array 302 and light sources 303 from contact with the subject. Standard 1/8" obscured plexiglass can be used as shield 309, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 301, there are dividers 306. Dividers 306 function to provide stability for shield 309, and
15 also, when made opaque, reduce light interference between adjacent imager arrays 302. To effect access and egress, panel 304 functions as a doorway. By rotating on a double-hinge hinge 305 and clearing angled divider 307, panel 304 swings outward, thus allowing access to the interior of system 300. A system 300 is also contemplated without doorway 304 that can be used for examining small objects, such as the scalp or hands, for example.

20 FIG 4 depicts an exemplary imaging device 400 for use with the present invention. In practice, the imaging device 400 may be a standard or digital camera, or any other type of device capable of capturing the desired information from the subject with the imaging system. For example, devices capable of recording infrared or chemical information could be used. The present embodiment, however, contemplates the use of a digital camera as exemplified by the
25 current figure. Such a device would comprise lens 403, mechanical actuator 402 and control cable 401. Preferably, cable 401 is used to electronically control, and further, download digital image information from imaging device 400. As is contemplated herein, the electronic control could be USB. Alternatively, control cable 401 could be used to trigger mechanical actuator 402. Although the present figure describes a specific imaging device, it should be understood that a wide variety
30 of data collection devices could be employed without departing from the scope of the present invention.

FIG 5 depicts a schematic of a complete image processing system 500 in accordance with the present invention. As discussed above in FIG 1, imaging system 100 may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be sized such that the person could easily stand at the center 108 of the device 100 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would fit comfortably at center 108. The system 100 is comprised of several panels 109. In this particular embodiment, fourteen (14) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, an 8-sided polygon was chosen. The shape is arbitrary, however, the only requirement is that the panels are set up in mirrored pairs. Each panel 109 is comprised of an imager array 102, comprising a vertical array of imaging devices. Imaging arrays 507 through 519 can be identical to imager array 102, or may vary in the information they garner in accord with the desired application. The present embodiment, however, contemplates identical imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information. In this embodiment, we assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 101 are utilized. Each imaging array may utilize a light source 101 to enhance imaging ability. Furthermore, each of said light sources could have varying characteristics to accord with the application. While fluorescent tubes are the preferred means, any type of illumination can be used. These light sources 101 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 102 is the perimeter wall 103. The perimeter wall can be made of plywood, particle board or any other structural material capable of supporting the structure. In front of the light sources 101 and imager arrays 102 and 507-519 is shield 107. Shield 107 protects the imager arrays 102 and 507 through 519 and light sources 101 from contact with the subject. Standard 1/8" obscured plexiglass can be used as shield 107, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 109, there are dividers 106. Dividers 106 function to provide stability for shield 107, and also, when made opaque, reduce light interference between adjacent imager arrays 102 and 507 through 519. To effect access and egress, panels 104 function as a doorway. By rotating on hinge 105, panels 104 swing outward, thus allowing access to the interior of system 100. A system 100 is also

contemplated without doorway 104 that can be used for examining small objects, such as the scalp or hands, for example. In order to effect the processing of the multiple images garnered from the plurality of imaging arrays, the imager arrays 102 and 507 through 519 are networked to a single computer 501. The present embodiment contemplates the use of USB to network the arrays 102 and 507 through 519. The imaging devices of arrays 102, 507, 508 and 509 are connected to USB hub 506 via interface cabling 102a, 507a, 508a and 509a, respectively. The imaging devices of arrays 517, 518 and 519 are connected to USB hub 505 via interface cabling 517a, 518a and 519a, respectively. The imaging devices of arrays 514, 515 and 516 connected to USB hub 504 via interface cabling 514a, 515a and 516a, respectively. The imaging devices of arrays 510, 511, 512 and 513 are connected to USB hub 503 via interface cabling 510a, 511a, 512a and 513a, respectively. Hub 506 is connected with hub 503 via cable 520. Hub 505 is connected with hub 504 via cable 521. Hubs 503 and 504 are then connected to hub 502 via cables 522 and 523, respectively. Finally, hub 502, which has the totality of imaging devices of imaging arrays 102 and 507 through 519 connected thereto, is connected to computer 501 via cable 524. The computer 501 is used to process the individual images garnered from each imaging device of each imaging array 102 and 507 through 519 to created a non-occluded image of the subject within system 100, and preferably, at center 108. It should be noted that the arrangement of hubs 506, 505, 504, 503 and 502 and the concomitant cabling presented heretofore is merely exemplary, and anyone with skill in the art will recognize the myriad ways of interconnecting the imaging devices of imaging arrays 102 and 507 through 519 to computer 501.

While the present invention has been described with reference to one or more preferred embodiments, which embodiments have been set forth in considerable detail for the purposes of making a complete disclosure of the invention, such embodiments are merely exemplary and are not intended to be limiting or represent an exhaustive enumeration of all aspects of the invention. The scope of the invention, therefore, shall be defined solely by the following claims. Further, it will be apparent to those of skill in the art that numerous changes may be made in such details without departing from the spirit and the principles of the invention.

What is claimed is:

1. A method for identifying maladies that effect human tissue, the method comprising the following steps:

positioning a person or portion thereof at a specified imaging position within an enclosure and located a predetermined distance relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other;

illuminating the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light therefrom;

generating an image of the illuminated person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices; and

measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. A method as defined in claim 1, further comprising the step of providing a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. A method as defined in claim 1, further comprising the step of providing the plurality of light sources located amongst the plurality of imaging devices.

5. A method as defined in claim 4, further comprising the step of providing at least two light sources located lateral to at least two imaging devices.

6. A method as defined in claim 1, further comprising the step of providing the at least two light sources positioned substantially symmetrically relative to the center line of the specified imaging position.

7. A method as defined in claim 1, further comprising the steps of:
providing a first imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and
providing a second imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. A method as defined in claim 7, further comprising the steps of:
providing a third imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and
providing a fourth imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis.

11. A method as defined in claim 10, further comprising the step of providing the panels with at least one imaging means.

12. A method as defined in claim 1, further comprising the steps of capturing with the plurality of imaging devices at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

13. A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources adequate illumination for the plurality of imaging devices to function in at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

14. A method as defined in claim 10, further comprising the steps of constructing the panels of a material capable of allowing adequate illumination to pass through the panels to illuminate the person or portion thereof.

15. A method as defined in claim 1, further comprising the steps of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

ABSTRACT

Total Immersion Photography (TIP) is disclosed, preferably for the use of screening for various medical and cosmetic conditions. TIP, in a preferred embodiment, comprises an enclosed structure that may be sized in accordance with an entire person, or individual body parts. Disposed therein are a plurality of imaging means which may gather a variety of information, e.g., chemical, light, temperature, etc. In a preferred embodiment, a computer and plurality of USB hubs are used to remotely operate and control digital cameras. The photo information is then transferred via the USB to the computer for processing and aggregation. Subject information is gathered to configure the operation of the various parameters of the device.

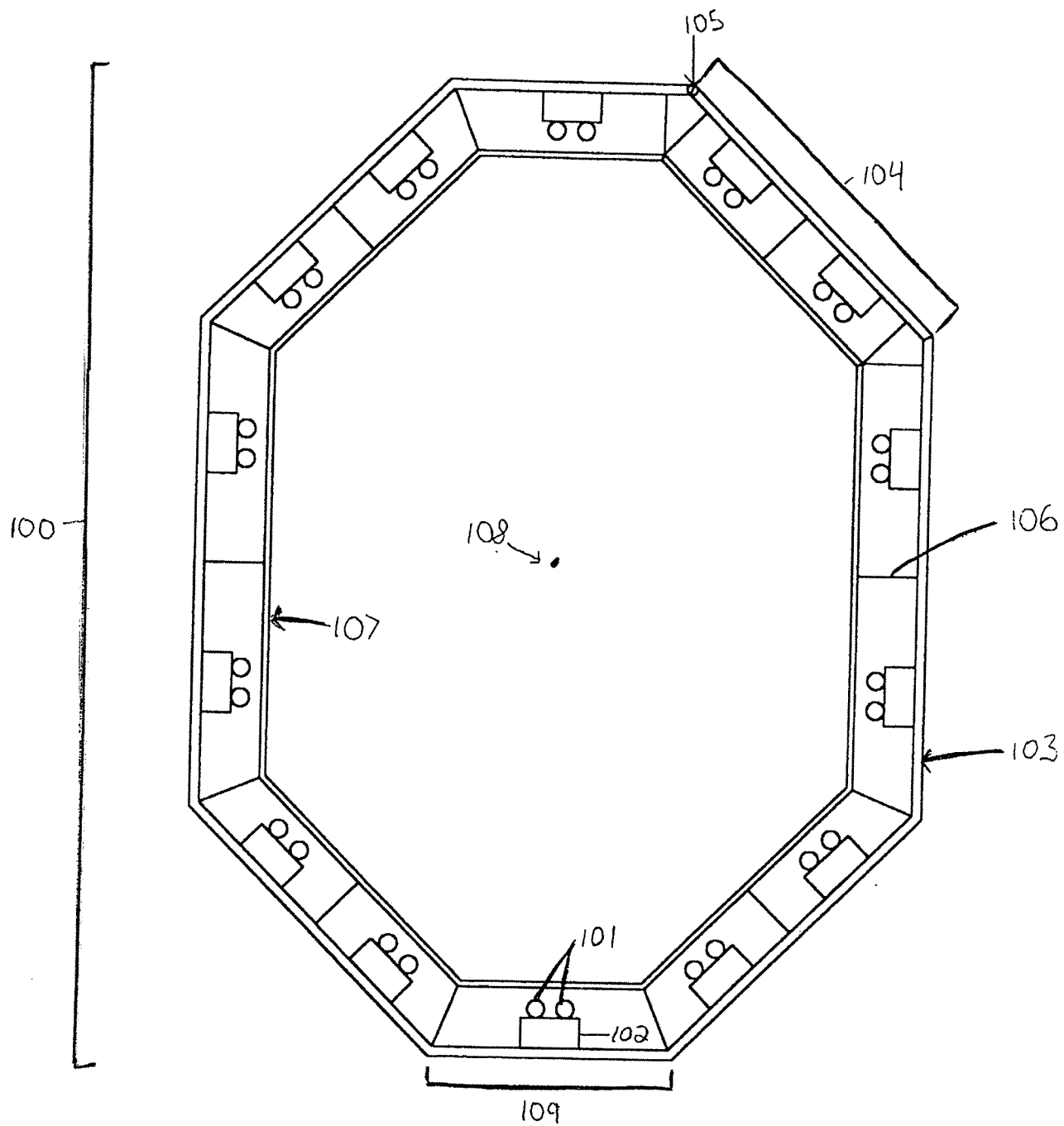


Fig 1

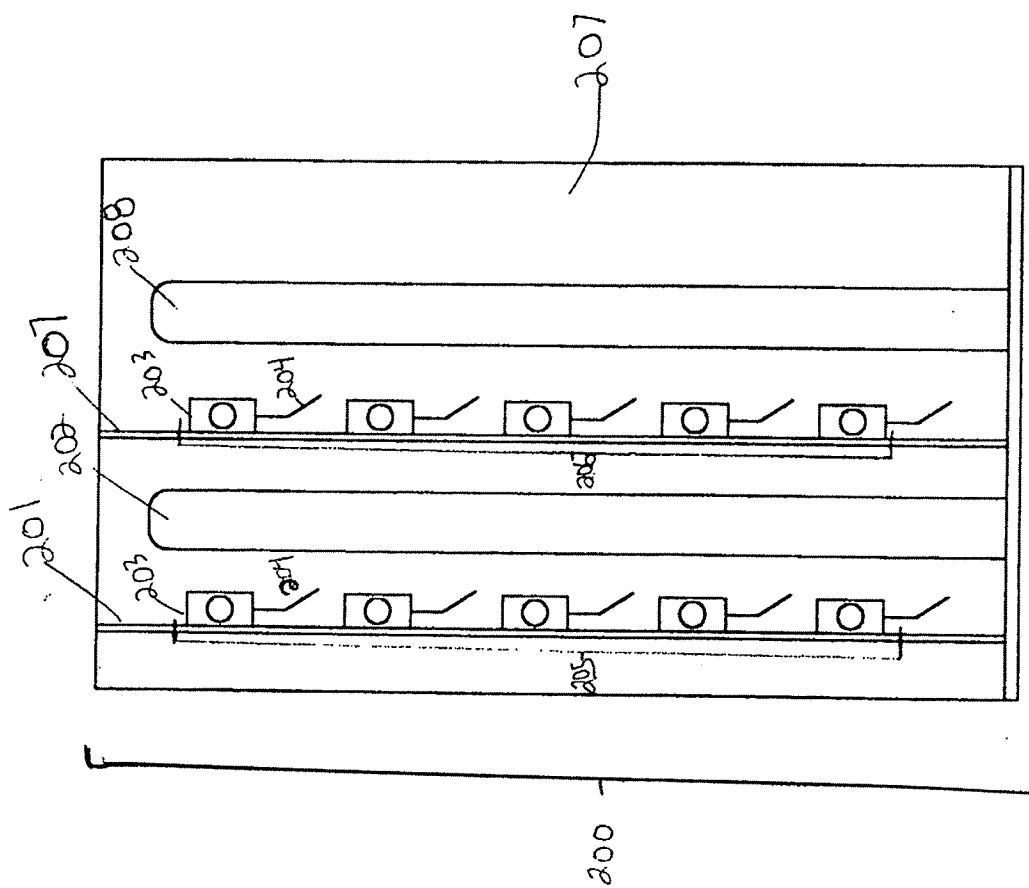


Fig. 2

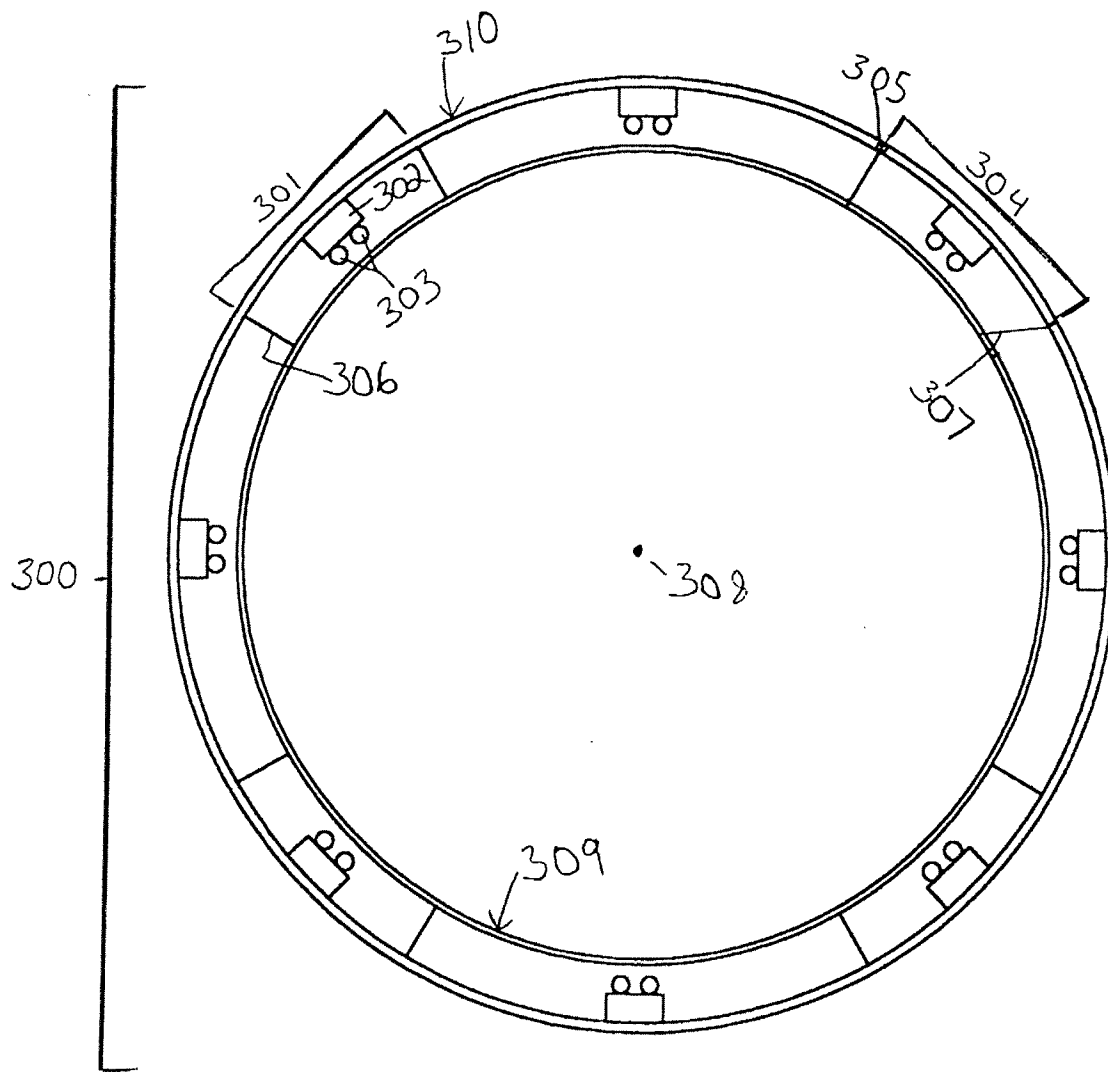


Fig. 3

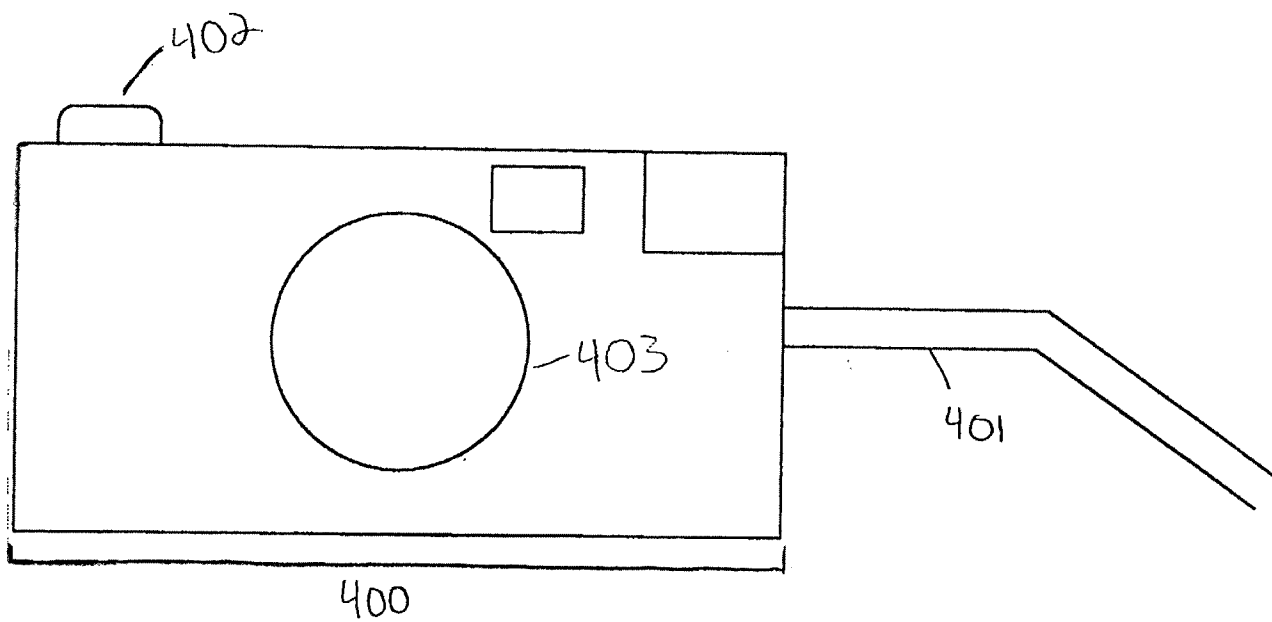


Fig. 4

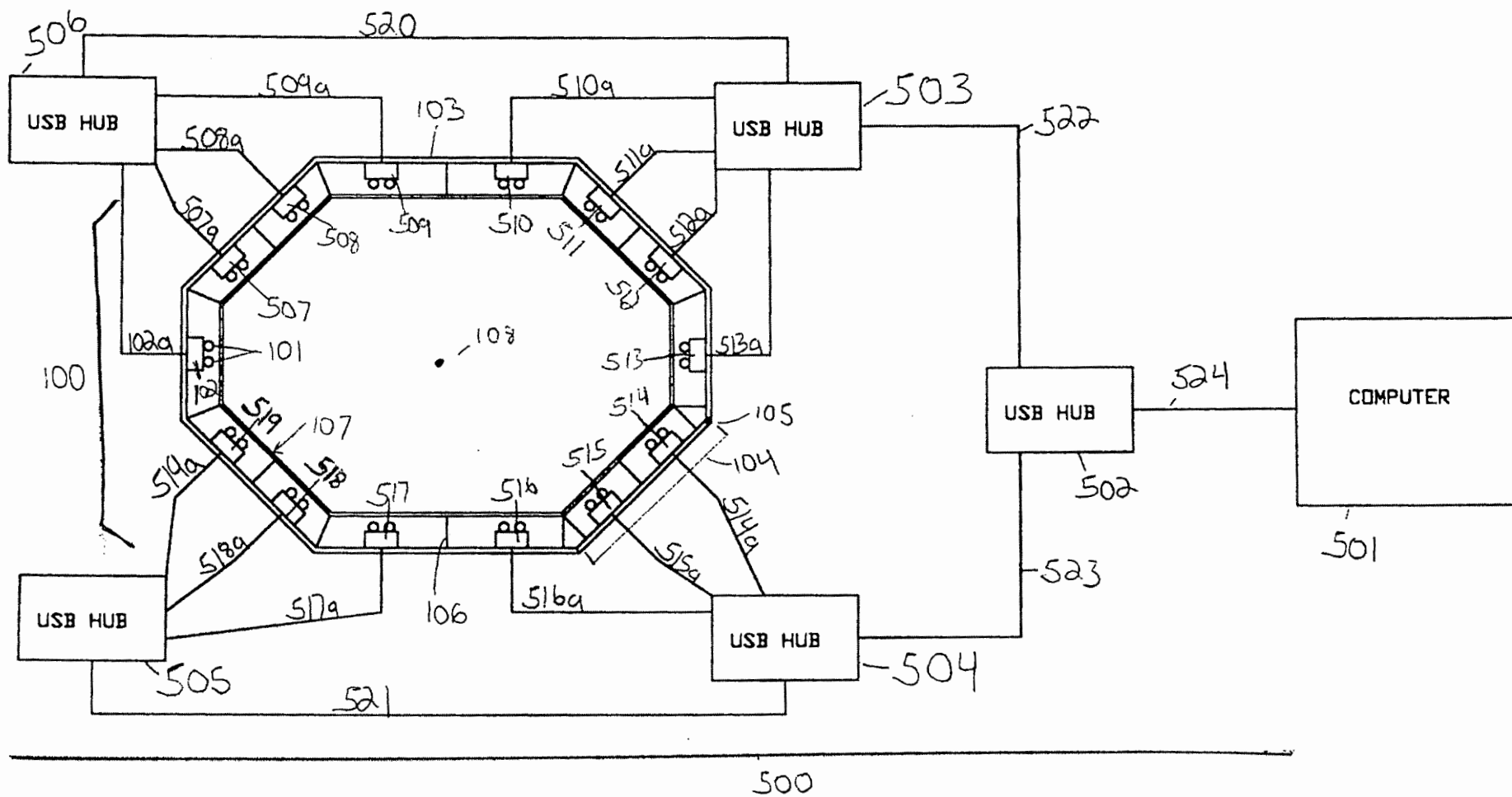


Fig. 5

**DECLARATION
AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below at 201 et seq. underneath my name.

I believe I am the original, first and sole inventor if only one name is listed at 201 below, or an original, first and joint inventor if plural names are listed at 201 et seq. below, of the subject matter which is claimed and for which a patent is sought on the invention entitled **APPARATUS FOR TOTAL IMMERSION PHOTOGRAPHY** the specification of which:

☒ is attached hereto ☐ was filed on as Application Serial No. (for declaration not accompanying application)

with amendment(s) filed (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119/§172 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED PRIOR TO THE FILING DATE OF THE APPLICATION			
APPLICATION NUMBER	COUNTRY	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 U.S.C. 119/172
N/A			YES ☐ NO ☐
			YES ☐ NO ☐
			YES ☐ NO ☐
			YES ☐ NO ☐

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION SERIAL NO.	FILING DATE	STATUS		
		PATENTED	PENDING	ABANDONED
N/A				

POWER OF ATTORNEY: As a named inventor, I hereby appoint the law firm of Holubar, McKinney & Ross and therein Ralph J. Crispino, Reg. No.: 46,144, whose address is 4 Child's Lane, Old Field, New York 11733, and the law firm's attorneys, to prosecute this application, and to transact all business in the Patent and Trademark Office connected therewith.

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	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY	ZIP CODE

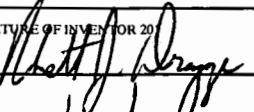
203	FULL NAME OF INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME	
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204	FULL NAME OF INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME	
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205	FULL NAME OF INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME	
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY	ZIP CODE

206	FULL NAME OF INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME	
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY	ZIP CODE

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201 	SIGNATURE OF INVENTOR 202	SIGNATURE OF INVENTOR 203
DATE 7/18/2000	DATE	DATE
SIGNATURE OF INVENTOR 204	SIGNATURE OF INVENTOR 205	SIGNATURE OF INVENTOR 206
DATE	DATE	DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: ☒ Application of: Drugge
☐ Patent of:

☐ Serial No.: TBA
☐ Patent No.:

Group Art Unit: TBA

☐ Filed: July 19, 2000
☐ Issued:

Examiner: TBA

For: APPARATUS FOR TOTAL
IMMERSION PHOTOGRAPHY

Attorney Docket No.: RD-001

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
[37 CFR 1.9(f) and 1.27(b)] - Independent Inventor

Sir:

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9 (c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled: Apparatus for Total Immersion Photography Interfaces, as described in:

- ☒ the specification filed herewith
☐ application serial no.
☐ patent no. issued

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9 (c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9 (d) or a nonprofit organization under 37 CFR 1.9 (e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern, or organization
☐ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern, or organization having rights to the invention averring to their status as small entities.
(37 CFR 1.27)

FULL NAME: Rhett Drugge
ADDRESS: 50 Glenbrook Road, Suite 1C
Stamford, Connecticut 06902-2914

☒ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

FULL NAME: _
ADDRESS: _
_

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. [37 CFR 1.28 (b)].

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, and patent issuing thereon, or any patent to which this verified statement is directed.

Send correspondence to: Bjorn J. Holubar, Esq.
4 Child's Lane
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NAME OF INVENTOR Rhett Drugge	NAME OF INVENTOR N/A	NAME OF INVENTOR
SIGNATURE OF INVENTOR <i>Rhett Drugge</i>	SIGNATURE OF INVENTOR	SIGNATURE OF INVENTOR
DATE 7/18/2000	DATE	DATE
NAME OF INVENTOR N/A	NAME OF INVENTOR	NAME OF INVENTOR
SIGNATURE OF INVENTOR	SIGNATURE OF INVENTOR	SIGNATURE OF INVENTOR
DATE	DATE	DATE

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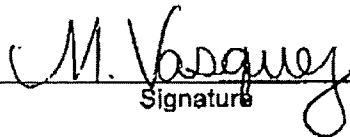
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ATTACHED HERETO FOR SERIAL NO. 09/625,712

1. PTO/SB/82 Revocation of Power of Attorney with New Power of Attorney and Change of Correspondence Address [1 page]

2.

3.

4.

TOTAL PAGES INCLUDING FACSIMILE TRANSMITTAL: 2

This collection of information is required by 37 CFR 1.8. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PAGE 1/2 * RCVD AT 5/10/2005 11:28:30 AM [Eastern Daylight Time] * SVR:USPTO-EFAXF-1/2 * DNIS:8729306 * CSID:8607243397 * DURATION (mm-ss):00-52

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PTO/SB/02 (04-05)

**REVOCATION OF POWER OF ATTORNEY WITH
NEW POWER OF ATTORNEY
AND
CHANGE OF CORRESPONDENCE ADDRESS**

Application Number	09/625,712
Filing Date	
First Named Inventor	Rhett J. DRUGGE
Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint the practitioners associated with the Customer Number: **21832**

☒ Please change the correspondence address for the above-identified application to:

☒ The address associated with Customer Number: **21832**

OR

☐ Firm or Individual Name	McCarte & English, LLP		
Address	185 Asylum Street CityPlace I		
City	Hartford	State	CT Zip 06103
Country	USA		
Telephone	860-275-6719	Email	860-724-3397

I am that:

☒ Applicant/Inventor.

☐ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement Under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

(SIGNATURE of Applicant or Assignee of Record)

Signature			
Name	Rhett J. Drugge, M.D.		
Date	5-6-05	Telephone	(203) 324-5719

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ Total of 01 forms are submitted.

This collection of information is required by 37 CFR 1.58. The information is required to obtain or refuse a patent by the public which is to be used by the USPTO to process an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments at the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
09/625,712	07/26/2000	Rhett Drugge	RD-001

21832
 MCCARTER & ENGLISH LLP
 CITYPLACE I
 185 ASYLUM STREET
 HARTFORD, CT 06103

CONFIRMATION NO. 7895



OC000000016610354

Date Mailed: 07/26/2005

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/10/2005.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

EDWARD J TANNOUSE
 OP (571) 272-3228

ATTORNEY/APPLICANT COPY

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Rhett Drugge	)	Confirmation No.:	TBA
	)		
Serial No.: TBA	)	Group Art Unit:	TBA
	)		
Filing Date: April 14, 2008	)	Docket No.:	100504.00008
	)		
For: Method for Total Immersion Photography	)	Customer No.:	21832

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBSTITUTE SPECIFICATION STATEMENT

Dear Sir:

In accordance with MPEP § 201.06(c) and pursuant to 37 C.F.R. § 1.125, Applicant submits herewith marked and clean copies of a substitute specification. Applicant respectfully submits that the substitute specification contains no new matter.

Dated: April 14, 2008

Respectfully submitted

/ Mark D. Giarratana /
Mark D. Giarratana (Reg. No. 32,615)
Attorney for Applicants

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APPARATUS-METHOD FOR TOTAL IMMERSION PHOTOGRAPHYCross-Reference to Priority Application

This patent application is a divisional of United States Patent Application Serial No. 09/625,712, filed July 26, 2000, entitled "APPARATUS FOR TOTAL IMMERSION PHOTOGRAPHY," co-pending herewith, which is hereby expressly incorporated by reference as part of the present disclosure.

Field of the Invention

The present invention relates primarily to conditions pertaining to health and cosmetics. As such, the device allows for the imaging of total or subtotal non-occluded body surfaces in order to detect health and cosmetic conditions and involves the measurement and analysis of an optically depicted image of a patient's surfaces by standard color imaging, heat, electromagnetic or chemical imaging. The present invention allows for image pixel acquisition, its data collection, data aggregation, data dissemination, data manipulation, and subsequent viewing. The present invention provides for tissue analysis of a patient such that relevant determinations may be made such as detection of diseases or related problems of cosmesis.

Background of the Invention

The invention relates to the detection, diagnosis and treatment of skin cancer as well as other diseases and cosmetic conditions of the visible human.

Half of all new cancers are skin cancers. About 1.3 million new cases of skin cancer will be diagnosed in the United States each year. About 80 percent of the new skin cancer cases will be basal cell carcinoma, 16 percent are squamous cell carcinoma, and 4 percent are melanoma.

Both basal cell carcinoma and squamous cell carcinoma have a better than 95 percent cure rate if detected and treated early. Squamous cell carcinoma of the skin accounts for about 2.3 thousand deaths annually.

The incidence of melanoma has more than tripled among Caucasians between 1980 and

2000. There will be about 47,700 new cases of melanoma in 2000. At current rates, one in 74 Caucasian Americans will develop melanoma. With that statistic, one person dies of melanoma every hour. This year, approximately 7,700 deaths will be attributed to melanoma in the ratio of 4,800 men and 2,900 women. Older Caucasian males have the highest mortality rates from melanoma. In women under the age of 30, melanoma is more prevalent than breast cancer. All of these cancers are associated with sun exposure with the majority occurring after age 50. Furthermore, the incidence rates for all skin cancers are increasing with movement of white populations south to sunnier climates and the greater numbers of individuals living into their 80s. With the "baby boomer" generation currently in their late 50s, the medical community is faced with an explosive skin cancer epidemic.

There is a need for a practical device that allows for the rapid screening of individuals for skin cancer and other maladies of the skin in early stages of development.

Currently, clinical diagnosis of skin disease is generally accomplished by visual inspection under white light illumination. In this process, the reflectance light of a skin lesion is examined. Visual diagnosis alone may not be particularly accurate for early detection of skin cancer since many skin conditions have a similar appearance under white light. Therefore, when a suspect lesion is identified by visual examination, a biopsy is often performed for a definitive diagnosis. Not only is it crucial to diagnose skin pre-cancer or skin cancer at an early stage when it is curable, but it is also important to improve the clinical diagnosis of suspected skin lesions so as to avoid unnecessary skin biopsies.

Several approaches have been tried to improve skin cancer diagnosis. Digital processing of reflectance images has been extensively investigated recently and has been found in melanoma to be more accurate than specialist diagnostic accuracy. An alternative approach is ultraviolet (UV), infrared (IR) or polarized light photography that extends visual perception of a physician to the UV, IR or polarized light reflectance patterns. A further alternative approach that is already in widespread medical use involves illuminating the skin with a "Wood's lamp" which consists of a mercury discharge lamp associated with a filter that transmits UVA light with a 365 nanometer peak while absorbing visible light. When this device is used to assist in skin diagnosis, the eye serves as both the detector and the long pass filter. The eye is not sensitive to UV light, but is sensitive to visible fluorescence light. When the "Wood's lamp" is used in a darkened room, where

the physician sees an image of a fluorescing disease site. The "Wood's lamp" is useful for the diagnosis of some skin conditions such as tinea capitis, tinea versicolor, erythrasma, and some pseudomonas infections, as well as aiding in the detection and diagnosis of hypopigmented skin. It is of no value in conditions where the fluorescence is not in the visible spectrum. These techniques
5 depend on lighting and sensor techniques and may be incorporated into the total immersion photography system.

Prior Disclosures

Currently, clinical diagnosis of skin disease is generally accomplished by visual, verbal
10 and handwritten history taking and by inspection during a visit to the physician's clinic. Initial inspections are routinely performed by general practitioners. Dermatologists may be sought out by patients or used upon referral by general practitioners. Either way, an appointment is required. Visual inspections are often limited by the physician's schedule or patient modesty. The patient may only be willing to have the area of concern inspected. General practitioners, the HMO
15 "gatekeepers", have been documented to be less effective in discerning potential cancerous lesions than dermatologists. If referrals are not made, possible malignancies may be overlooked. A second approach is chemical emulsion or digital photography that can extend visual perception of a physician to the UV or IR reflectance patterns. Such approaches have also been limited by the need for a "point-and-shoot" photographer. A more limited approach requires only images of those
20 areas in question. This again leaves open the possibility of an incomplete diagnosis. This approach may be augmented by the use of skin surface epiluminescence microscopy. Epiluminescence light microscopy (ELM) represents a technique which permits examination of the surface of the skin and also--by using the oil immersion technique--of the dermal-epidermal junction zone. The commonly used method of epiluminescence microscopy is based on point and shoot techniques
25 requiring a trained operator. Recently, there have been investigations into the use of digital imagery to aid with dermatologic diagnoses. The prevalent technique uses either digitally processed standard photography or direct digital photography of sections of the subject's body. These images are then stored for inspection, referral, and/or forwarding. For comprehensive surface imaging, this approach requires multiple posings by the photographer and the subject that
30 may exceed 30 views in total. Depending on the medium used, review of the images may or may

not be available for inspection during the same appointment. Specific applications include the MoleMap and MoleMax II systems. MoleMap uses a combination of three images (epiluminescence, macro and low resolution) to identify possible melanoma. Visual type resolution is used primarily for mapping suspicious locations. Images are diagnosed and reported on by dermatologists before being permanently archived on a computer system for future comparisons. The MoleMax II system combines epiluminescence microscopy and computer technology for data storage and retrieval. The system can be adapted for body surface imaging (using serial individually-photographed images). Images are available for inspection during the current office visit, allowing simultaneous dermatologist/patient on-screen observation. Since the outcome of treatment of cancer is more favorable the earlier and more accurately the cancer is detected, the present invention is a substantial advancement in improving public health by eliminating the barrier of an available expert photographer or dermatologist for effective skin screening. This device provides a complete non-covered screening in an automated fashion, removing the intrusion of physical inspection and decreasing the possibility of missed lesions. The image acquisition does not require the presence of a physician or medical photographer, thereby increasing convenience to the patient/subject. This, in turn, would allow the placement of the device independent of the physician's or medical photographer's office, a benefit to public health programs.

Since the outcome of cancer treatment is more favorable the earlier and more accurately the cancer is detected, the present invention is a substantial advancement in improving public health by automating the imaging of potentially cancerous lesions in a more rapid and complete method. In light of the many advantages of early detection, there exists a clear need for a device that can greatly enhance the current methods of skin cancer screening. Furthermore, such a device will also find use in the cosmetic and beauty industry.

Summary of the Invention

The TIP system including the structure, infrastructure, and imaging system, requires little training, minimal staffing, and may be constructed with simple, easily available tools. TIP is a device that may be easily transportable, providing opportunity for skin screenings in diverse locations such as gym facilities, recreation centers, physician's offices, and other health oriented facilities. Medically under-served and restricted locales, e.g., rural areas and prison facilities, will

also benefit from TIP system remote diagnostic capabilities (telemedicine), bringing the care of medical specialists to the patients.

The present invention, Total Immersion Photography (TIP), relates initially, and thus generally, to cancer detection and, more particularly, to skin cancer, e.g., melanoma, detection
5 involving the measurement and analysis of an optical depiction of the subject patient's skin surface by standard color imaging, as well as heat, electromagnetic or chemical imaging. The present invention allows for subject acquisition, data collation, data aggregation, data dissemination, data manipulation, data viewing in a preferable medium and analysis of a subject patient's skin surface, or other body tissue and, therefore, providing for the subject tissue's
10 analysis such that relevant determinations may be made. TIP is a digital image acquisition device, the products of which, are capable of a variety of applications. For instance, panoramic mosaics of the body, 3-D models of the body, images for use with "machine vision", and interfacing with medical records are such possible uses.

The present invention is uniquely situated whereby TIP may operate as the screening test,
15 as well as a confirmation of a positive result from a screening test, or even in a manner that provides for second opinions. In either circumstance, if the results of the administered test are confirmatory, *i.e.*, melanoma is detected or otherwise identified on the skin surface. If, on the other hand, it is determined that melanoma is not present on the skin surface and, consequently, that the screening test was erroneous, the patient is spared the trauma of having to undergo the full
20 work-up including the biopsy. In that respect, confirmation of cancer by analyzing the skin surface as set forth herein has many significant advantages over conventional melanoma tests, as well as cancer detection methods in general.

TIP comprises an image acquisition device that is further comprised of an enclosed structure that is and can be designed and assembled according to the human physiology to be
25 analyzed such that the enclosed structure maximizes the ease of acquisition of the human body with traditional and/or digital photography. For purpose of discussion herein, the TIP structure may be comprised of fourteen (14) "panels". These fourteen (14) panels should be set forth in such that one panel has a "mirror image" panel. Alternatively, the TIP device may be constructed in a circular derivative, or like structure, of the fourteen (14) panel embodiment or other such number
30 of panels keeping with the operative requirements of the device.

Contained within the enclosed structure are devices capable of "photographing" the body in a static position (motion or time-lapsed photography is also be provided for). The photographic device(s) may be capable of "taking" the body through traditional photography means, and/or temperature, chemical or electromagnetic based means. For purposes of discussion herein, the photographic means, e.g. a camera or like device capable of "capturing" a still image or video streamed images, ("camera") array should consist of no less than forty (40) cameras. The camera(s), as envisioned and discussed herein are set forth in the fourteen "panels" such that there are five (5) cameras per vertical panel section (8 X 5 + top and bottom cameras =42). This structure of cameras and panels may be easily modified without departing from that which is taught, disclosed and intended. The basis for the panel-camera array is to accurately capture the physiological attributes desired from the subject patient. With subject placement, the camera array coordinates and distances are known in relation to the subject. These distances, in combination with focal length and resolution information, allows for the precise measurement of the human features of interest. The camera(s) may be left "on", engaged or otherwise activated at a desired time.

To effect the proper "picture" lighting or other optical, heat, chemical or electromagnetic, enhancement means may be affixed to, or placed around the structure such that the photographic device's "capturing" of the subject physiology may be optimized. Accordingly, for purpose of discussion herein in regard to traditional photographic means the photographic optimization may be accomplished via a lighting means which consists of fluorescent lights. These lights should be situated and placed behind panels constructed of Lucite or like material containing the same or similar physical and optical properties. The lighting means may be ~~on~~ "on" or activated prior to engagement of the camera or photographic means, or further, remotely triggered at a predetermined time.

In the event the camera(s) and/or the lighting means are triggered remotely or upon a sequencing event the same can be controlled manually or through computer assistance. Should computers or like devices be used to facilitate the process, the same may consist of at least one (1) USB Hub, but as is contemplated herein ten (10) USB Hubs with 7 (7) USB ports per hub. In turn, there should be a data processor or like means that resides on a server or so similarly situated.

The subject patient or physiological area would enter or be placed into the TIP enclosed

structure, and if need be into the specified position for imaging. When in position, the camera device and enhancement, if not engaged, are so engaged and the image(s) obtained. Thereafter, the images are transmitted from the camera device(s) through the USB(s) onto a server/computer means capable of aggregating, manipulating and disseminating the image(s) collected into a visually discernable format. As such, the images can be displayed synchronously in 2D format or processed into 3D renderings for desired or required viewing.

As a result of the aforementioned TIP device, a doctor or other individual interested in acquiring the imaging of an individual or physiological area is provided a device capable of acquiring specific imagery and related information that may be further viewed, and/or collected, registered and/or stored for analysis. And as is considered and contemplated herein in regard to conditions and diseases of the visible human (but to also include and not limited to general physical, topical and subcutaneous analysis).

Accordingly, the apparatus of the present invention provides means for diagnosis of a skin disease site using spectral analysis comprising: a light source for generating light to illuminate the disease site; a probe means to conduct the illumination light from the light source to the disease site and to collect the reflected and fluorescence light and conduct said light to be analyzed; and spectral analysis means optically connected to the probe means for generating and displaying spectral measurements of the fluorescence light and the reflectance light to assist the user in diagnosing the disease site.

In a further aspect, the present invention provides a method for diagnosis of a skin disease site using spectral analysis comprising the steps of: illuminating the disease site with a light source to generate fluorescence and reflectance light at the disease site; collecting the generated fluorescence and reflectance light; conducting a spectral analysis of the collected light using a spectrometer; displaying spectral measurements of the fluorescence light and the reflectance light; and analyzing the measured fluorescence and reflectance spectra together to make a diagnosis of the disease site.

In a preferred embodiment, the apparatus of the present invention includes a compact spectrometer connected to a computer, a fluorescence excitation light source with a shutter, a white light source with a shutter, a bifurcated fibre bundle, a light coupler, a skin probe, and

controlling electronics. The system is designed to automatically switch between the fluorescence excitation light and the white light sources and complete fluorescence and reflectance spectral measurements of a skin disease site sequentially in a few seconds. The system exploits the spectral differences of different skin diseases to aid in the dermatologic diagnosis. In particular, the apparatus provides a low cost, compact system that is capable of quickly and efficiently performing combined fluorescence and reflectance spectral analysis.

Applications

Below are some examples, but not limited to, in regard to the invention's scope and intended applications of TIP:

10 Automated Acquisition

Storage and display of the non-occluded visible body surface properties including but not limited to diseases and cosmetic conditions of the skin, hair and nails and body measurements. In this application the body surface can be viewed and measurements taken, evaluated, viewed, collated, and cross-referenced in an easy and efficient manner.

15 Melanoma and Skin Cancer Screening

Large populations can be effectively screened in a short period of time for skin cancers and related maladies using this device. The consistent lighting and repeatability of the imaging technique make it ideal for replacing the skin cancer screening environment where poor lighting, patient movement and dialogue, patient modesty and other factors increase the likelihood of an incomplete examination. By removing most of these factors, the physician is allowed undistracted viewing time of the patient's skin surface. In addition, the travel and time expense of skin cancer screenings at a location other than the physician's own office is large. For evaluations of change over time and detection of new lesions, 3-month, 6-month and yearly scans can be obtained and analyzed in relation to one another. All evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that patient, doctor and health care provider time is minimized (and thus cost reduced). Data will be recorded and aggregated such that accurate assessments of the patient and population may be derived.

Medical Practice Aid/ Documentation System

The availability of images of a patient undergoing therapy is critical to a practicing dermatologist who bases his/her clinical evaluation on the "improvement" he/she sees in the patient over time. This is especially pertinent to chronic conditions such as acne, urticaria, atopic dermatitis, contact dermatitis, psoriasis, blistering disorders, etc. The system acts as a "medical memory" of the patient as he/she returns to the office for reevaluation.

Beauty Evaluations

Consumers flock to cosmetic counters to purchase makeup to hide their skin conditions. Eighty percent of skin cancers are found on the head and neck. A "beauty mark" that is identified by the patient on the face could be dermatosis nigra, seborrheic keratosis, compound nevus or melanoma. A raised pink or red "pimple" could be a basal cell carcinoma or granuloma or sarcoid lesion. Other conditions include broken blood vessels (red lines) which can be indicative for diagnoses of telangiectasias and rosacea. Pigment disorders such as vitiligo (lack of melanin), melasma (increased melanin), as well as discolorations due to excessive sun exposure are challenging to hide with makeup. Inflammatory skin conditions such as seborrheic dermatitis, psoriasis and eczema cause red, scaly patches which are chronic conditions falsely managed by moisturizers and makeup formulations. The information can be used to aid in makeover consultations. Consumers can be evaluated as to their current skin regimens and their conditions and followed over time as they undergo medical therapy. In addition, topical and internal medicines can be studied for their effectiveness over time.

Body Morphology Analysis- Shape Evaluation

Medically consequential conditions of the skeleton such as limb deformities and the spine deformities of kyphosis and scoliosis may be assessed photogrammetrically through TIP system. The consumer is also curious about what "shape" they are in mainly for appearance reasons. The physician or physical trainer is interested in the "shape" of the patient or client for both health and beauty reasons. This invention allows for a total body evaluation on several dimensions. Measurements and comparisons of body contours, fat deposit analysis, asymmetry, etc. with volume measurements will be valuable for the cosmetic surgeon, the physician, the physical

trainer, the clothier, etc. Medical and health decisions will be aided with such information. These evaluations can then be viewed, collated, and cross-referenced in an easy and efficient manner.

Cosmetic Surgery Applications

Preoperative evaluations as well as postoperative analysis and comparisons can be made using this device for all cosmetic surgery procedures. This is especially true for but not limited to facial surgery, eyelid surgery, face lifts, neck lifts, laser resurfacing, laser hair removal, soft tissue augmentation and liposuction. The physician can look to reduce asymmetry of the patient's anatomy to enhance the outcome of cosmetic surgery. In addition, measurements of graft survival and soft tissue survival as well as measurements of soft tissue removal can be more accurately defined. These evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that studies can be made of the procedures where there are currently none.

Soft Tissue Manipulation

Volumetric measurements of soft tissue will facilitate studies of cosmetic procedures of the subcutis, glands, muscles, and skeleton. It will enhance the accuracy of body volume measurements for both soft tissue augmentation and soft tissue removal. Patients will be measured before soft tissue manipulation so that the procedure is more accurately applied to the areas to be treated. The volumetric data will serve as a baseline to study the effectiveness of the treatment and will also enhance postoperative evaluation. For soft tissue augmentation using live tissue, it will allow for survival studies to be conducted. This will be a significant improvement over the current water-displacement techniques and 2D renderings. These evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that patient and doctor time is minimized. Data can be reviewed in a postoperative environment to assess outcomes and be used for outcome studies.

Percent of Surface Involved Score Calculation

This device will be able to standardize the Percent of Surface Involved ("POSI") and Psoriasis Area Surface Involvement ("PASI") scoring for the evaluation of extent of disease of such skin diseases but not limited to psoriasis, pemphigus, burn victims, etc. Automation of the calculation will be critical. Topical and internal medicines can be studied for their effectiveness

over time. These calculations can be collated and cross-referenced in manner such outcome studies of therapies can be collected for large populations and published.

Hair Loss Evaluation

Progression of hair loss and treatment evaluation can be monitored with such a device.
5 Topical and internal medicines can be studied for their effectiveness over time. In addition, hair transplantation techniques (planning, mapping and performing) will be enhanced. Postoperative and follow-up graft survival studies will also be more accurate. Such an evaluation procedure can be viewed by patient and health care professional alike, whereafter the same may be collated, and cross referenced in a manner such that time is minimized, data is accurately recorded and
10 aggregated so an accurate assessment and prognosis may be made.

Wound Healing Evaluations

Therapeutic analyses for post operative wounds, traumatic wounds, ulcers, burns, scars, etc. collectively "wounds" can be made using this device. Measurements of the "wounds" at the outset of therapy and then at specific intervals of time allow for accurate evaluation of the
15 progression of healing time and patient responsiveness to treatment. Topical and internal medicines can be studied for their effectiveness over time. These evaluations and resulting analyses can be viewed, collated, and cross referenced in an easy and efficient manner such that time is minimized, data accurately recorded and aggregated for efficient and accurate assessments and prognosis made.

20 Remote Diagnostic Evaluations

This device will allow for both local and remote medical and cosmetic consultations. These evaluations and applications can be shared effectively using store-and-forward telemedicine techniques. The TIP data set can be viewed, collated, and cross referenced in an easy and efficient manner such that patient and doctor time is minimized, data accurately recorded and aggregated
25 and thus efficient and accurate diagnoses.

Accordingly the following are a list, not inclusive, of those ailments, maladies and concerns that can be addressed by the device as disclosed herein: Disorders relating to and/or

resulting from: altered reactivity; bacterial and fungal diseases; cell kinetics; cell differentiation; drugs and chemical agents; epidermal cohesion; epidermal appendages and related disorders; epidermal and appendageal tumors; hematology; infestations, bites, and stings; lymphomas and pseudolymphomas; mechanical and physical factors; melanocytes; mucocutaneous integument; neoplasms; nutrition, metabolism, and genetics; organ systems: gastrointestinal, cardiovascular, pulmonary, endocrine, renal and other organ systems; persistent inflammation; rheumatology; including but not limited to sexually transmitted diseases.

Also identifiable are conditions of surgical dermatology, including but not limited to: cryosurgery; hair loss and transplant; liposuction; micrographic surgery; nail surgery; sclerotherapy; skin resurfacing; soft tissue augmentation and wounds.

Particularly the following, but not limited thereto, are capable of being identified through the use of the invention disclosed herein:

Abscess, Child Abuse, Drug Abuse, skin lesions, Physical Acantholytic Dermatitis, Transient Acanthosis Nigricans; Acarophobia; Acatalasia, Achromia Parasitica; Acne Artificialis; Acne Conglobata; Acne Cosmetica; Acne Excoriée; Acne Fulminans; Acne Keloidalis; Acne Mechanica; Acne Necrotica; Acne Neonatorum; Acne Rosacea; Acne Varioliformis; Acne Vulgaris; Chloracne; Cystic Acne, Halogen Acne, Pomade Acne, Steroid Acne, Tropical Acne, Acneiform Eruptions, Drug-Related Acne; Acrochordon; Acrocyanosis; Acrodermatitis Chronica Atrophicans; Acrodermatitis Continua; Acrodermatitis Enteropathica; Acrodermatitis of Hallopeau; Acrodermatitis Pustulosa Perstans; Papular Acrodermatitis of Childhood, Acrodynia; Acrokeratoelastoidosis; Acrokeratosis Verruciformis, Acromegaly, Acropachyderma, Acropustulosis, Acropustulosis Of Infancy, Acrosclerosis, Actinic Cheilitis, Actinic Dermatitis, Actinic Elastosis, Actinic Keratosis, Actinic Damage; Actinic Prurigo; Actinic Reticuloid; Actinomycosis, Actinophytosis, Acuminate Warts; Acute Febrile Neutrophilic Dermatoses, Drug Addiction, Addison's Disease; Sweat Gland Adenoma, Adenoma Sebaceum, Adenomatosis Oris, Adiposis Dolorosa, Agammaglobulinemia, AIDS, AIDS-Associated Syndromes, Ainhum, Albinism, Albright's Syndrome, Aldrich's Syndrome, Alkaptonuria, Allergic Contact Dermatitis, Allergic Vasculitis; Alopecia Areata, Alopecia Mucinosa, Alopecia Totalis, Alopecia Universalis, Androgenetic Alopecia, Scarring Alopecia, Amebiasis, Amputation Stump Dermatitis, Amyloidosis, Anagen Effluvium, Anaphylactoid Purpura, Anderson-Fabry Disease, Anemia,

Anetoderma, Angiitis, Angioedema, Angiofibroma, Angioimmunoblastic Lymphadenopathy; Angiokeratoma & Other Benign Vascular Tumors; Angiokeratoma Corporis Diffusum, Angiolipoma, Angiolymphoid Hyperplasia, Angioma, Angioma Serpiginosum, Angioneurotic Edema, Anhidrotic Ectodermal Dysplasia, Animal Bites, Anthrax, Antiphospholipid Syndrome,

5 Aphthous Ulcer, Aplasia Cutis Congenita, Apocrine Miliaria, Argyria, Arsenical Keratoses, Arteriolitis, Arteriovenous Malformations, Arthritis, Arthropod Bites And Stings, Ashy Dermatitis, Aspergillosis, Asteatosis, Ataxia-Telangiectasia, Atopic Dermatitis, Atrophic Nail Disorders, Malignant Atrophic Papulosis, Atrophic Blanche, Anetoderma, Atrophy Unclassified, Atypical Fibroxanthoma, Atypical Mycobacterial Infections, Auricular Fistula, Autoeczematous

10 Dermatitis, Autoerythrocyte Sensitization, Autosensitization Dermatitis, Pustular Bacterid, Balanitis Xerotica Obliterans; Balding, Basal Cell Carcinoma, Basal Cell Nevus Syndrome, Battered Child, Bazin's Disease, B-Cell Disorders, Becker's Nevus, Behçet's Syndrome, Bejel, Benign Familial Chronic Pemphigus, Benign Mucous Membrane Pemphigoid, Benign Tumors,, Berloque Dermatitis, Biliary Cirrhosis, Birthmarks, Insect Bites, Spider Bites, B-K Mole

15 Syndrome, Black Hairy Tongue, Black Heel, Blaschko Dermatitis, North American Blastomycosis, South American Blastomycosis, Blepharitis, Blister Agents, Blister Beetle Dermatitis, Blood Dyscrasias, Bloom's Syndrome, Blue Nevus, Blue Rubber Bleb Nevus, Bockhart's Impetigo, Boil, Bornholm Disease, Botryomycosis, Bourneville's Disease, Bowenoid Papulosis, Bowen's Disease Or Intraepidermal Carcinoma, Branchial Cyst, Branchiogenic Cyst,

20 Brazilian Pemphigus, Bromoderma, Brucellosis, Buerger's Disease, Bullous Dermatitis Of Childhood, Bullous Diabeticorum, Bullous Disorders, Bullous Pemphigoid, Burn, Buruli Ulcer, Buschke-Ollendorff Syndrome, Cafe-Au-Lait Spots, Caffey's Syndrome, Calcifying Epithelioma, Calcinosis Cutis And Osteoma Cutis, Callus, Campbell De'morgan Spot, Candidiasis, Canities, Canker Sore, Capillary Hemangioma, Carbuncle, Carcinoid Syndrome, Epidermoid Carcinoma,

25 Metastatic Carcinoma, Merkel Cell Carcinoma, Squamous Cell Carcinoma, Carotenemia, Caterpillar Dermatitis, Cat-Scratch Disease, Cellulite, Lymphangitis, Dissecting Cellulitis of the Scalp, Cercarial Dermatitis, Chagas Disease, Chancre, Chancroid, Chédiak - Higashi Syndrome, Cheilitis, Cheilitis Glandularis, Cheilitis Granulomatosa, Chemical Blister Agents, Side-Effects of Cancer Chemotherapy, Cherry Angioma, Chickenpox, Chigger Bites, Chilblains, Child Abuse,

30 Chloasma, Chloracne, Cholinergic Urticaria, Chondrodermatitis, Chromhidrosis, Chromoblastomycosis, Chromomycosis, Chronic Granulomatous Disease, Chrysiasis, Churg

Strauss, Cicatricial Alopecia, Cicatricial Pemphigoid, Cicatrix, Clavus, Clear Cell Acanthoma,
 Clubbing Of Fingers, Cobb Syndrome, Coccidioidomycosis, Cockayne's Syndrome, Cold Injury,
 Ulcerative Colitis, Perforating Collagenosis, Collodion Baby; Colloid Miliun, Comedos,
 Comedonal Nevus, Complement Deficiency Disorders, Compound Nevus, Condyloma
 5 Accuminatum; Condyloma Lata; Confluent And Reticulated Papillomatosis; Congenital
 Disorders, Unclassified; Congenital Fistulae; Congenital Hair Disorders, Unclassified; Congenital
 Hypoplasia; Congenital Poikiloderma; Congenital Self-Healing Reticulohistiocytosis; Congenital
 Syphilis; Congenital Vascular Neoplasm Syndromes; Connective Tissue Nevus; Conradi's
 Disease; Contact Dermatitis; Contracture, ; Unclassified; Copper Deficiency; Corns;
 10 Corticosteroid Effects; Cosmetic Procedures; Coumarin Reaction; Cowden's Disease; Coxsackie
 Infection; Craniofacial Angiomatosis; Creeping Eruption; Crest Syndrome; Crohn's Disease;
 Cronkhite - Canada Syndrome; Cryofibrinogenemia; Cryoglobulinemia; Cryosurgery;
 Cryptococcosis; Cushing's Syndrome; Cutaneomeningospinal Angiomatosis; Cutaneous B-Cell
 Lymphoma; Cutaneous Horn; Cutaneous Markers Of Malignancy; Cutaneous Papillomatosis;
 15 Cutaneous Tag; Cutaneous T-Cell Lymphoma; Cutis Elastica; Cutis Laxa; Cutis Marmorata; Cutis
 Marmorata Telangiectetica Congenita; Cutis Rhomboidalis Nuchae; Cutis Verticis Gyrata; Cyclic
 Neutropenia; Cyndroma; Cyst, Branchiogenic; Cyst, Epidermal Or Epithelial; Cyst, Keratinous,
 Pilar Or Sebaceous; Cyst, Mucous; Cyst, Pilar; Cyst, Sebaceous; Cyst, Synovial; Cytomegalovirus
 Infection; Dactyolysis; Dandruff; Darier - White Disease; Decubitus Ulcer; Deficiency, Mineral
 20 Or Vitamin; Degos Disease; Delusions Of Parasitosis; Demodex Folliculorum; Dental
 Abnormalities; Dental Sinus; Depigmentation; Depressive (Neurotic) Excoriations; Dercum's
 Disease; Dermal Hypoplasia; Dermatagia; Dermatitis Herpetiformis; Dermatitis Medicamentosa;
 Dermatitis Nodularis Necrotica; Dermatitis Papillaris Capillitii; Dermatitis Repens; Dermatitis
 Vegetans; Dermatitis, Acute, Unclassified; Dermatitis, Atopic; Dermatitis, Autosensitization;
 25 Dermatitis, Beetle; Dermatitis, Berloque; Dermatitis, Contact; Dermatitis, Diaper; Dermatitis,
 Drug Allergy; Dermatitis, Drug Toxicity; Dermatitis, Dyshydrotic; Dermatitis, Eczematous;
 Dermatitis, Exfoliativa; Dermatitis, Factial; Dermatitis, Infectious Eczematoid; Dermatitis,
 Irritant; Dermatitis, Nummular; dermatitis, Occupational; Dermatitis, Perioral; Dermatitis, Photo;
 Dermatitis, Pregnancy; Dermatitis, Radiation; Dermatitis, Seborrheic; Dermatitis, Stasis;
 30 Dermatitis, Nutritional; Dermatofibroma; Dermatofibrosarcoma Protuberans; Dermatofibrosis Lent
 Diss & Osteopoikilosis; Dermatolysis; Dermatomyositis; Dermatophyte Infections, Unclassified;

Dermatophytid; Dermatophytosis; Dermatoses Papulosa Nigra; Dermographism; Dermoid Cyst;
 Desmoid Tumor; Desquamation, Unclassified; Diabetes Mellitus; Diabetic Dermodromes;
 Dialysis, Bullous Dermatoses Of Diaper Dermatitis; Disseminated Intravascular Coagulation; Diet
 & Dermatology; Digital Fibrokeratosis; Digitate Dermatoses; Diphtheria, Cutaneous; ;Discoid
 5 Lupus Erythematosus; Dissecting Cellulitis Of The Scalp; Disseminated Intravascular
 Coagulation; Disseminated Lupus Erythematosus; Disseminated Super. Actinic Porokeratosis;
 Discoid Lupus Erythematosus; Animal Bites; Down Syndrome; Dracunculosis; Drug Abuse; Drug
 Eruption; Drug Toxicity; Disseminated Superficial Actinic Porokeratosis; Duhring-Brocq Disease;
 Dupuytren's Contracture; Dyshydrotic Dermatitis; Warty Dyskeratoma; Dyskeratosis Congenita;
 10 Dyskeratosis Follicularis; Dysplastic Nevi Or Syndrome; Dysproteinemia; Dysraphism;
 Dystrophic Nails; Ecchymosis; Eccrine Gland Tumors; Eccrine Hydrocystoma; Eccrine Poroma;
 Eccrine Spiradenoma; Ecthyma; Ecthyma Contagiosum (Orf); Ecthyma Gangrenosum;
 Ectodermal Defect, Congenital; Eczema Craquelé; Eczema Herpeticum And Vaccinatum;
 Eczema, Atopic; Eczema, Dyshydrotic; Eczema, Nummular; Edema, Angioneurotic; Edema,
 15 Legs, Hereditary; Edema, Unclassified; Ehlers-Danlos Syndrome; Ehrlichosis; Elastoidosis,
 Nodular With Cysts & Comedones; Elastolysis, Generalized; Elastoma, Juvenile; Elastosis
 Perforans Serpiginosa; Elastosis, Actinic; Elastosis, Perforating; Elephantiasis; Elephantiasis
 Nostras Verrucosa; Emboli; Endocrinopathy, Miscellaneous; Endometriosis; Eosinophilic
 Fasciitis; Eosinophilic Granuloma; Eosinophilic Papulovesicular Derm Of Newborn; Ephelides
 20 And Lentigines; Epidermal Inclusion Cyst; Epidermal Necrolysis, Toxic; Epidermal Nevus;
 Epidermodysplasia Verruciformis; Epidermoid Carcinoma; Epidermolysis Bullosa; Epidermolytic
 Hyperkeratosis; Epiloia; Epithelial Cyst; Epithelial Nevus; Epithelioma Adenoides Cysticum;
 Epithelioma, Arsenical; Epithelioma, Basal Cell; Epithelioma, Calcifying Of Malherbe;
 Epithelioma, Squamous; Erosio Interdigitalis Blastomycetica; Eruption Of Lymphocyte Recovery;
 25 Eruption, Creeping; Erysipelas; Erysipeloid; Erythema Ab Igne; Erythema Annulare Centrifugum;
 Erythema Chronicum Migrans; Erythema Circinatum; Erythema Dyschromicum Perstans;
 Erythema Elevatum Diutinum; Erythema Figuratum Perstans; Erythema Gyrratum Perstans;
 Erythema Gyrratum Repens; Erythema Induratum; Erythema Infectiosum; Erythema Marginatum;
 Erythema Multiforme; Erythema Nodosum; Erythema Of Jacquet; Erythema Perstans; Erythema
 30 Toxicum Neonatorum; Erythema, Anatomic; Erythema, Noninfectious, Unclassified; Erythema,
 Toxic; Erythema, Unclassified; Erythralgia; Erythrasma; Erythrocyte Autosensitization;

Erythroderma, Exfoliative; Erythrokeratoderma Variabilis; Erythromelalgia; Erythroplasia Of
 Queyrat; Esthiomene; Exanthem Subitum; Exanthem, Bacterial; Exanthem, Viral; Excoriation,
 Depressive Or Neurotic; Exfoliation Of Palms And Soles; Exfoliative Dermatitis (Or See Cause);
 Extramammary Paget's Disease; Extramedullary Hematopoiesis, Cutaneous; Exudative Discoid
 5 And Lichenoid Dermatitis; Fabry's Disease; Facial Granuloma; Factical Dermatitis; Familial
 Benign Chronic Pemphigus; Familial Hemorrhagic Telangiectasia; Farber's Disease; Fasciitis,
 Necrotizing; Fat Dystrophy; Fat Necrosis; Favre - Racouchot Elastoidosis Syndrome; Favus;
 Febrile Neutrophilic Dermatoses, Acute; Female Pattern Baldness; Fever Blisters, Aphthae; Fever
 Blisters, Herpes Simplex; Fibroepithelial Polyp; Fibroma; Fibromatosis Of Penis; Fibrous Papule
 10 Of Nose; Fibroxanthoma, Atypical; Fifth Disease; Figurate Erythema; Filariasis; Fissured Tongue;
 Fistulae, Congenital; Fixed Drug Eruption; Flat Warts; Flea Bites; Florid Oral Papillomatoses;
 Flushing, Non-Carcinoid; Focal Dermal Hypoplasia; Fogo Selvagem; Follicular Mucinosis;
 Folliculitis; Folliculitis Abscedens Et Suffodiens; Folliculitis Decalvans; Folliculitis Keloidalis;
 Fordyce Lesions Of Scrotum; Fordyce Spots; Foreign Body; Foreign Body Granuloma; Fox -
 15 Fordyce Disease; Freckles; Friction Blister; Frostbite; Fungal Cultures (Alphabetical By Genus);
 Fungal Infection, Deep, Unclassified; Fungal Infection, Superficial, Unclassified; Furuncle;
 Ganglion; Gangosa; Gangrene; Gardner's Syndrome; Gargoylism; Gastrointestinal Syndromes;
 Gaucher's Disease; Geographic Tongue; German Measles' Gi Disease, Skin ;Manifestations;
 Gianotti - Crosti Syndrome; Giant Cell Arteritis; Gingiva, Unclassified; Gingival Hypertrophy;
 20 Gingivitis, Unclassified; Glanders; Glandular Cheilitis; Glomus Tumor; Glossitis, Median
 Rhomboid; Glossitis, Unclassified; Glucagonoma Syndrome; Glycogen Storage Disease; Gold
 Pigmentation; Goltz Syndrome; Gonococcemia; Gonorrhea; Gougerot - Blum Disease; Gougerot -
 Carteaud's Papillomatosis; Gout; Gower's Panatrophly; Graft Vs. Host Reaction; Granular Cell
 Myoblastoma; Granuloma ; Annulare; Granuloma Faciale; Granuloma Fissuratum, Cutaneous;
 25 Granuloma Fissuratum, Mouth; Granuloma Inguinale; Granuloma Pyogenicum; Granuloma,
 Mosinophilic; Granuloma, Foreign Body; Granuloma, Meischer's; Granuloma, Swimming Pool;
 Granuloma, Unclassified; Granulomatosis Disciformis, Meischer; Granulomatosis, Chronic
 Familial; Granulomatosis, Wegener's; Granulomatous Disease, Chronic; Granulosis Rubra Nasi;
 Graves Disease; Grooved Tongue; Grovers Disease; Gumma; Guttate Hypomelanosis, Idiopathic;
 30 Guttate Morphea; Gynecomastia; Gypsy Moth Dermatitis; Hailey - Hailey Disease; Hair Collar
 Sign; Hair Excess; Hair Pigment Disorder; Hair Shaft Abnormalities; Hairy Leukoplakia (Aids

Associated); Hairy Leukoplakia (Non-Aids Associated); Hairy Tongue; Halo Nevus; Halogen Acne; Hamartoma; Hand And Foot Eruption, Unclassified; Hand-Foot-And-Mouth Disease; Hand-Schuller-Christian Disease; Hansen's Disease; Hartnup Disease; Heat Injury; Heat Rash; Hemangiectatic Hypertrophy; Hemangioendothelioma; Hemangioma; Hematologic Disorders, 5 Unclassified; Hematoma; Hemochromatosis; Hemosiderosis; Henoch-Schönlein Purpura; Hepatic Disease; Hepatitis; Hereditary Disorders, Unclassified; Hereditary Hemorrhagic Telangiectasia; Herpangina; Herpes Gestationis; Herpes Progenitalis; Herpes Simplex; Herpes Zoster; Hibernoma; Hidradenitis Suppurativa; Hidradenitis, Palmar-Plantar; Hidradenoma Papilliferum; Hidrocystoma; Hidrotic Ectodermal Defect; Hippocratic Nails; Hirsutism; Histiocytoma; 10 Histiocytoid Hemangioma; Histiocytosis X; Histoplasmosis; Hives; Hodgkin's Disease; Homocystinuria; Hookworm Infestations; Horn, Cutaneous; Housewife's Eczema; Howell Evans Synd; Hunter's Syndrome; Hurler's Syndrome; Hyalinosis Cutis Et Mucosae; Hydroa Aestivale; Hydroa Vacciniforme; Hygroma, Cystic; Hyper Ige Syndrome; Hypercholesterolemia; Hyperhydrosis; Hyperkeratosis Climactericum; Hyperkeratosis Follicularis (Kyrle's); 15 Hyperkeratosis Lenticularis Perstans(Flegel); Hyperkeratosis Palmaris Et Plantaris; Hyperkeratosis, Epidermolytic; Hyperkeratosis, Unclassified; Hyperlipemia; Hyperpigmentation, Unclassified; Hypersensitivity Vasculitis; Hypertrichosis; Hypertrophic Nails; Hypertrophic Scar; Hypertrophy From Chronic Irritation; Hypohidrosis; Hypomelanosis, Unclassified; Hypoplasia, Congenital; Ichthyosis; Ichthyosis Hystrix; Ichthyosis Linearis Circumflex; Ichthyosis Vulgaris; Id 20 Eruption; Idiopathic Guttate Hypomelanosis; Ige Syndrome; Immersion Foot; Immune Complex Disease; Immune Deficiency, Acquired (AIDS); Immune Deficiency, Unclassified (Not AIDS); Immunoblastic Lymphadenopathy; Immunoglobulin Deficiency Disorders; Impetigo, Impetigo Follicularis; Impetigo Herpetiformis; Impetigo Of Bockhart; Inclusion Cyst; Incontinentia Pigmenti; Infantile Lichenoid Dermatitis; Infections, Bacterial, Unclassified; Infections, 25 Rickettsial, Unclassified; Infections, Viral, Unclassified; Infectious Eczematoid Dermatitis; Infectious Mononucleosis; Infundibulofolliculitis; Injury, Traumatic; Inoculation Tuberculosis; Insect Bites And Stings; Intaepidermal Carcinoma; Intertrigo; Iododerma; Irritant Dermatitis; Ischemia; Ischemic Ulcer; Itch, Unclassified; Jadassohn - Lewandowsky Syndrome; Jaundice; Jaw, Lumpy; Jellyfish Sting; Jessner's Lymphocytic Infiltration; Job's Syndrome; Junctional 30 Nevus; Juvenile Elastoma; Juvenile Melanoma, Benign; Juvenile Xanthogranuloma; Kala Azar; Kaposi's Sarcoma (Aids Associated); Kaposi's Sarcoma (Not Aids Associated); Kaposi's

Varicelliform Eruption; Kasaback-Merritt Syndrome; Kawasaki Disease; Keloid; Keloid Acne;
 Keloidal Blastomycosis; Keratinous Cyst; Keratoacanthoma; Keratoderma Blenorrhagica;
 Keratoderma Climactericum; Keratoderma Of Palms And Soles; Keratoderma Palmaris Et
 Plantaris; Keratolysis Exfoliativa; Keratolysis, Pitted; Keratosis Blenorrhagica And Reiter's Synd;
 5 Keratosis Follicularis; Keratosis Palmaris Et Plantaris; Keratosis Pilaris; Keratosis Punctata
 Palmaris Et Plantaris; Keratosis, Actinic; Keratosis, Follicle, Unclassified; Keratosis, Mouth;
 Keratosis, Seborrhic; Keratosis. Arsenical; Kerion; Kinky Hair Disease, Menke's; Klippel-
 Trenaunay-Parkes-Weber; Knuckle Pads; Koh Preparation; Koilonychia; Kraurosis Vulvae;
 Kwashiorkor; Kyrle's Disease; Lamellar Dyshydrosis; Lamellar Ichthyosis; Larva Migrans; Laser
 10 Therapy; Leg Ulcer, Unclassified; Leiner's Disease; Leiomyoma; Leishmaniasis; Lentigo; Lentigo
 Maligna; Lentigo Maligna Melanoma; Leopard Syndrome; Leprosy; Lesch - Nyhan Syndrome;
 Leser - Trélat Sign; Lethal Midline Granuloma; Letterer - Siwe Disease; Leukemia Cutis;
 Leukocyte Disorders, Unclassified; Leukoderma, Unclassified; Leukonychia; Leukoplakia And
 Keratosis, Mouth; Leukoplakia, Except Mouth; Lichen Amyloidosis; Lichen Aureus; Lichen
 15 Myxedematosus; Lichen Nitidus; Lichen Pilaris; Lichen Planopilaris; Lichen Planus; Lichen
 Sclerosus Et Atrophicus; Lichen Scrofulosorum; Lichen Simplex Chronicus; Lichen Spinulosus;
 Lichen Striatus; Light Eruption Or Reaction; Light Therapy; Lindau-Von Hippel Disease; Linear
 & Whorled Nevroid Hyperpigmentation; Linear Iga Disease; Linear Nevus; Lip, Unclassified;
 Lipoatrophy; Lipodystrophy; Lipogranulomatosis; Lipoid Proteinosis; Lipoma; Livedo
 20 Reticularis; Loaisis; Lobo's Disease; Loxoscelism; Lumpy Jaw; Lupus Erythematosus, Discoid;
 Lupus Erythematosus, Neonatal; Lupus Erythematosus, Subacute Cutaneous; Lupus
 Erythematosus, Systemic; Lupus Miliaris Disseminata; Lupus Miliaris Disseminata Faciei; Lupus
 Pernio; Lupus Profundus; Lupus Vulgaris; Lyell's Syndrome; Lyme Disease; Lymphadenosis
 Cutis; Lymphangioma; Lymphangitis; Lymphedema; Lymphoblastoma; Lymphocyte Recovery
 25 Eruption; Lymphocytic Infiltrate Of Jessner; Lymphocytoma Cutis And Lymphocytic Infiltrate;
 Lymphogranuloma Venereum; Lymphoma, Hodgkin's; Lymphoma, Non-Hodgkin's, Other;
 Lymphomatoid Granulomatosis; Lymphomatoid Papulosis; Macrochelia; Macroglobulinemia;
 Macroglossia; Maculae Ceruleae; Macular Atrophy; Madelung's Disease; Madura Foot;
 Maduromycosis; Mafucci's Syndrome; Majocchi's Disease; Majocchi's Granuloma; Mal De
 30 Meleda; Mal Perforans Ulcer; Male Pattern Baldness; Malherbe, Calcifying Epithelioma Of;
 Malignancy Markers, Cutaneous; Malignant Atrophic Papulosis; Malignant Freckle; Malignant

Lentigo; Malignant Melanoma; Malignant Tumors, Unclassified; Marfan's Syndrome; Marjolin's
 Ulcer; Markers Of Malignancy, Unclassified; Mast Cell Tumor; Mastocytosis; Measles; Measles,
 German; Median Rhomboid Glossitis; Meischer's Granuloma; Melanoma, Lentigo Maligna;
 Melanoma, Malignant; Melanosis Circumscripta Precancerosa; Melasma; Melkersson-Rosenthal
 5 Syndrome; Meloidosis; Meningococcemia; Menkes Kinky Hair Syndrome; Mercury
 Pigmentation; Merkel Cell Carcinoma; Metal Allergy; Metal Pigmentation; Metastatic Carcinoma;
 Mibelli, Angiokeratoma Of; Microscopic Examination; Midline Granuloma, Lethal; Miliaria;
 Miliium; Milker's Nodules; Milroy's Disease; Mite Dermatitis; Mixed Connective Tissue Disease;
 Mohs Micrographic Surgery; Mole; Molluscum Contagiosum; Mondor's Syndrome; Mongolian
 10 Spot; Mongolism; Monilethrix; Moniliasis; Morbus Moniliformis; Morphea; Morquio's Disease;
 Mucha-Habermann's Disease; Mucinosi, Focal; Mucinosi, Reticular Erythematous; Mucinous
 Cyst; Mucocutaneous Lymph Node Syndrome; Mucopolysaccharidoses; Mucormycosis; Mucosa,
 Oral, Unclassified; Mucous Cyst; Multicentric Reticulohistiocytosis; Multiple Benign Cystic
 Epithelioma; Multiple Endocrine Neoplasia Synd; Multiple Hamartoma Syndrome; Multiple
 15 Idiopathic Hemorrhagic Sarcoma; Multiple Mucosal Neuroma; Multiple Myeloma; Mumps;
 Munchausen Syndrome; Mycetoma; Mycobacterial Infections, Atypical; Mycosis Fungoides;
 Myiasis; Myoblastoma; Myoepithelioma; Myoma And Leiomyoma; Myxedema And Localized
 Myxedema; Myxoid Cyst; Nail Disorders Assoc. With Internal Disease; Nail Dystrophy,
 Unclassified; Nail Pits; Nails, Normal Variants; Narcotic Dermopathy; Nasal Glioma; Necrobiosis
 20 Lipoidica; Necrobiotic Xanthogranuloma; Necrolysis, Toxic Epidermal; Necrolytic Migratory
 Erythema; Necrosis, Unclassified; Necrotizing Fasciitis; Necrotizing Vasculitis; Needle Marks;
 Neonatal Acne; Neonatal Lupus Erythematosus; Netherton's Syndrome; Neurilemmoma;
 Neurodermatitis; Neurofibroma, Neurofibromatosis; Neurotic Excoriations; Neutrophilic
 Dermatosi, Acute Febrile; Nevoxanthoendothelioma; Nevoxanthogranuloma; Nevus Anemicus;
 25 Nevus Angiolipomatosis; Nevus Araneus; Nevus Caeruleus; Nevus Cell Nevus; Nevus
 Comedonicus; Nevus Depigmentosus; Nevus Elasticus; Nevus Flammeus; Nevus Of Ito; Nevus
 Of Ota; Nevus Sebaceous; Nevus Syringocystadenoma Papilliferum; Nevus Unius Lateris; Nevus,
 Blue; Nevus, Blue Rubber Bleb; Nevus, Compound; Nevus, Dermal; Nevus, Epidermal; Nevus,
 Epithelial; Nevus, Halo; Nevus, Junctional; Nevus, Linear; Nevus, Organoid; Nevus, Pigmented;
 30 Nevus, Spider; Nevus, Spindle Cell; Nevus, Verrucous; Nevus, White Spongy Of Mucosa; Nickle
 Allergy; Niemann - Pick Disease; Nocardiosis; Nodular Dermal Allergide; Nodular Elastoidosis;

Nodular Fasciitis; Nodular Fat Necrosis; Nodular Subepidermal Fibrosis; Nodular Vasculitis;
 Nodules, Milker's; Nodules, Rheumatoid; Noma; Non-Venereal Treponematoses; Normal
 Variants; North American Blastomycosis; Norwegian Scabies; Nummular Dermatitis; Nutritional
 Or Vitamin Deficiency; Occupational Acne; Occupational Dermatoses, Unclassified;
 5 Occupational Leukoderma; Ochronosis; Ocular Pemphigus; Oid-Oid Disease; Omphalitis;
 Onchocerciasis; Onychauxis; Onychia; Onychodystrophy, Unclassified; Onychogryphosis;
 Onycholysis; Onychomycosis; Ophiasis; Oral Florid Papillomatoses; Oral Mucosa, Unclassified;
 Oral Tumors; Oral, Unclassified; Oral-Facial-Digital Syndrome; Orf; Organoid Nevus; Oroya
 Fever; Osler-Rendu-Weber Disease; Osteoarthritis; Osteodermatopoikilosis; Osteogenesis
 10 Imperfecta; Osteoma Cutis; Other Syndromes, Unclassified; Oxyuriasis; Pachydermoperiostosis;
 Pachyonychia Congenita; Pagetoid Reticulosis; Paget's Disease; Painful Bruising Syndrome;
 Palate, Unclassified; Palmar Erythema; Palmar Fibromatosis; Palmar-Plantar Hidradenitis;
 Palmoplantar Keratosis; Palmoplantar Pustulosis, Unclassified; Panatrophs Of Gower;
 Panniculitis; Papilloma, Mucous Membrane; Papilloma, Skin; Papillomatoses, Cutaneous;
 15 Papillomatoses, Florid Oral; Papillon-Lefèvre Syndrome; Papular Dermatitis Of Pregnancy;
 Papular Mucinosis; Papular Urticaria; Papulonecrotic Tuberculid; Papulosis, Malignant Atrophic
 Of Degos; Paracoccidioidomycosis; Paraffinoma; Paraneoplastic Syndromes; Parapsoriasis,
 Acute; Parapsoriasis, Chronic; Parasitic Infestations, Unclassified; Parasitosis, Delusions Of;
 Paronychia; Pasini Et Pierini Syndrome; Patch Testing, Pathergic Granulomatosis; Pearly Penile
 20 Papules; Pediatric Dermatoses; Pediculosis; Pelade; Pellagra; Pemphigoid, Benign Mucous
 Membrane; Pemphigoid, Bullous; Pemphigoid, Cicatricial, Mucosal; Pemphigoid, Unclassified;
 Pemphigus Erythematodes; Pemphigus Foliaceus; Pemphigus Vegetans; Pemphigus Vulgaris;
 Pemphigus, Brazilian; Pemphigus, Drug; Pemphigus, Familial Benign Chronic; Pemphigus,
 Hailey-Hailey; Pemphigus, Unclassified; Penile Pearly Papules; Perforating Collagenosis;
 25 Perforating Dermatitis; Perforating Folliculitis; Periapical Mucosa Necrotica Recurrans;
 Perianal Protrusions, Pyramidal; Perianal Strep; Periarteritis Nodosa; Perifolliculitis Capitis
 Abscedens Et Suff.; Perioral Dermatitis; Perlèche; Pernicious Anemia; Pernio; Petechiae; Peutz-
 Jeghers Syndrome; Peyronie's Disease; Phagedena; Phenylketonuria; Phlebectasia; Phlebitis;
 Phototherapy; Phrynoderma; Phthiriasis; Phycomycosis; Pian; Piebaldism; Piedra; Piezogenic
 30 Pedal Papules, Painful; Pigmentary Hairy Nevus; Pigmentation, Anatomic; Pigmentation, Hair;
 Pigmentation, Nail; Pigmentation, Unclassified; Pigmented Purpuric Eruptions; Pilar Cyst; Pilar

Tumor; Pilomatricoma; Pilonidal Cyst; Pinta; Pinworm Dermatitis; Pitted Keratolysis; Pitted
 Nails; Pityriasis Alba; Pityriasis Capitis; Pityriasis Lichenoides Chronica; Pityriasis Lichenoides
 Et Varioliformis Acuta; Pityriasis Rosea; Pityriasis Rubra Pilaris; Pityriasis Streptogenes;
 Pityriasis Versicolor; Plant Dermatitis; Plantar Wart; Plasmacytoma; Pleva; Podagra;
 5 Poikiloderma; Poikiloderma Congenitale; Poikiloderma Of Civatte; Poikiloderma Vasculare
 Atrophicans; Poison Ivy Dermatitis; Poliosis; Polyarteritis Nodosa; Polychondritis; Polycythemia
 Vera; Polydactyly; Polymorphic Light Eruption; Polyostotic Fibrous Dysplasia (Albright's);
 Polyp, Fibroepithelial; Pompholyx; Porokeratosis; Poroma; Porphyria; Port Wine Stain; Portugese
 Man-Of-War Sting; Post-Inflammatory Hyperpigmentation; Post-Inflammatory
 10 Hypopigmentation; Postmastectomy Lymphangiosarcoma; Pregnancy, Dermatitis In; Pressure
 Sore; Pretibial Myxedema; Prickle Cell Carcinoma; Prickly Heat; Primary Syphilis; Progeria;
 Progressive Bacterial Synergistic Gangrene; Progressive Pigmentary Dermatoses; Proteinosis,
 Lipoid; Prurigo Gestationis; Prurigo Gravidarum; Prurigo Nodularis; Pruritic Urticarial Papules
 Plaques Of Preg.; Pruritis, Signs, Unclassified; Pruritus Gravidarum; Pseudoacanthosis Nigricans;
 15 Pseudoatrophoderma Colli; Pseudocyst Of The Auricle; Pseudofolliculitis Barbae;
 Pseudolymphoma Of Speigler-Fendt; Pseudomonas Infection; Pseudopelade; Pseudosarcoma;
 Pseudotuberculosis; Pseudoverrucous Papules; Pseudoxanthoma Elasticum; Psoriasis; Pterygium;
 Punctate Keratosis Of Palms And Soles; Puppp Syndrome; Purpura And Ecchymosis; Purpura
 Annularis Telangiectoides; Purpura Fulminans; Purpura Pigmentosa Chronica; Purpura
 20 Rheumatica; Purpuric Pigmented Lichenoid Dermatitis; Pustular Bacterid; Pustular Dermatitis,
 Subcorneal; Pustular Eruption Of Palms And Soles; Pustular Perifolliculitis; Pustulosis Palmaris
 Et Plantaris; Pyoderma And Folliculitis; Pyoderma Faciale; Pyoderma Gangrenosum; Pyogenic
 Granuloma; Pyramidal Perianal Protrusion; Radiation Dermatoses; Radiation Therapy; Ragweed
 Dermatitis; Ranula; Raynaud's Disease Or Phenomenon; Reactive Perforating Collagenosis;
 25 Reflex Sympathetic Dystrophy; Reiter's Syndrome; Relapsing Polychondritis; Relapsing Self-
 Healing Blaschko Dermatitis; Rem Syndrome; Rendu-Osler-Weber Syndrome; Retention Cysts Of
 Lips; Reticular Erythematous Mucinosi; Reticulohistiocytosis, Multicentric;
 Reticulohistiocytosis, Cong Self-Healing; Reticuloid, Actinic; Reticulum Cell Sarcoma;
 Rheumatoid Arthritis; Rheumatoid Nodule; Rhinophyma; Rhinoscleroma; Rhinosporidiosis; Rhus
 30 Dermatitis; Rickettsial Infections; Riehl's Melanosis; Ringed Hair; Ritter's Disease; Rocky
 Mountain Spotted Fever; Rodent Ulcer; Romberg's Disease; Rosacea; Rosacea-Like Tuberculid

Of Lewandowsky; Roseola Infantum; Rothman-Makai Syndrome; Rothmund-Thomson Syndrome; Rubella; Rubeola; Sarcoid; Sarcoma; Sarcoma, Kaposi's (Aids-Associated); Sarcoma, Kaposi's (Not Aids); Sauriasis; Scabies; Scalded Skin Syndrome; Scar; Scarlet Fever; Schamberg's Disease; Schistosomiasis; Scleredema; Sclerema; Sclerodactyly; Scleroderma;

5 Sclerodermatomyositis; Scleromyxedema; Sclerosing Hemangioma; Sclerosing Lymphangitis, Penis; Sclerosis, Diffuse Systemic; Sclerotherapy; Scratch Marks; Scrofuloderma; Scrotal Tongue; Scurvy; Seabather's Eruption; Sebaceous Adenoma; Sebaceous Cyst; Sebaceous Epithelioma; Sebaceous Gland Carcinoma; Sebaceous Gland Tumors, Benign; Sebaceous Hyperplasia; Sebaceous Nevus; Seborrheic Dermatitis; Seborrheic Keratosis; Secondary Syphilis; Senear-Usher

10 Syndrome; Senile Elastosis; Senile Keratosis; Senile Purpura; Septicemia; Serum Sickness; Sézary Syndrome; Shingles; Sickle Cell Ulcer; Sjögren's Syndrome; Skin Tag; Skin Tests For Allergy; Smallpox; Snake Bites; Sneddon-Wilkinson Subcorneal Pustulosis; Solar Atrophy; Solar Keratosis; Solar Urticaria; South American Blastomycosis; Speigler-Fendt Sarcoid; Spider Bites; Spider Nevi; Spinal Dysraphism; Spindle Cell Nevus; Spiradenoma; Spitz's Juvenile Melanoma;

15 Sporotrichosis; Squamous Cell Carcinoma; Staphylococcal Scalded-Skin Syndrome; Stasis Dermatitis; Steatocystoma Multiplex, Steroid Acne, Steroid Effects, Unclassified; Stevens-Johnson Syndrome; Stings, Insect; Stings, Other Than Insects And Spiders; Stings, Spider; Stomatitis; Stomatitis, Aphthous; Storage Disease, Glycogen; Striae; Stucco Keratosis; Stump Dermatitis; Sturge-Weber Syndrome; Subacute Bacterial Endocarditis; Subcorneal Pustular

20 Dermatositis; Subcutaneous Fat Necrosis; Subepidermal Nodular Fibrosis; Sulzberger-Garbe Disease; Sunburn; Supernumerary Digit; Supernumerary Nipple; Surfer's Nodule; Surgery; Sweat Gland Carcinoma; Sweat Gland Disorders, Unclassified; Sweat Gland Necrosis; Sweat Gland Tumors, Benign; Sweet's Syndrome; Swimmer's Itch; Swimming Pool Granuloma; Sycosis; Symmetric Lividity Of The Soles; Symmetrical Peripheral Gangrene; Syndactyly; Synovial Cyst;

25 Syphilis, Congenital; Syphilis, Primary; Syphilis, Secondary; Syphilis, Tertiary; Syringocystadenoma Papilliferum; Syringoma; Systemic Lupus Erythematosus; Systemic Therapy; Tags, Skin; Tar Melanosis; Tattoo; T-Cell Disorders; Teaching Slides; Teeth Abnormalities, Unclassified; Telangiectasia; Telangiectasia Macularis Eruptiva Perstans; Telangiectasia, Hereditary Hemorrhagic; Telogen Effluvium; Temporal Arteritis and other such

30 like diseases and maladies now known and unknown.

Without doubt the invention disclosed herein served many well and long felt needs and

concerns among the public and health care professionals.

Objects of the Invention

In view of the foregoing, it is therefore an object of the invention to provide a detection device for skin cancer and other diseases of the skin.

5 It is a further objective of the invention to provide a detection device for skin cancer and other maladies of the skin that is neither invasive nor destructive to the tissue being examined.

A further object of a preferred embodiment of the invention is to provide a device that may be used as a mirror for anyone wishing to view his/her body but have been unable to do so, such as in gym facilities, homes, physician's offices, and other health care facilities.

10 A further object of a preferred embodiment of the invention is to provide detection means that does not involve biopsy or contact with the skin.

Another object of a preferred embodiment of the invention is to provide detection means that does not have side effects on the skin.

15 A further object of a preferred embodiment of the invention is to provide a means for remote viewing of patients for telemedical diagnostic means, such as in prison facilities, remote locations or other areas that are similarly deficient in highly qualified or experts in a medical field.

A further object of a preferred embodiment of the invention is to provide a cost-effective device.

20 Another object of a preferred embodiment of the invention is to provide a device that may be easy to employ.

A further object of a preferred embodiment of the invention is to provide a device that may be assembled with minimal professional carpenter assistance.

A further object of a preferred embodiment of the invention is to provide a device that may be easily transportable.

Another object of a preferred embodiment of the invention is to provide a device that is capable of being used in a system for reducing maladies of the skin

A further object of a preferred embodiment of the invention is to provide a device that allows for automated acquisition of human physiological characteristics.

5 A further object of a preferred embodiment of the invention is to provide a device that allows for melanoma and skin cancer screening.

A further object of a preferred embodiment of the invention is to provide a device that allows for POSI score calculation.

10 A further object of a preferred embodiment of the invention is to provide a device that allows for hair loss and/or growth evaluation(s).

A further object of a preferred embodiment of the invention is to provide a device that allows for wound healing evaluations.

A further object of a preferred embodiment of the invention is to provide a device that allows for remote diagnostic evaluations.

15 A further object of a preferred embodiment of the invention is to provide a device that allows for viewing and analysis of cosmetic surgery applications.

A further object of a preferred embodiment of the invention is to provide a device that allows for beauty evaluations.

20 A further object of a preferred embodiment of the invention is to provide a device that allows for body morphology analysis.

A further object of a preferred embodiment of the invention is to provide a device that allows for viewing and analysis of soft tissue augmentation.

A further object of a preferred embodiment of the invention is to provide health care professionals with a device that will make doctor-patient interface time more efficient.

Another object of a preferred embodiment of the invention is to provide a device capable of allowing health care professional(s), doctor(s), nutritionist(s), physical trainer(s) and individual person(s) the ability to view, monitor, evaluate and render decisions based upon that which is captured, viewed and or compared to prior analysis utilizing the device as disclosed herein.

5 A further object of a preferred embodiment of the invention is to provide a device that may reduce patient time spent in a health care professional's, doctor's, nutritionist's, physical trainer's facility where said individual may review an his/her health, etc.

A further object of a preferred embodiment of the invention is to provide a device that may reduce the related costs associated with an analysis as described herein.

10 Another object of a preferred embodiment of the invention is to provide a device that may reduce the cost to insurance programs reimbursing applicable healthcare and related professions for their time and effort associated with the rendering of care to such an insured individual.

Another object of a preferred embodiment of the invention is to improve the quality of life.

15 Another object of the present device disclosed herein is to allow for a better and more efficient rendering of ~~all~~ any of a variety of forms of health care where visualization of the human body, including parts thereof, is required.

The preferred embodiments of the invention thus provides a device for the identification, diagnosis and subsequent treatment of maladies of the skin that is time and cost efficient and effective with no side effects.

20 Having thus described the invention, it will be apparent to those of skill in the art that modifications can be made within the scope of the invention without departing from the scope or breath of that which is intended and disclosed herein.

Brief Description of the Drawings

25 Figure 1 (FIG 1) depicts a horizontal cross-section of an imaging system in accordance with the present invention.

Figure 2 (FIG 2) depicts a vertical panel of an imaging device in accordance with the

present invention.

Figure 3 (FIG 3) depicts a horizontal cross section of an alternate embodiment of an imaging system in accordance with the present invention utilizing a circular periphery.

Figure 4 (FIG 4) depicts an exemplary imaging device, e.g., camera, and actuation means.

5 Figure 5 (FIG 5) is a schematic of a complete imaging system in accordance with the present invention.

Detailed Description of the Preferred Embodiment

10 This invention teaches a TIP device that provides non-occluded images by employing an array of imaging devices and thereafter combining individual images to form a continuous image. It has been heretofore contemplated that the device could find use as an aid in screening and diagnosis of conditions of soft tissue, hair and nails. Furthermore, it could also find use as a beauty aid to consult those considering cosmetic surgery or changes in personal appearance.

15 Thus, the following detailed description, read with the above-described drawings will serve to explain various preferred embodiments and components of the present invention.

20 FIG 1 depicts a horizontal cross section of an embodiment of the TIP system 100 in accordance with the present invention. The system may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be sized such that the person could easily stand at the center 108 of the device 100 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would fit comfortably at center 108. The system 100 is comprised of several panels 109. In this particular embodiment, fourteen (14) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, an 8-sided polygon was chosen. The shape is arbitrary,
25 however, the only requirement is that the panels are set up in mirrored pairs. Each panel 109 is comprised of an imager array 102, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light,

temperature, chemical information or other information of interest. In this embodiment, we assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 101 are utilized. While fluorescent tubes are the preferred means, any type of illumination can be used, for example, a Wood's lamp may be used.

5 These light sources 101 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 102 is the perimeter wall 103. The perimeter wall can be made of plywood, particle board or any other structural material capable of supporting the structure. In front of the light sources 101 and imager array 102 is shield 107. Shield 107 protects the imager array 102 and light sources 101 from contact with the subject. Standard 1/8" obscured
10 plexiglass can be used as shield 107, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 109, there are dividers 106. Dividers 106 function to provide stability for shield 107, and also, when made opaque, reduce light interference between adjacent imager arrays 102. To effect access and egress, panels 104 function as a doorway. By rotating on hinge 105, panels 104 swing outward, thus allowing access to the interior of system
15 100. A system 100 is also contemplated without doorway 104 that can be used for examining small objects, such as the scalp or hands, for example.

FIG 2 depicts an exemplary panel 200 of a TIP system in accordance with the present invention. Supporting the panel 200, is perimeter wall 207. Perimeter wall 207 can be flat, curved or angled in any fashion to accommodate the desired perimeter shape. Supported by the perimeter
20 wall 207 are imaging arrays 205 and 206 and light sources 202 and 208. While this exemplary panel utilizes dual imaging arrays 205, 206 and light sources 202, 208, the panel may be configured in any fashion utilizing at least one imaging array. Light sources 202, 208 are optional, and depending on the type of imaging done, e.g., chemical, may be unnecessary. However, in the present embodiment, light sources 202 and 208 are taken to be standard fluorescent tubes. They
25 could also be, for example, Wood's lamps. Imaging arrays 205 and 206 comprise a plurality of imaging devices 203. Imaging devices 203 may be a standard or digital camera, or any other type of device capable of capturing the desired information from the subject with the imaging system. Imaging devices 203 are controlled through cables 204. These cables may be used to remotely trigger a mechanical actuator or, as is contemplated herein, act as part of an electronic interface
30 such as USB. Imaging arrays 205 and 206 are depicted herein as vertical arrays of 5 imaging devices 203. In practice, the array can vary greatly. For use in smaller examinations, e.g., the

scalp, it is suggested that less imaging devices 203 would be required to generate a complete image.

FIG 3 depicts a horizontal cross section of an alternate embodiment of an imaging system 300 in accordance with the present invention utilizing a circular periphery. The system 300 may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be sized such that the person could easily stand at the center 308 of the device 300 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would comfortably at center 308. The system 300 is comprised of several panels 309. In this particular embodiment, eight (8) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, a circle was constructed. The shape is arbitrary, however, the only requirement is that the panels are set up in mirrored pairs. Each panel 301 is comprised of an imager array 302, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information. In this embodiment, we assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 303 are utilized. While fluorescent tubes are the preferred means, any type of illumination can be used. These light sources 303 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 302 is the perimeter wall 310. The perimeter wall can be made of plywood, particleboard or any other structural material capable of supporting the structure. In front of the light sources 303 and imager array 302 is shield 309. Shield 309 protects the imager array 302 and light sources 303 from contact with the subject. Standard 1/8" obscured plexiglass can be used as shield 309, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 301, there are dividers 306. Dividers 306 function to provide stability for shield 309, and also, when made opaque, reduce light interference between adjacent imager arrays 302. To effect access and egress, panel 304 functions as a doorway. By rotating on a double-hinge hinge 305 and clearing angled divider 307, panel 304 swings outward, thus allowing access to the interior of system 300. A system 300 is also contemplated without doorway 304 that can be used for examining small objects, such as the scalp or hands, for example.

FIG 4 depicts an exemplary imaging device 400 for use with the present invention. In practice, the imaging device 400 may be a standard or digital camera, or any other type of device capable of capturing the desired information from the subject with the imaging system. For example, devices capable of recording infrared or chemical information could be used. The present embodiment, however, contemplates the use of a digital camera as exemplified by the current figure. Such a device would comprise lens 403, mechanical actuator 402 and control cable 401. Preferably, cable 401 is used to electronically control, and further, download digital image information from imaging device 400. As is contemplated herein, the electronic control could be USB. Alternatively, control cable 401 could be used to trigger mechanical actuator 402. Although the present figure describes a specific imaging device, it should be understood that a wide variety of data collection devices could be employed without departing from the scope of the present invention.

FIG 5 depicts a schematic of a complete image processing system 500 in accordance with the present invention. As discussed above in FIG 1, imaging system 100 may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be sized such that the person could easily stand at the center 108 of the device 100 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would fit comfortably at center 108. The system 100 is comprised of several panels 109. In this particular embodiment, fourteen (14) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, an 8-sided polygon was chosen. The shape is arbitrary, however, the only requirement is that the panels are set up in mirrored pairs. Each panel 109 is comprised of an imager array 102, comprising a vertical array of imaging devices. Imaging arrays 507 through 519 can be identical to imager array 102, or may vary in the information they garner in accord with the desired application. The present embodiment, however, contemplates identical imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information. In this embodiment, we assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 101 are utilized. Each imaging array may utilize a light source 101 to enhance imaging ability. Furthermore, each of said light sources could have varying characteristics to accord with the

application. While fluorescent tubes are the preferred means, any type of illumination can be used. These light sources 101 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 102 is the perimeter wall 103. The perimeter wall can be made of plywood, particle board or any other structural material capable of supporting the structure. In front of the light sources 101 and imager arrays 102 and 507-519 is shield 107. Shield 107 protects the imager arrays 102 and 507 through 519 and light sources 101 from contact with the subject. Standard 1/8" obscured plexiglass can be used as shield 107, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 109, there are dividers 106. Dividers 106 function to provide stability for shield 107, and also, when made opaque, reduce light interference between adjacent imager arrays 102 and 507 through 519. To effect access and egress, panels 104 function as a doorway. By rotating on hinge 105, panels 104 swing outward, thus allowing access to the interior of system 100. A system 100 is also contemplated without doorway 104 that can be used for examining small objects, such as the scalp or hands, for example. In order to effect the processing of the multiple images garnered from the plurality of imaging arrays, the imager arrays 102 and 507 through 519 are networked to a single computer 501. The present embodiment contemplates the use of USB to network the arrays 102 and 507 through 519. The imaging devices of arrays 102, 507, 508 and 509 are connected to USB hub 506 via interface cabling 102a, 507a, 508a and 509a, respectively. The imaging devices of arrays 517, 518 and 519 are connected to USB hub 505 via interface cabling 517a, 518a and 519a, respectively. The imaging devices of arrays 514, 515 and 516 connected to USB hub 504 via interface cabling 514a, 515a and 516a, respectively. The imaging devices of arrays 510, 511, 512 and 513 are connected to USB hub 503 via interface cabling 510a, 511a, 512a and 513a, respectively. Hub 506 is connected with hub 503 via cable 520. Hub 505 is connected with hub 504 via cable 521. Hubs 503 and 504 are then connected to hub 502 via cables 522 and 523, respectively. Finally, hub 502, which has the totality of imaging devices of imaging arrays 102 and 507 through 519 connected thereto, is connected to computer 501 via cable 524. The computer 501 is used to process the individual images garnered from each imaging device of each imaging array 102 and 507 through 519 to ~~created~~ create a non-occluded image of the subject within system 100, and preferably, at center 108. It should be noted that the arrangement of hubs 506, 505, 504, 503 and 502 and the concomitant cabling presented heretofore is merely exemplary, and anyone with skill in the art will recognize the myriad ways of interconnecting the imaging devices

of imaging arrays 102 and 507 through 519 to computer 501.

While the present invention has been described with reference to one or more preferred embodiments, which embodiments have been set forth in considerable detail for the purposes of making a complete disclosure of the invention, such embodiments are merely exemplary and are
5 not intended to be limiting or represent an exhaustive enumeration of all aspects of the invention. The scope of the invention, therefore, shall be defined solely by the following claims. Further, it will be apparent to those of skill in the art that numerous changes may be made in such details without departing from the spirit and the principles of the invention.

METHOD FOR TOTAL IMMERSION PHOTOGRAPHY

Cross-Reference to Priority Application

This patent application is a divisional of United States Patent Application Serial No. 09/625,712, filed July 26, 2000, entitled "APPARATUS FOR TOTAL IMMERSION
5 PHOTOGRAPHY," co-pending herewith, which is hereby expressly incorporated by reference as part of the present disclosure.

Field of the Invention

The present invention relates primarily to conditions pertaining to health and cosmetics. As
10 such, the device allows for the imaging of total or subtotal non-occluded body surfaces in order to detect health and cosmetic conditions and involves the measurement and analysis of an optically depicted image of a patient's surfaces by standard color imaging, heat, electromagnetic or chemical imaging. The present invention allows for image pixel acquisition, its data collection, data aggregation, data dissemination, data manipulation, and subsequent viewing. The present
15 invention provides for tissue analysis of a patient such that relevant determinations may be made such as detection of diseases or related problems of cosmesis.

Background of the Invention

The invention relates to the detection, diagnosis and treatment of skin cancer as well as other diseases and cosmetic conditions of the visible human.

20 Half of all new cancers are skin cancers. About 1.3 million new cases of skin cancer will be diagnosed in the United States each year. About 80 percent of the new skin cancer cases will be basal cell carcinoma, 16 percent are squamous cell carcinoma, and 4 percent are melanoma.

Both basal cell carcinoma and squamous cell carcinoma have a better than 95 percent cure rate if detected and treated early. Squamous cell carcinoma of the skin accounts for about 2.3
25 thousand deaths annually.

The incidence of melanoma has more than tripled among Caucasians between 1980 and

2000. There will be about 47,700 new cases of melanoma in 2000. At current rates, one in 74 Caucasian Americans will develop melanoma. With that statistic, one person dies of melanoma every hour. This year, approximately 7,700 deaths will be attributed to melanoma in the ratio of 4,800 men and 2,900 women. Older Caucasian males have the highest mortality rates from melanoma. In women under the age of 30, melanoma is more prevalent than breast cancer. All of these cancers are associated with sun exposure with the majority occurring after age 50. Furthermore, the incidence rates for all skin cancers are increasing with movement of white populations south to sunnier climates and the greater numbers of individuals living into their 80s. With the "baby boomer" generation currently in their late 50s, the medical community is faced with an explosive skin cancer epidemic.

There is a need for a practical device that allows for the rapid screening of individuals for skin cancer and other maladies of the skin in early stages of development.

Currently, clinical diagnosis of skin disease is generally accomplished by visual inspection under white light illumination. In this process, the reflectance light of a skin lesion is examined. Visual diagnosis alone may not be particularly accurate for early detection of skin cancer since many skin conditions have a similar appearance under white light. Therefore, when a suspect lesion is identified by visual examination, a biopsy is often performed for a definitive diagnosis. Not only is it crucial to diagnose skin pre-cancer or skin cancer at an early stage when it is curable, but it is also important to improve the clinical diagnosis of suspected skin lesions so as to avoid unnecessary skin biopsies.

Several approaches have been tried to improve skin cancer diagnosis. Digital processing of reflectance images has been extensively investigated recently and has been found in melanoma to be more accurate than specialist diagnostic accuracy. An alternative approach is ultraviolet (UV), infrared (IR) or polarized light photography that extends visual perception of a physician to the UV, IR or polarized light reflectance patterns. A further alternative approach that is already in widespread medical use involves illuminating the skin with a "Wood's lamp" which consists of a mercury discharge lamp associated with a filter that transmits UVA light with a 365 nanometer peak while absorbing visible light. When this device is used to assist in skin diagnosis, the eye serves as both the detector and the long pass filter. The eye is not sensitive to UV light, but is sensitive to visible fluorescence light. When the "Wood's lamp" is used in a darkened room, where

the physician sees an image of a fluorescing disease site. The "Wood's lamp" is useful for the diagnosis of some skin conditions such as tinea capitis, tinea versicolor, erythrasma, and some pseudomonas infections, as well as aiding in the detection and diagnosis of hypopigmented skin. It is of no value in conditions where the fluorescence is not in the visible spectrum. These techniques
5 depend on lighting and sensor techniques and may be incorporated into the total immersion photography system.

Prior Disclosures

Currently, clinical diagnosis of skin disease is generally accomplished by visual, verbal
10 and handwritten history taking and by inspection during a visit to the physician's clinic. Initial inspections are routinely performed by general practitioners. Dermatologists may be sought out by patients or used upon referral by general practitioners. Either way, an appointment is required. Visual inspections are often limited by the physician's schedule or patient modesty. The patient may only be willing to have the area of concern inspected. General practitioners, the HMO
15 "gatekeepers", have been documented to be less effective in discerning potential cancerous lesions than dermatologists. If referrals are not made, possible malignancies may be overlooked. A second approach is chemical emulsion or digital photography that can extend visual perception of a physician to the UV or IR reflectance patterns. Such approaches have also been limited by the need for a "point-and-shoot" photographer. A more limited approach requires only images of those
20 areas in question. This again leaves open the possibility of an incomplete diagnosis. This approach may be augmented by the use of skin surface epiluminescence microscopy. Epiluminescence light microscopy (ELM) represents a technique which permits examination of the surface of the skin and also--by using the oil immersion technique--of the dermal-epidermal junction zone. The commonly used method of epiluminescence microscopy is based on point and shoot techniques
25 requiring a trained operator. Recently, there have been investigations into the use of digital imagery to aid with dermatologic diagnoses. The prevalent technique uses either digitally processed standard photography or direct digital photography of sections of the subject's body. These images are then stored for inspection, referral, and/or forwarding. For comprehensive surface imaging, this approach requires multiple posings by the photographer and the subject that
30 may exceed 30 views in total. Depending on the medium used, review of the images may or may

not be available for inspection during the same appointment. Specific applications include the MoleMap and MoleMax II systems. MoleMap uses a combination of three images (epiluminescence, macro and low resolution) to identify possible melanoma. Visual type resolution is used primarily for mapping suspicious locations. Images are diagnosed and reported on by dermatologists before being permanently archived on a computer system for future comparisons. The MoleMax II system combines epiluminescence microscopy and computer technology for data storage and retrieval. The system can be adapted for body surface imaging (using serial individually-photographed images). Images are available for inspection during the current office visit, allowing simultaneous dermatologist/patient on-screen observation. Since the outcome of treatment of cancer is more favorable the earlier and more accurately the cancer is detected, the present invention is a substantial advancement in improving public health by eliminating the barrier of an available expert photographer or dermatologist for effective skin screening. This device provides a complete non-covered screening in an automated fashion, removing the intrusion of physical inspection and decreasing the possibility of missed lesions. The image acquisition does not require the presence of a physician or medical photographer, thereby increasing convenience to the patient/subject. This, in turn, would allow the placement of the device independent of the physician's or medical photographer's office, a benefit to public health programs.

Since the outcome of cancer treatment is more favorable the earlier and more accurately the cancer is detected, the present invention is a substantial advancement in improving public health by automating the imaging of potentially cancerous lesions in a more rapid and complete method. In light of the many advantages of early detection, there exists a clear need for a device that can greatly enhance the current methods of skin cancer screening. Furthermore, such a device will also find use in the cosmetic and beauty industry.

Summary of the Invention

The TIP system including the structure, infrastructure, and imaging system, requires little training, minimal staffing, and may be constructed with simple, easily available tools. TIP is a device that may be easily transportable, providing opportunity for skin screenings in diverse locations such as gym facilities, recreation centers, physician's offices, and other health oriented facilities. Medically under-served and restricted locales, e.g., rural areas and prison facilities, will

also benefit from TIP system remote diagnostic capabilities (telemedicine), bringing the care of medical specialists to the patients.

5 The present invention, Total Immersion Photography (TIP), relates initially, and thus generally, to cancer detection and, more particularly, to skin cancer, e.g., melanoma, detection involving the measurement and analysis of an optical depiction of the subject patient's skin surface by standard color imaging, as well as heat, electromagnetic or chemical imaging. The present invention allows for subject acquisition, data collation, data aggregation, data dissemination, data manipulation, data viewing in a preferable medium and analysis of a subject patient's skin surface, or other body tissue and, therefore, providing for the subject tissue's
10 analysis such that relevant determinations may be made. TIP is a digital image acquisition device, the products of which, are capable of a variety of applications. For instance, panoramic mosaics of the body, 3-D models of the body, images for use with "machine vision", and interfacing with medical records are such possible uses.

15 The present invention is uniquely situated whereby TIP may operate as the screening test, as well as a confirmation of a positive result from a screening test, or even in a manner that provides for second opinions. In either circumstance, if the results of the administered test are confirmatory, *i.e.*, melanoma is detected or otherwise identified on the skin surface. If, on the other hand, it is determined that melanoma is not present on the skin surface and, consequently, that the screening test was erroneous, the patient is spared the trauma of having to undergo the full
20 work-up including the biopsy. In that respect, confirmation of cancer by analyzing the skin surface as set forth herein has many significant advantages over conventional melanoma tests, as well as cancer detection methods in general.

TIP comprises an image acquisition device that is further comprised of an enclosed structure that is and can be designed and assembled according to the human physiology to be
25 analyzed such that the enclosed structure maximizes the ease of acquisition of the human body with traditional and/or digital photography. For purpose of discussion herein, the TIP structure may be comprised of fourteen (14) "panels". These fourteen (14) panels should be set forth in such that one panel has a "mirror image" panel. Alternatively, the TIP device may be constructed in a circular derivative, or like structure, of the fourteen (14) panel embodiment or other such number
30 of panels keeping with the operative requirements of the device.

Contained within the enclosed structure are devices capable of "photographing" the body in a static position (motion or time-lapsed photography is also be provided for). The photographic device(s) may be capable of "taking" the body through traditional photography means, and/or temperature, chemical or electromagnetic based means. For purposes of discussion herein, the photographic means, e.g. a camera or like device capable of "capturing" a still image or video streamed images, ("camera") array should consist of no less than forty (40) cameras. The camera(s), as envisioned and discussed herein are set forth in the fourteen "panels" such that there are five (5) cameras per vertical panel section (8 X 5 + top and bottom cameras =42). This structure of cameras and panels may be easily modified without departing from that which is taught, disclosed and intended. The basis for the panel-camera array is to accurately capture the physiological attributes desired from the subject patient. With subject placement, the camera array coordinates and distances are known in relation to the subject. These distances, in combination with focal length and resolution information, allows for the precise measurement of the human features of interest. The camera(s) may be left "on", engaged or otherwise activated at a desired time.

To effect the proper "picture" lighting or other optical, heat, chemical or electromagnetic, enhancement means may be affixed to, or placed around the structure such that the photographic device's "capturing" of the subject physiology may be optimized. Accordingly, for purpose of discussion herein in regard to traditional photographic means the photographic optimization may be accomplished via a lighting means which consists of fluorescent lights. These lights should be situated and placed behind panels constructed of Lucite or like material containing the same or similar physical and optical properties. The lighting means may be "on" or activated prior to engagement of the camera or photographic means, or further, remotely triggered at a predetermined time.

In the event the camera(s) and/or the lighting means are triggered remotely or upon a sequencing event the same can be controlled manually or through computer assistance. Should computers or like devices be used to facilitate the process, the same may consist of at least one (1) USB Hub, but as is contemplated herein ten (10) USB Hubs with 7 (7) USB ports per hub. In turn, there should be a data processor or like means that resides on a server or so similarly situated.

The subject patient or physiological area would enter or be placed into the TIP enclosed

structure, and if need be into the specified position for imaging. When in position, the camera device and enhancement, if not engaged, are so engaged and the image(s) obtained. Thereafter, the images are transmitted from the camera device(s) through the USB(s) onto a server/computer means capable of aggregating, manipulating and disseminating the image(s) collected into a
5 visually discernable format. As such, the images can be displayed synchronously in 2D format or processed into 3D renderings for desired or required viewing.

As a result of the aforementioned TIP device, a doctor or other individual interested in acquiring the imaging of an individual or physiological area is provided a device capable of acquiring specific imagery and related information that may be further viewed, and/or collected,
10 registered and/or stored for analysis. And as is considered and contemplated herein in regard to conditions and diseases of the visible human (but to also include and not limited to general physical, topical and subcutaneous analysis).

Accordingly, the apparatus of the present invention provides means for diagnosis of a skin disease site using spectral analysis comprising: a light source for generating light to illuminate the
15 disease site; a probe means to conduct the illumination light from the light source to the disease site and to collect the reflected and fluorescence light and conduct said light to be analyzed; and spectral analysis means optically connected to the probe means for generating and displaying spectral measurements of the fluorescence light and the reflectance light to assist the user in diagnosing the disease site.

20 In a further aspect, the present invention provides a method for diagnosis of a skin disease site using spectral analysis comprising the steps of: illuminating the disease site with a light source to generate fluorescence and reflectance light at the disease site; collecting the generated fluorescence and reflectance light; conducting a spectral analysis of the collected light using a spectrometer; displaying spectral measurements of the fluorescence light and the reflectance light;
25 and analyzing the measured fluorescence and reflectance spectra together to make a diagnosis of the disease site.

In a preferred embodiment, the apparatus of the present invention includes a compact spectrometer connected to a computer, a fluorescence excitation light source with a shutter, a white light source with a shutter, a bifurcated fibre bundle, a light coupler, a skin probe, and

controlling electronics. The system is designed to automatically switch between the fluorescence excitation light and the white light sources and complete fluorescence and reflectance spectral measurements of a skin disease site sequentially in a few seconds. The system exploits the spectral differences of different skin diseases to aid in the dermatologic diagnosis. In particular, the apparatus provides a low cost, compact system that is capable of quickly and efficiently performing combined fluorescence and reflectance spectral analysis.

Applications

Below are some examples, but not limited to, in regard to the invention's scope and intended applications of TIP:

Automated Acquisition

Storage and display of the non-occluded visible body surface properties including but not limited to diseases and cosmetic conditions of the skin, hair and nails and body measurements. In this application the body surface can be viewed and measurements taken, evaluated, viewed, collated, and cross-referenced in an easy and efficient manner.

Melanoma and Skin Cancer Screening

Large populations can be effectively screened in a short period of time for skin cancers and related maladies using this device. The consistent lighting and repeatability of the imaging technique make it ideal for replacing the skin cancer screening environment where poor lighting, patient movement and dialogue, patient modesty and other factors increase the likelihood of an incomplete examination. By removing most of these factors, the physician is allowed undistracted viewing time of the patient's skin surface. In addition, the travel and time expense of skin cancer screenings at a location other than the physician's own office is large. For evaluations of change over time and detection of new lesions, 3-month, 6-month and yearly scans can be obtained and analyzed in relation to one another. All evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that patient, doctor and health care provider time is minimized (and thus cost reduced). Data will be recorded and aggregated such that accurate assessments of the patient and population may be derived.

Medical Practice Aid/ Documentation System

The availability of images of a patient undergoing therapy is critical to a practicing dermatologist who bases his/her clinical evaluation on the "improvement" he/she sees in the patient over time. This is especially pertinent to chronic conditions such as acne, urticaria, atopic dermatitis, contact dermatitis, psoriasis, blistering disorders, etc. The system acts as a "medical memory" of the patient as he/she returns to the office for reevaluation.

Beauty Evaluations

Consumers flock to cosmetic counters to purchase makeup to hide their skin conditions. Eighty percent of skin cancers are found on the head and neck. A "beauty mark" that is identified by the patient on the face could be dermatosis nigra, seborrheic keratosis, compound nevus or melanoma. A raised pink or red "pimple" could be a basal cell carcinoma or granuloma or sarcoid lesion. Other conditions include broken blood vessels (red lines) which can be indicative for diagnoses of telangiectasias and rosacea. Pigment disorders such as vitiligo (lack of melanin), melasma (increased melanin), as well as discolorations due to excessive sun exposure are challenging to hide with makeup. Inflammatory skin conditions such as seborrheic dermatitis, psoriasis and eczema cause red, scaly patches which are chronic conditions falsely managed by moisturizers and makeup formulations. The information can be used to aid in makeover consultations. Consumers can be evaluated as to their current skin regimens and their conditions and followed over time as they undergo medical therapy. In addition, topical and internal medicines can be studied for their effectiveness over time.

Body Morphology Analysis- Shape Evaluation

Medically consequential conditions of the skeleton such as limb deformities and the spine deformities of kyphosis and scoliosis may be assessed photogrammetrically through TIP system. The consumer is also curious about what "shape" they are in mainly for appearance reasons. The physician or physical trainer is interested in the "shape" of the patient or client for both health and beauty reasons. This invention allows for a total body evaluation on several dimensions. Measurements and comparisons of body contours, fat deposit analysis, assymetry, etc. with volume measurements will be valuable for the cosmetic surgeon, the physician, the physical

trainer, the clothier, etc. Medical and health decisions will be aided with such information. These evaluations can then be viewed, collated, and cross-referenced in an easy and efficient manner.

Cosmetic Surgery Applications

Preoperative evaluations as well as postoperative analysis and comparisons can be made
5 using this device for all cosmetic surgery procedures. This is especially true for but not limited to facial surgery, eyelid surgery, face lifts, neck lifts, laser resurfacing, laser hair removal, soft tissue augmentation and liposuction. The physician can look to reduce asymmetry of the patient's anatomy to enhance the outcome of cosmetic surgery. In addition, measurements of graft survival and soft tissue survival as well as measurements of soft tissue removal can be more accurately
10 defined. These evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that studies can be made of the procedures where there are currently none.

Soft Tissue Manipulation

Volumetric measurements of soft tissue will facilitate studies of cosmetic procedures of the subcutis, glands, muscles, and skeleton. It will enhance the accuracy of body volume
15 measurements for both soft tissue augmentation and soft tissue removal. Patients will be measured before soft tissue manipulation so that the procedure is more accurately applied to the areas to be treated. The volumetric data will serve as a baseline to study the effectiveness of the treatment and will also enhance postoperative evaluation. For soft tissue augmentation using live tissue, it will allow for survival studies to be conducted. This will be a significant improvement over the current
20 water-displacement techniques and 2D renderings. These evaluations can be viewed, collated, and cross-referenced in an easy and efficient manner such that patient and doctor time is minimized. Data can be reviewed in a postoperative environment to assess outcomes and be used for outcome studies.

Percent of Surface Involved Score Calculation

25 This device will be able to standardize the Percent of Surface Involved ("POSI") and Psoriasis Area Surface Involvement ("PASI") scoring for the evaluation of extent of disease of such skin diseases but not limited to psoriasis, pemphigus, burn victims, etc. Automation of the calculation will be critical. Topical and internal medicines can be studied for their effectiveness

over time. These calculations can be collated and cross-referenced in manner such outcome studies of therapies can be collected for large populations and published.

Hair Loss Evaluation

Progression of hair loss and treatment evaluation can be monitored with such a device.
5 Topical and internal medicines can be studied for their effectiveness over time. In addition, hair transplantation techniques (planning, mapping and performing) will be enhanced. Postoperative and follow-up graft survival studies will also be more accurate. Such an evaluation procedure can be viewed by patient and health care professional alike, whereafter the same may be collated, and cross referenced in a manner such that time is minimized, data is accurately recorded and
10 aggregated so an accurate assessment and prognosis may be made.

Wound Healing Evaluations

Therapeutic analyses for post operative wounds, traumatic wounds, ulcers, burns, scars, etc. collectively "wounds" can be made using this device. Measurements of the "wounds" at the outset of therapy and then at specific intervals of time allow for accurate evaluation of the
15 progression of healing time and patient responsiveness to treatment. Topical and internal medicines can be studied for their effectiveness over time. These evaluations and resulting analyses can be viewed, collated, and cross referenced in an easy and efficient manner such that time is minimized, data accurately recorded and aggregated for efficient and accurate assessments and prognosis made.

20 Remote Diagnostic Evaluations

This device will allow for both local and remote medical and cosmetic consultations. These evaluations and applications can be shared effectively using store-and-forward telemedicine techniques. The TIP data set can be viewed, collated, and cross referenced in an easy and efficient manner such that patient and doctor time is minimized, data accurately recorded and aggregated
25 and thus efficient and accurate diagnoses.

Accordingly the following are a list, not inclusive, of those ailments, maladies and concerns that can be addressed by the device as disclosed herein: Disorders relating to and/or

resulting from: altered reactivity; bacterial and fungal diseases; cell kinetics; cell differentiation; drugs and chemical agents; epidermal cohesion; epidermal appendages and related disorders; epidermal and appendageal tumors; hematology; infestations, bites, and stings; lymphomas and pseudolymphomas; mechanical and physical factors; melanocytes; mucocutaneous integument; neoplasms; nutrition, metabolism, and genetics; organ systems: gastrointestinal, cardiovascular, pulmonary, endocrine, renal and other organ systems; persistent inflammation; rheumatology; including but not limited to sexually transmitted diseases.

Also identifiable are conditions of surgical dermatology, including but not limited to: cryosurgery; hair loss and transplant; liposuction; micrographic surgery; nail surgery; sclerotherapy; skin resurfacing; soft tissue augmentation and wounds.

Particularly the following, but not limited thereto, are capable of being identified through the use of the invention disclosed herein:

Abscess, Child Abuse, Drug Abuse, skin lesions, Physical Acantholytic Dermatitis, Transient Acanthosis Nigricans; Acarophobia; Acatalasia, Achromia Parasitica; Acne Artificialis; Acne Conglobata; Acne Cosmetica; Acne Excoriée; Acne Fulminans; Acne Keloidalis; Acne Mechanica; Acne Necrotica; Acne Neonatorum; Acne Rosacea; Acne Varioliformis; Acne Vulgaris; Chloracne; Cystic Acne, Halogen Acne, Pomade Acne, Steroid Acne, Tropical Acne, Acneiform Eruptions, Drug-Related Acne; Acrochordon; Acrocyanosis; Acrodermatitis Chronica Atrophicans; Acrodermatitis Continua; Acrodermatitis Enteropathica; Acrodermatitis of Hallopeau; Acrodermatitis Pustulosa Perstans; Papular Acrodermatitis of Childhood, Acrodynia; Acrokeratoelastoidosis; Acrokeratosis Verruciformis, Acromegaly, Acropachyderma, Acropustulosis, Acropustulosis Of Infancy, Acrosclerosis, Actinic Cheilitis, Actinic Dermatitis, Actinic Elastosis, Actinic Keratosis, Actinic Damage; Actinic Prurigo; Actinic Reticuloid; Actinomycosis, Actinophytosis, Acuminate Warts; Acute Febrile Neutrophilic Dermatoses, Drug Addiction, Addison's Disease; Sweat Gland Adenoma, Adenoma Sebaceum, Adenomatosis Oris, Adiposis Dolorosa, Agammaglobulinemia, AIDS, AIDS-Associated Syndromes, Ainhum, Albinism, Albright's Syndrome, Aldrich's Syndrome, Alkaptonuria, Allergic Contact Dermatitis, Allergic Vasculitis; Alopecia Areata, Alopecia Mucinoso, Alopecia Totalis, Alopecia Universalis, Androgenetic Alopecia, Scarring Alopecia, Amebiasis, Amputation Stump Dermatitis, Amyloidosis, Anagen Effluvium, Anaphylactoid Purpura, Anderson-Fabry Disease, Anemia,

Anetoderma, Angiitis, Angioedema, Angiofibroma, Angioimmunoblastic Lymphadenopathy; Angiokeratoma & Other Benign Vascular Tumors; Angiokeratoma Corporis Diffusum, Angiolipoma, Angiolymphoid Hyperplasia, Angioma, Angioma Serpiginosum, Angioneurotic Edema, Anhidrotic Ectodermal Dysplasia, Animal Bites, Anthrax, Antiphospholipid Syndrome, Aphthous Ulcer, Aplasia Cutis Congenita, Apocrine Miliaria, Argyria, Arsenical Keratoses, Arteriolitis, Arteriovenous Malformations, Arthritis, Arthropod Bites And Stings, Ashy Dermatitis, Aspergillosis, Asteatosis, Ataxia-Telangiectasia, Atopic Dermatitis, Atrophic Nail Disorders, Malignant Atrophic Papulosis, Atrophie Blanche, Anetoderma, Atrophy Unclassified, Atypical Fibroxanthoma, Atypical Mycobacterial Infections, Auricular Fistula, Autoeczematous Dermatitis, Autoerythrocyte Sensitization, Autosensitization Dermatitis, Pustular Bacterid, Balanitis Xerotica Obliterans; Balding, Basal Cell Carcinoma, Basal Cell Nevus Syndrome, Battered Child, Bazin's Disease, B-Cell Disorders, Becker's Nevus, Behçet's Syndrome, Bejel, Benign Familial Chronic Pemphigus, Benign Mucous Membrane Pemphigoid, Benign Tumors,, Berloque Dermatitis, Biliary Cirrhosis, Birthmarks, Insect Bites, Spider Bites, B-K Mole Syndrome, Black Hairy Tongue, Black Heel, Blaschko Dermatitis, North American Blastomycosis, South American Blastomycosis, Blepharitis, Blister Agents, Blister Beetle Dermatitis, Blood Dyscrasias, Bloom's Syndrome, Blue Nevus, Blue Rubber Bleb Nevus, Bockhart's Impetigo, Boil, Bornholm Disease, Botryomycosis, Bourneville's Disease, Bowenoid Papulosis, Bowen's Disease Or Intraepidermal Carcinoma, Branchial Cyst, Branchiogenic Cyst, Brazilian Pemphigus, Bromoderma, Brucellosis, Buerger's Disease, Bullous Dermatitis Of Childhood, Bullous Diabeticorum, Bullous Disorders, Bullous Pemphigoid, Burn, Buruli Ulcer, Buschke-Ollendorff Syndrome, Cafe-Au-Lait Spots, Caffey's Syndrome, Calcifying Epithelioma, Calcinosis Cutis And Osteoma Cutis, Callus, Campbell De'morgan Spot, Candidiasis, Canities, Canker Sore, Capillary Hemangioma, Carbuncle, Carcinoid Syndrome, Epidermoid Carcinoma, Metastatic Carcinoma, Merkel Cell Carcinoma, Squamous Cell Carcinoma, Carotenemia, Caterpillar Dermatitis, Cat-Scratch Disease, Cellulite, Lymphangitis, Dissecting Cellulitis of the Scalp, Cercarial Dermatitis, Chagas Disease, Chancre, Chancroid, Chédiak - Higashi Syndrome, Cheilitis, Cheilitis Glandularis, Cheilitis Granulomatosa, Chemical Blister Agents, Side-Effects of Cancer Chemotherapy, Cherry Angioma, Chickenpox, Chigger Bites, Chilblains, Child Abuse, Chloasma, Chloracne, Cholinergic Urticaria, Chondrodermatitis, Chromhidrosis, Chromoblastomycosis, Chromomycosis, Chronic Granulomatous Disease, Chrysiasis, Churg

Strauss, Cicatricial Alopecia, Cicatricial Pemphigoid, Cicatrix, Clavus, Clear Cell Acanthoma,
 Clubbing Of Fingers, Cobb Syndrome, Coccidioidomycosis, Cockayne's Syndrome, Cold Injury,
 Ulcerative Colitis, Perforating Collagenosis, Collodion Baby; Colloid Miliun, Comedos,
 Comedonal Nevus, Complement Deficiency Disorders, Compound Nevus, Condyloma
 5 Accuminatum; Condyloma Lata; Confluent And Reticulated Papillomatosis; Congenital
 Disorders, Unclassified; Congenital Fistulae; Congenital Hair Disorders, Unclassified; Congenital
 Hypoplasia; Congenital Poikiloderma; Congenital Self-Healing Reticulohistiocytosis; Congenital
 Syphilis; Congenital Vascular Neoplasm Syndromes; Connective Tissue Nevus; Conradi's
 Disease; Contact Dermatitis; Contracture, ; Unclassified; Copper Deficiency; Corns;
 10 Corticosteroid Effects; Cosmetic Procedures; Coumarin Reaction; Cowden's Disease; Coxsackie
 Infection; Craniofacial Angiomatosis; Creeping Eruption; Crest Syndrome; Crohn's Disease;
 Cronkhite - Canada Syndrome; Cryofibrinogenemia; Cryoglobulinemia; Cryosurgery;
 Cryptococcosis; Cushing's Syndrome; Cutaneomeningospinal Angiomatosis; Cutaneous B-Cell
 Lymphoma; Cutaneous Horn; Cutaneous Markers Of Malignancy; Cutaneous Papillomatosis;
 15 Cutaneous Tag; Cutaneous T-Cell Lymphoma; Cutis Elastica; Cutis Laxa; Cutis Marmorata; Cutis
 Marmorata Telangiectetica Congenita; Cutis Rhomboidalis Nuchae; Cutis Verticis Gyrata; Cyclic
 Neutropenia; Cylindroma; Cyst, Branchiogenic; Cyst, Epidermal Or Epithelial; Cyst, Keratinous,
 Pilar Or Sebaceous; Cyst, Mucous; Cyst, Pilar; Cyst, Sebaceous; Cyst, Synovial; Cytomegalovirus
 Infection; Dactylolysis; Dandruff; Darier - White Disease; Decubitus Ulcer; Deficiency, Mineral
 20 Or Vitamin; Degos Disease; Delusions Of Parasitosis; Demodex Folliculorum; Dental
 Abnormalities; Dental Sinus; Depigmentation; Depressive (Neurotic) Excoriations; Dercum's
 Disease; Dermal Hypoplasia; Dermatalgia; Dermatitis Herpetiformis; Dermatitis Medicamentosa;
 Dermatitis Nodularis Necrotica; Dermatitis Papillaris Capillitii; Dermatitis Repens; Dermatitis
 Vegetans; Dermatitis, Acute, Unclassified; Dermatitis, Atopic; Dermatitis, Autosensitization;
 25 Dermatitis, Beetle; Dermatitis, Berloque; Dermatitis, Contact; Dermatitis, Diaper; Dermatitis,
 Drug Allergy; Dermatitis, Drug Toxicity; Dermatitis, Dyshydrotic; Dermatitis, Eczematous;
 Dermatitis, Exfoliativa; Dermatitis, Facticial; Dermatitis, Infectious Eczematoid; Dermatitis,
 Irritant; Dermatitis, Nummular; ernaatitits, Occupational; Dermatitis, Perioral; Dermatitis, Photo;
 Dermatitis, Pregnancy; Dermatitis, Radiation; Dermatitis, Seborrheic; Dermatitis, Stasis;
 30 Dermatitis, Nutritional; Dermatofibroma; Dermatofibrosarcoma Protuberans; Dermatofibrosis Lent
 Diss& Osteopoikilosis; Dermatolysis; Dermatomyositis; Dermatophyte Infections, Unclassified;

Dermatophytid; Dermatophytosis; Dermatoses Papulosa Nigra; Dermographism; Dermoid Cyst;
 Desmoid Tumor; Desquamation, Unclassified; Diabetes Mellitus; Diabetic Dermodromes;
 Dialysis, Bullous Dermatoses Of Diaper Dermatitis; Disseminated Intravascular Coagulation; Diet
 & Dermatology; Digital Fibrokeratosis; Digitate Dermatoses; Diphtheria, Cutaneous; ;Discoid
 5 Lupus Erythematosus; Dissecting Cellulitis Of The Scalp; Disseminated Intravascular
 Coagulation; Disseminated Lupus Erythematosus; Disseminated Super. Actinic Porokeratosis;
 Discoid Lupus Erythematosus; Animal Bites; Down Syndrome; Dracunculosis; Drug Abuse; Drug
 Eruption; Drug Toxicity; Disseminated Superficial Actinic Porokeratosis; Duhring-Brocq Disease;
 Dupuytren's Contracture; Dyshydrotic Dermatitis; Warty Dyskeratoma; Dyskeratosis Congenita;
 10 Dyskeratosis Follicularis; Dysplastic Nevi Or Syndrome; Dysproteinemia; Dysraphism;
 Dystrophic Nails; Ecchymosis; Eccrine Gland Tumors; Eccrine Hydrocystoma; Eccrine Poroma;
 Eccrine Spiradenoma; Ecthyma; Ecthyma Contagiosum (Orf); Ecthyma Gangrenosum;
 Ectodermal Defect, Congenital; Eczema Craquelé; Eczema Herpeticum And Vaccinatum;
 Eczema, Atopic; Eczema, Dyshydrotic; Eczema, Nummular; Edema, Angioneurotic; Edema,
 15 Legs, Hereditary; Edema, Unclassified; Ehlers-Danlos Syndrome; Ehrlichosis; Elastoidosis,
 Nodular With Cysts & Comedones; Elastolysis, Generalized; Elastoma, Juvenile; Elastosis
 Perforans Serpiginosa; Elastosis, Actinic; Elastosis, Perforating; Elephantiasis; Elephantiasis
 Nostras Verrucosa; Emboli; Endocrinopathy, Miscellaneous; Endometriosis; Eosinophilic
 Fasciitis; Eosinophilic Granuloma; Eosinophilic Papulovesicular Derm Of Newborn; Ephelides
 20 And Lentigines; Epidermal Inclusion Cyst; Epidermal Necrolysis, Toxic; Epidermal Nevus;
 Epidermodysplasia Verruciformis; Epidermoid Carcinoma; Epidermolysis Bullosa; Epidermolytic
 Hyperkeratosis; Epiloia; Epithelial Cyst; Epithelial Nevus; Epithelioma Adenoides Cysticum;
 Epithelioma, Arsenical; Epithelioma, Basal Cell; Epithelioma, Calcifying Of Malherbe;
 Epithelioma, Squamous; Erosio Interdigitalis Blastomycetica; Eruption Of Lymphocyte Recovery;
 25 Eruption, Creeping; Erysipelas; Erysipeloid; Erythema Ab Igne; Erythema Annulare Centrifugum;
 Erythema Chronicum Migrans; Erythema Circinatum; Erythema Dyschromicum Perstans;
 Erythema Elevatum Diutinum; Erythema Figuratum Perstans; Erythema Gyrtatum Perstans;
 Erythema Gyrtatum Repens; Erythema Induratum; Erythema Infectiosum; Erythema Marginatum;
 Erythema Multiforme; Erythema Nodosum; Erythema Of Jacquet; Erythema Perstans; Erythema
 30 Toxicum Neonatorum; Erythema, Anatomic; Erythema, Noninfectious, Unclassified; Erythema,
 Toxic; Erythema, Unclassified; Erythralgia; Erythrasma; Erythrocyte Autosensitization;

Erythroderma, Exfoliative; Erythrokeratoderma Variabilis; Erythromelalgia; Erythroplasia Of
 Queyrat; Esthiomene; Exanthem Subitum; Exanthem, Bacterial; Exanthem, Viral; Excoriation,
 Depressive Or Neurotic; Exfoliation Of Palms And Soles; Exfoliative Dermatitis (Or See Cause);
 Extramammary Paget's Disease; Extramedullary Hematopoiesis, Cutaneous; Exudative Discoid
 5 And Lichenoid Dermatitis; Fabry's Disease; Facial Granuloma; Factitial Dermatitis; Familial
 Benign Chronic Pemphigus; Familial Hemorrhagic Telangiectasia; Farber's Disease; Fasciitis,
 Necrotizing; Fat Dystrophy; Fat Necrosis; Favre - Racouchot Elastoidosis Syndrome; Favus;
 Febrile Neutrophilic Dermatoses, Acute; Female Pattern Baldness; Fever Blisters, Aphthae; Fever
 Blisters, Herpes Simplex; Fibroepithelial Polyp; Fibroma; Fibromatosis Of Penis; Fibrous Papule
 10 Of Nose; Fibroxanthoma, Atypical; Fifth Disease; Figurate Erythema; Filariasis; Fissured Tongue;
 Fistulae, Congenital; Fixed Drug Eruption; Flat Warts; Flea Bites; Florid Oral Papillomatosis;
 Flushing, Non-Carcinoid; Focal Dermal Hypoplasia; Fogo Selvagem; Follicular Mucinosis;
 Folliculitis; Folliculitis Abscedens Et Suffodiens; Folliculitis Decalvans; Folliculitis Keloidalis;
 Fordyce Lesions Of Scrotum; Fordyce Spots; Foreign Body; Foreign Body Granuloma; Fox -
 15 Fordyce Disease; Freckles; Friction Blister; Frostbite; Fungal Cultures (Alphabetical By Genus);
 Fungal Infection, Deep, Unclassified; Fungal Infection, Superficial, Unclassified; Furuncle;
 Ganglion; Gangosa; Gangrene; Gardner's Syndrome; Gargoylism; Gastrointestinal Syndromes;
 Gaucher's Disease; Geographic Tongue; German Measles' Gi Disease, Skin ;Manifestations;
 Gianotti - Crosti Syndrome; Giant Cell Arteritis; Gingiva, Unclassified; Gingival Hypertrophy;
 20 Gingivitis, Unclassified; Glanders; Glandular Cheilitis; Glomus Tumor; Glossitis, Median
 Rhomboid; Glossitis, Unclassified; Glucagonoma Syndrome; Glycogen Storage Disease; Gold
 Pigmentation; Goltz Syndrome; Gonococcemia; Gonorrhea; Gougerot - Blum Disease; Gougerot -
 Carteaud's Papillomatosis; Gout; Gower's Panatroph; Graft Vs. Host Reaction; Granular Cell
 Myoblastoma; Granuloma ; Annulare; Granuloma Faciale; Granuloma Fissuratum, Cutaneous;
 25 Granuloma Fissuratum, Mouth; Granuloma Inguinale; Granuloma Pyogenicum; Granuloma,
 Mosinophilic; Granuloma, Foreign Body; Granuloma, Meischer's; Granuloma, Swimming Pool;
 Granuloma, Unclassified; Granulomatosis Disciformis, Meischer; Granulomatosis, Chronic
 Familial; Granulomatosis, Wegener's; Granulomatous Disease, Chronic; Granulosis Rubra Nasi;
 Graves Disease; Grooved Tongue; Grovers Disease; Gumma; Guttate Hypomelanosis, Idiopathic;
 30 Guttate Morphea; Gynecomastia; Gypsy Moth Dermatitis; Hailey - Hailey Disease; Hair Collar
 Sign; Hair Excess; Hair Pigment Disorder; Hair Shaft Abnormalities; Hairy Leukoplakia (Aids

Associated); Hairy Leukoplakia (Non-Aids Associated); Hairy Tongue; Halo Nevus; Halogen Acne; Hamartoma; Hand And Foot Eruption, Unclassified; Hand-Foot-And-Mouth Disease; Hand-Schuller-Christian Disease; Hansen's Disease; Hartnup Disease; Heat Injury; Heat Rash; Hemangiectatic Hypertrophy; Hemangioendothelioma; Hemangioma; Hematologic Disorders, 5 Unclassified; Hematoma; Hemochromatosis; Hemosiderosis; Henoch-Schönlein Purpura; Hepatic Disease; Hepatitis; Hereditary Disorders, Unclassified; Hereditary Hemorrhagic Telangiectasia; Herpangina; Herpes Gestationis; Herpes Progenitalis; Herpes Simplex; Herpes Zoster; Hibernoma; Hidradenitis Suppurativa; Hidradenitis, Palmar-Plantar; Hidradenoma Papilliferum; Hidrocystoma; Hidrotic Ectodermal Defect; Hippocratic Nails; Hirsutism; Histiocytoma; 10 Histiocytoid Hemangioma; Histiocytosis X; Histoplasmosis; Hives; Hodgkin's Disease; Homocystinuria; Hookworm Infestations; Horn, Cutaneous; Housewife's Eczema; Howell Evans Synd; Hunter's Syndrome; Hurler's Syndrome; Hyalinosis Cutis Et Mucosae; Hydroa Aestivale; Hydroa Vacciniforme; Hygroma, Cystic; Hyper Ige Syndrome; Hypercholesterolemia; Hyperhydrosis; Hyperkeratosis Climactericum; Hyperkeratosis Follicularis (Kyrle's); 15 Hyperkeratosis Lenticularis Perstans(Flegel); Hyperkeratosis Palmaris Et Plantaris; Hyperkeratosis, Epidermolytic; Hyperkeratosis, Unclassified; Hyperlipemia; Hyperpigmentation, Unclassified; Hypersensitivity Vasculitis; Hypertrichosis; Hypertrophic Nails; Hypertrophic Scar; Hypertrophy From Chronic Irritation; Hypohidrosis; Hypomelanosis, Unclassified; Hypoplasia, Congenital; Ichthyosis; Ichthyosis Hystrix; Ichthyosis Linearis Circumflex; Ichthyosis Vulgaris; Id 20 Eruption; Idiopathic Guttate Hypomelanosis; Ige Syndrome; Immersion Foot; Immune Complex Disease; Immune Deficiency, Acquired (AIDS); Immune Deficiency, Unclassified (Not AIDS); Immunoblastic Lymphadenopathy; Immunoglobulin Deficiency Disorders; Impetigo, Impetigo Follicularis; Impetigo Herpetiformis; Impetigo Of Bockhart; Inclusion Cyst; Incontinentia Pigmenti; Infantile Lichenoid Dermatitis; Infections, Bacterial, Unclassified; Infections, 25 Rickettsial, Unclassified; Infections, Viral, Unclassified; Infectious Eczematoid Dermatitis; Infectious Mononucleosis; Infundibulofolliculitis; Injury, Traumatic; Inoculation Tuberculosis; Insect Bites And Stings; Intaepidermal Carcinoma; Intertrigo; Iododerma; Irritant Dermatitis; Ischemia; Ischemic Ulcer; Itch, Unclassified; Jadassohn - Lewandowsky Syndrome; Jaundice; Jaw, Lumpy; Jellyfish Sting; Jessner's Lymphocytic Infiltration; Job's Syndrome; Junctional 30 Nevus; Juvenile Elastoma; Juvenile Melanoma, Benign; Juvenile Xanthogranuloma; Kala Azar; Kaposi's Sarcoma (Aids Associated); Kaposi's Sarcoma (Not Aids Associated); Kaposi's

Varicelliform Eruption; Kasaback-Merritt Syndrome; Kawasaki Disease; Keloid; Keloid Acne;
 Keloidal Blastomycosis; Keratinous Cyst; Keratoacanthoma; Keratoderma Blenorrhagica;
 Keratoderma Climactericum; Keratoderma Of Palms And Soles; Keratoderma Palmaris Et
 Plantaris; Keratolysis Exfoliativa; Keratolysis, Pitted; Keratosis Blenorrhagica And Reiter's Synd;
 5 Keratosis Follicularis; Keratosis Palmaris Et Plantaris; Keratosis Pilaris; Keratosis Punctata
 Palmaris Et Plantaris; Keratosis, Actinic; Keratosis, Follicle, Unclassified; Keratosis, Mouth;
 Keratosis, Seborrhic; Keratosis, Arsenical; Kerion; Kinky Hair Disease, Menke's; Klippel-
 Trenaunay-Parkes-Weber; Knuckle Pads; Koh Preparation; Koilonychia; Kraurosis Vulvae;
 Kwashiorkor; Kyrle's Disease; Lamellar Dyshydrosis; Lamellar Ichthyosis; Larva Migrans; Laser
 10 Therapy; Leg Ulcer, Unclassified; Leiner's Disease; Leiomyoma; Leishmaniasis; Lentigo; Lentigo
 Maligna; Lentigo Maligna Melanoma; Leopard Syndrome; Leprosy; Lesch - Nyhan Syndrome;
 Leser - Trélat Sign; Lethal Midline Granuloma; Letterer - Siwe Disease; Leukemia Cutis;
 Leukocyte Disorders, Unclassified; Leukoderma, Unclassified; Leukonychia; Leukoplakia And
 Keratosis, Mouth; Leukoplakia, Except Mouth; Lichen Amyloidosis; Lichen Aureus; Lichen
 15 Myxedematosus; Lichen Nitidus; Lichen Pilaris; Lichen Planopilaris; Lichen Planus; Lichen
 Sclerosus Et Atrophicus; Lichen Scrofulosorum; Lichen Simplex Chronicus; Lichen Spinulosus;
 Lichen Striatus; Light Eruption Or Reaction; Light Therapy; Lindau-Von Hippel Disease; Linear
 & Whorled Nevoid Hyperpigmentation; Linear Iga Disease; Linear Nevus; Lip, Unclassified;
 Lipoatrophy; Lipodystrophy; Lipogranulomatosis; Lipoid Proteinosis; Lipoma; Livedo
 20 Reticularis; Loaisis; Lobo's Disease; Loxoscelism; Lumpy Jaw; Lupus Erythematosus, Discoid;
 Lupus Erythematosus, Neonatal; Lupus Erythematosus, Subacute Cutaneous; Lupus
 Erythematosus, Systemic; Lupus Miliaris Disseminata; Lupus Miliaris Disseminata Faciei; Lupus
 Pernio; Lupus Profundus; Lupus Vulgaris; Lyell's Syndrome; Lyme Disease; Lymphadenosis
 Cutis; Lymphangioma; Lymphangitis; Lymphedema; Lymphoblastoma; Lymphocyte Recovery
 25 Eruption; Lymphocytic Infiltrate Of Jessner; Lymphocytoma Cutis And Lymphocytic Infiltrate;
 Lymphogranuloma Venereum; Lymphoma, Hodgkin's; Lymphoma, Non-Hodgkin's, Other;
 Lymphomatoid Granulomatosis; Lymphomatoid Papulosis; Macrochelia; Macroglobulinemia;
 Macroglossia; Maculae Ceruleae; Macular Atrophy; Madelung's Disease; Madura Foot;
 Maduromycosis; Mafucci's Syndrome; Majocchi's Disease; Majocchi's Granuloma; Mal De
 30 Meleda; Mal Perforans Ulcer; Male Pattern Baldness; Malherbe, Calcifying Epithelioma Of;
 Malignancy Markers, Cutaneous; Malignant Atrophic Papulosis; Malignant Freckle; Malignant

Lentigo; Malignant Melanoma; Malignant Tumors, Unclassified; Marfan's Syndrome; Marjolin's
 Ulcer; Markers Of Malignancy, Unclassified; Mast Cell Tumor; Mastocytosis; Measles; Measles,
 German; Median Rhomboid Glossitis; Meischer's Granuloma; Melanoma, Lentigo Maligna;
 Melanoma, Malignant; Melanosis Circumscripta Precancerosa; Melasma; Melkersson-Rosenthal
 5 Syndrome; Meloidosis; Meningococcemia; Menkes Kinky Hair Syndrome; Mercury
 Pigmentation; Merkel Cell Carcinoma; Metal Allergy; Metal Pigmentation; Metastatic Carcinoma;
 Mibelli, Angiokeratoma Of; Microscopic Examination; Midline Granuloma, Lethal; Miliaria;
 Miliun; Milker's Nodules; Milroy's Disease; Mite Dermatitis; Mixed Connective Tissue Disease;
 Mohs Micrographic Surgery; Mole; Molluscum Contagiosum; Mondor's Syndrome; Mongolian
 10 Spot; Mongolism; Monilethrix; Moniliasis; Morbus Moniliformis; Morphea; Morquio's Disease;
 Mucha-Habermann's Disease; Mucinosi, Focal; Mucinosi, Reticular Erythematous; Mucinous
 Cyst; Mucocutaneous Lymph Node Syndrome; Mucopolysaccharidoses; Mucormycosis; Mucosa,
 Oral, Unclassified; Mucous Cyst; Multicentric Reticulohistiocytosis; Multiple Benign Cystic
 Epithelioma; Multiple Endocrine Neoplasia Synd; Multiple Hamartoma Syndrome; Multiple
 15 Idiopathic Hemorrhagic Sarcoma; Multiple Mucosal Neuroma; Multiple Myeloma; Mumps;
 Munchausen Syndrome; Mycetoma; Mycobacterial Infections, Atypical; Mycosis Fungoides;
 Myiasis; Myoblastoma; Myoepithelioma; Myoma And Leiomyoma; Myxedema And Localized
 Myxedema; Myxoid Cyst; Nail Disorders Assoc. With Internal Disease; Nail Dystrophy,
 Unclassified; Nail Pits; Nails, Normal Variants; Narcotic Dermopathy; Nasal Glioma; Necrobiosis
 20 Lipoidica; Necrobiotic Xanthogranuloma; Necrolysis, Toxic Epidermal; Necrolytic Migratory
 Erythema; Necrosis, Unclassified; Necrotizing Fasciitis; Necrotizing Vasculitis; Needle Marks;
 Neonatal Acne; Neonatal Lupus Erythematosus; Netherton's Syndrome; Neurilemmoma;
 Neurodermatitis; Neurofibroma, Neurofibromatosis; Neurotic Excoriations; Neutrophilic
 Dermatosi, Acute Febrile; Nevoxanthoendothelioma; Nevoxanthogranuloma; Nevus Anemicus;
 25 Nevus Angiolipomatosus; Nevus Araneus; Nevus Caeruleus; Nevus Cell Nevus; Nevus
 Comedonicus; Nevus Depigmentosus; Nevus Elasticus; Nevus Flammeus; Nevus Of Ito; Nevus
 Of Ota; Nevus Sebaceous; Nevus Syringocystadenoma Papilliferum; Nevus Unius Lateris; Nevus,
 Blue; Nevus, Blue Rubber Bleb; Nevus, Compound; Nevus, Dermal; Nevus, Epidermal; Nevus,
 Epithelial; Nevus, Halo; Nevus, Junctional; Nevus, Linear; Nevus, Organoid; Nevus, Pigmented;
 30 Nevus, Spider; Nevus, Spindle Cell; Nevus, Verrucous; Nevus, White Spongy Of Mucosa; Nickle
 Allergy; Niemann - Pick Disease; Nocardiosis; Nodular Dermal Allergide; Nodular Elastoidosis;

Nodular Fasciitis; Nodular Fat Necrosis; Nodular Subepidermal Fibrosis; Nodular Vasculitis;
 Nodules, Milker's; Nodules, Rheumatoid; Noma; Non-Venereal Treponematoses; Normal
 Variants; North American Blastomycosis; Norwegian Scabies; Nummular Dermatitis; Nutritional
 Or Vitamin Deficiency; Occupational Acne; Occupational Dermatoses, Unclassified;
 5 Occupational Leukoderma; Ochronosis; Ocular Pemphigus; Oid-Oid Disease; Omphalitis;
 Onchocerciasis; Onychauxis; Onychia; Onychodystrophy, Unclassified; Onychogryphosis;
 Onycholysis; Onychomycosis; Ophiiasis; Oral Florid Papillomatoses; Oral Mucosa, Unclassified;
 Oral Tumors; Oral, Unclassified; Oral-Facial-Digital Syndrome; Orf; Organoid Nevus; Oroya
 Fever; Osler-Rendu-Weber Disease; Osteoarthritis; Osteodermatopoikilosis; Osteogenesis
 10 Imperfecta; Osteoma Cutis; Other Syndromes, Unclassified; Oxyuriasis; Pachydermoperiostosis;
 Pachyonychia Congenita; Pagetoid Reticulosis; Paget's Disease; Painful Bruising Syndrome;
 Palate, Unclassified; Palmar Erythema; Palmar Fibromatosis; Palmar-Plantar Hidradenitis;
 Palmoplantar Keratosis; Palmoplantar Pustulosis, Unclassified; Panatrophphy Of Gower;
 Panniculitis; Papilloma, Mucous Membrane; Papilloma, Skin; Papillomatoses, Cutaneous;
 15 Papillomatoses, Florid Oral; Papillon-Lefèvre Syndrome; Papular Dermatitis Of Pregnancy;
 Papular Mucinosis; Papular Urticaria; Papulonecrotic Tuberculid; Papulosis, Malignant Atrophic
 Of Degos; Paracoccidioidomycosis; Paraffinoma; Paraneoplastic Syndromes; Parapsoriasis,
 Acute; Parapsoriasis, Chronic; Parasitic Infestations, Unclassified; Parasitosis, Delusions Of;
 Paronychia; Pasini Et Pierini Syndrome; Patch Testing, Pathergic Granulomatosis; Pearly Penile
 20 Papules; Pediatric Dermatoses; Pediculosis; Pelade; Pellagra; Pemphigoid, Benign Mucous
 Membrane; Pemphigoid, Bullous; Pemphigoid, Cicatricial, Mucosal; Pemphigoid, Unclassified;
 Pemphigus Erythematodes; Pemphigus Foliaceus; Pemphigus Vegetans; Pemphigus Vulgaris;
 Pemphigus, Brazilian; Pemphigus, Drug; Pemphigus, Familial Benign Chronic; Pemphigus,
 Hailey-Hailey; Pemphigus, Unclassified; Penile Pearly Papules; Perforating Collagenosis;
 25 Perforating Dermatitis; Perforating Folliculitis; Peradenitis Mucosa Necrotica Recurrans;
 Perianal Protrusions, Pyramidal; Perianal Strep; Periarteritis Nodosa; Perifolliculitis Capitis
 Abscedens Et Suff.; Perioral Dermatitis; Perlèche; Pernicious Anemia; Pernio; Petechiae; Peutz-
 Jeghers Syndrome; Peyronie's Disease; Phagedena; Phenylketonuria; Phlebeetasia; Phlebitis;
 Phototherapy; Phrynoderma; Phthiriasis; Phycomycosis; Pian; Piebaldism; Piedra; Piezogenic
 30 Pedal Papules, Painful; Pigmentary Hairy Nevus; Pigmentation, Anatomic; Pigmentation, Hair;
 Pigmentation, Nail; Pigmentation, Unclassified; Pigmented Purpuric Eruptions; Pilar Cyst; Pilar

Tumor; Pilomatricoma; Pilonidal Cyst; Pinta; Pinworm Dermatitis; Pitted Keratolysis; Pitted Nails; Pityriasis Alba; Pityriasis Capitis; Pityriasis Lichenoides Chronica; Pityriasis Lichenoides Et Varioliformis Acuta; Pityriasis Rosea; Pityriasis Rubra Pilaris; Pityriasis Streptogenes; Pityriasis Versicolor; Plant Dermatitis; Plantar Wart; Plasmacytoma; Pleva; Podagra;

5 Poikiloderma; Poikiloderma Congenitale; Poikiloderma Of Civatte; Poikiloderma Vasculare Atrophicans; Poison Ivy Dermatitis; Poliosis; Polyarteritis Nodosa; Polychondritis; Polycythemia Vera; Polydactyly; Polymorphic Light Eruption; Polyostotic Fibrous Dysplasia (Albright's); Polyp, Fibroepithelial; Pompholyx; Porokeratosis; Poroma; Porphyria; Port Wine Stain; Portugese Man-Of-War Sting; Post-Inflammatory Hyperpigmentation; Post-Inflammatory

10 Hypopigmentation; Postmastectomy Lymphangiosarcoma; Pregnancy, Dermatitis In; Pressure Sore; Pretibial Myxedema; Prickle Cell Carcinoma; Prickly Heat; Primary Syphilis; Progeria; Progressive Bacterial Synergistic Gangrene; Progressive Pigmentary Dermatoses; Proteinosis, Lipoid; Prurigo Gestationis; Prurigo Gravidarum; Prurigo Nodularis; Pruritic Urticarial Papules Plaques Of Preg.; Pruritis, Signs, Unclassified; Pruritus Gravidarum; Pseudoacanthosis Nigricans;

15 Pseudoatrophoderma Colli; Pseudocyst Of The Auricle; Pseudofolliculitis Barbae; Pseudolymphoma Of Speigler-Fendt; Pseudomonas Infection; Pseudopelade; Pseudosarcoma; Pseudotuberculosis; Pseudoverrucous Papules; Pseudoxanthoma Elasticum; Psoriasis; Pterygium; Punctate Keratosis Of Palms And Soles; Puppp Syndrome; Purpura And Ecchymosis; Purpura Annularis Telangiectoides; Purpura Fulminans; Purpura Pigmentosa Chronica; Purpura

20 Rheumatica; Purpuric Pigmented Lichenoid Dermatitis; Pustular Bacterid; Pustular Dermatoses, Subcorneal; Pustular Eruption Of Palms And Soles; Pustular Perifolliculitis; Pustulosis Palmaris Et Plantaris; Pyoderma And Folliculitis; Pyoderma Faciale; Pyoderma Gangrenosum; Pyogenic Granuloma; Pyramidal Perianal Protrusion; Radiation Dermatoses; Radiation Therapy; Ragweed Dermatitis; Ranula; Raynaud's Disease Or Phenomenon; Reactive Perforating Collagenosis;

25 Reflex Sympathetic Dystrophy; Reiter's Syndrome; Relapsing Polychondritis; Relapsing Self-Healing Blaschko Dermatitis; Rem Syndrome; Rendu-Osler-Weber Syndrome; Retention Cysts Of Lips; Reticular Erythematous Mucinoses; Reticulohistiocytosis, Multicentric; Reticulohistiocytosis, Cong Self-Healing; Reticuloid, Actinic; Reticulum Cell Sarcoma; Rheumatoid Arthritis; Rheumatoid Nodule; Rhinophyma; Rhinoscleroma; Rhinosporidiosis; Rhus

30 Dermatitis; Rickettsial Infections; Riehl's Melanosis; Ringed Hair; Ritter's Disease; Rocky Mountain Spotted Fever; Rodent Ulcer; Romberg's Disease; Rosacea; Rosacea-Like Tuberculid

Of Lewandowsky; Roseola Infantum; Rothman-Makai Syndrome; Rothmund-Thomson Syndrome; Rubella; Rubeola; Sarcoid; Sarcoma; Sarcoma, Kaposi's (Aids-Associated); Sarcoma, Kaposi's (Not Aids); Sauriasis; Scabies; Scalded Skin Syndrome; Scar; Scarlet Fever; Schamberg's Disease; Schistosomiasis; Scleredema; Sclerema; Sclerodactyly; Scleroderma; Sclerodermatomyositis; Scleromyxedema; Sclerosing Hemangioma; Sclerosing Lymphangitis; 5 Penis; Sclerosis, Diffuse Systemic; Sclerotherapy; Scratch Marks; Scrofuloderma; Scrotal Tongue; Scurvy; Seabather's Eruption; Sebaceous Adenoma; Sebaceous Cyst; Sebaceous Epithelioma; Sebaceous Gland Carcinoma; Sebaceous Gland Tumors, Benign; Sebaceous Hyperplasia; Sebaceous Nevus; Seborrheic Dermatitis; Seborrheic Keratosis; Secondary Syphilis; Senear-Usher Syndrome; Senile Elastosis; Senile Keratosis; Senile Purpura; Septicemia; Serum Sickness; Sézary 10 Syndrome; Shingles; Sickle Cell Ulcer; Sjögren's Syndrome; Skin Tag; Skin Tests For Allergy; Smallpox; Snake Bites; Sneddon-Wilkinson Subcorneal Pustulosis; Solar Atrophy; Solar Keratosis; Solar Urticaria; South American Blastomycosis; Speigler-Fendt Sarcoid; Spider Bites; Spider Nevi; Spinal Dysraphism; Spindle Cell Nevus; Spiradenoma; Spitz's Juvenile Melanoma; Sporotrichosis; Squamous Cell Carcinoma; Staphylococcal Scalded-Skin Syndrome; Stasis 15 Dermatitis; Steatocystoma Multiplex, Steroid Acne, Steroid Effects, Unclassified; Stevens-Johnson Syndrome; Stings, Insect; Stings, Other Than Insects And Spiders; Stings, Spider; Stomatitis; Stomatitis, Aphthous; Storage Disease, Glycogen; Striae; Stucco Keratosis; Stump Dermatitis; Sturge-Weber Syndrome; Subacute Bacterial Endocarditis; Subcorneal Pustular Dermatitis; Subcutaneous Fat Necrosis; Subepidermal Nodular Fibrosis; Sulzberger-Garbe 20 Disease; Sunburn; Supernumerary Digit; Supernumerary Nipple; Surfer's Nodule; Surgery; Sweat Gland Carcinoma; Sweat Gland Disorders, Unclassified; Sweat Gland Necrosis; Sweat Gland Tumors, Benign; Sweet's Syndrome; Swimmer's Itch; Swimming Pool Granuloma; Sycosis; Symmetric Lividity Of The Soles; Symmetrical Peripheral Gangrene; Syndactyly; Synovial Cyst; Syphilis, Congenital; Syphilis, Primary; Syphilis, Secondary; Syphilis, Tertiary; 25 Syringocystadenoma Papilliferum; Syringoma; Systemic Lupus Erythematosus; Systemic Therapy; Tags, Skin; Tar Melanosis; Tattoo; T-Cell Disorders; Teaching Slides; Teeth Abnormalities, Unclassified; Telangiectasia; Telangiectasia Macularis Eruptiva Perstans; Telangiectasia, Hereditary Hemorrhagic; Telogen Effluvium; Temporal Arteritis and other such 30 like diseases and maladies now known and unknown.

Without doubt the invention disclosed herein served many well and long felt needs and

concerns among the public and health care professionals.

Objects of the Invention

In view of the foregoing, it is therefore an object of the invention to provide a detection device for skin cancer and other diseases of the skin.

- 5 It is a further objective of the invention to provide a detection device for skin cancer and other maladies of the skin that is neither invasive nor destructive to the tissue being examined.

A further object of a preferred embodiment of the invention is to provide a device that may be used as a mirror for anyone wishing to view his/her body but have been unable to do so, such as in gym facilities, homes, physician's offices, and other health care facilities.

- 10 A further object of a preferred embodiment of the invention is to provide detection means that does not involve biopsy or contact with the skin.

Another object of a preferred embodiment of the invention is to provide detection means that does not have side effects on the skin.

- 15 A further object of a preferred embodiment of the invention is to provide a means for remote viewing of patients for telemedical diagnostic means, such as in prison facilities, remote locations or other areas that are similarly deficient in highly qualified or experts in a medical field.

A further object of a preferred embodiment of the invention is to provide a cost-effective device.

- 20 Another object of a preferred embodiment of the invention is to provide a device that may be easy to employ.

A further object of a preferred embodiment of the invention is to provide a device that may be assembled with minimal professional carpenter assistance.

A further object of a preferred embodiment of the invention is to provide a device that may be easily transportable.

Another object of a preferred embodiment of the invention is to provide a device that is capable of being used in a system for reducing maladies of the skin

A further object of a preferred embodiment of the invention is to provide a device that allows for automated acquisition of human physiological characteristics.

5 A further object of a preferred embodiment of the invention is to provide a device that allows for melanoma and skin cancer screening.

A further object of a preferred embodiment of the invention is to provide a device that allows for POSI score calculation.

10 A further object of a preferred embodiment of the invention is to provide a device that allows for hair loss and/or growth evaluation(s).

A further object of a preferred embodiment of the invention is to provide a device that allows for wound healing evaluations.

A further object of a preferred embodiment of the invention is to provide a device that allows for remote diagnostic evaluations.

15 A further object of a preferred embodiment of the invention is to provide a device that allows for viewing and analysis of cosmetic surgery applications.

A further object of a preferred embodiment of the invention is to provide a device that allows for beauty evaluations.

20 A further object of a preferred embodiment of the invention is to provide a device that allows for body morphology analysis.

A further object of a preferred embodiment of the invention is to provide a device that allows for viewing and analysis of soft tissue augmentation.

A further object of a preferred embodiment of the invention is to provide health care professionals with a device that will make doctor-patient interface time more efficient.

Another object of a preferred embodiment of the invention is to provide a device capable of allowing health care professional(s), doctor(s), nutritionist(s), physical trainer(s) and individual person(s) the ability to view, monitor, evaluate and render decisions based upon that which is captured, viewed and or compared to prior analysis utilizing the device as disclosed herein.

5 A further object of a preferred embodiment of the invention is to provide a device that may reduce patient time spent in a health care professional's, doctor's, nutritionist's, physical trainer's facility where said individual may review an his/her health, etc.

A further object of a preferred embodiment of the invention is to provide a device that may reduce the related costs associated with an analysis as described herein.

10 Another object of a preferred embodiment of the invention is to provide a device that may reduce the cost to insurance programs reimbursing applicable healthcare and related professions for their time and effort associated with the rendering of care to such an insured individual.

Another object of a preferred embodiment of the invention is to improve the quality of life.

15 Another object of the present device disclosed herein is to allow for a better and more efficient rendering of any of a variety of forms of health care where visualization of the human body, including parts thereof, is required.

The preferred embodiments of the invention thus provides a device for the identification, diagnosis and subsequent treatment of maladies of the skin that is time and cost efficient and effective with no side effects.

20 Having thus described the invention, it will be apparent to those of skill in the art that modifications can be made within the scope of the invention without departing from the scope or breath of that which is intended and disclosed herein.

Brief Description of the Drawings

25 Figure 1 (FIG 1) depicts a horizontal cross-section of an imaging system in accordance with the present invention.

Figure 2 (FIG 2) depicts a vertical panel of an imaging device in accordance with the

present invention.

Figure 3 (FIG 3) depicts a horizontal cross section of an alternate embodiment of an imaging system in accordance with the present invention utilizing a circular periphery.

Figure 4 (FIG 4) depicts an exemplary imaging device, e.g., camera, and actuation means.

5 Figure 5 (FIG 5) is a schematic of a complete imaging system in accordance with the present invention.

Detailed Description of the Preferred Embodiment

10 This invention teaches a TIP device that provides non-occluded images by employing an array of imaging devices and thereafter combining individual images to form a continuous image. It has been heretofore contemplated that the device could find use as an aid in screening and diagnosis of conditions of soft tissue, hair and nails. Furthermore, it could also find use as a beauty aid to consult those considering cosmetic surgery or changes in personal appearance.

15 Thus, the following detailed description, read with the above-described drawings will serve to explain various preferred embodiments and components of the present invention.

20 FIG 1 depicts a horizontal cross section of an embodiment of the TIP system 100 in accordance with the present invention. The system may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be sized such that the person could easily stand at the center 108 of the device 100 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would fit comfortably at center 108. The system 100 is comprised of several panels 109. In this particular embodiment, fourteen (14) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, an 8-sided polygon was chosen. The shape is arbitrary,
25 however, the only requirement is that the panels are set up in mirrored pairs. Each panel 109 is comprised of an imager array 102, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light,

temperature, chemical information or other information of interest. In this embodiment, we assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 101 are utilized. While fluorescent tubes are the preferred means, any type of illumination can be used, for example, a Wood's lamp may be used.

5 These light sources 101 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 102 is the perimeter wall 103. The perimeter wall can be made of plywood, particle board or any other structural material capable of supporting the structure. In front of the light sources 101 and imager array 102 is shield 107. Shield 107 protects the imager array 102 and light sources 101 from contact with the subject. Standard 1/8" obscured
10 plexiglass can be used as shield 107, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 109, there are dividers 106. Dividers 106 function to provide stability for shield 107, and also, when made opaque, reduce light interference between adjacent imager arrays 102. To effect access and egress, panels 104 function as a doorway. By rotating on hinge 105, panels 104 swing outward, thus allowing access to the interior of system
15 100. A system 100 is also contemplated without doorway 104 that can be used for examining small objects, such as the scalp or hands, for example.

FIG 2 depicts an exemplary panel 200 of a TIP system in accordance with the present invention. Supporting the panel 200, is perimeter wall 207. Perimeter wall 207 can be flat, curved or angled in any fashion to accommodate the desired perimeter shape. Supported by the perimeter
20 wall 207 are imaging arrays 205 and 206 and light sources 202 and 208. While this exemplary panel utilizes dual imaging arrays 205, 206 and light sources 202, 208, the panel may be configured in any fashion utilizing at least one imaging array. Light sources 202, 208 are optional, and depending on the type of imaging done, e.g., chemical, may be unnecessary. However, in the present embodiment, light sources 202 and 208 are taken to be standard fluorescent tubes. They
25 could also be, for example, Wood's lamps. Imaging arrays 205 and 206 comprise a plurality of imaging devices 203. Imaging devices 203 may be a standard or digital camera, or any other type of device capable of capturing the desired information from the subject with the imaging system. Imaging devices 203 are controlled through cables 204. These cables may be used to remotely trigger a mechanical actuator or, as is contemplated herein, act as part of an electronic interface
30 such as USB. Imaging arrays 205 and 206 are depicted herein as vertical arrays of 5 imaging devices 203. In practice, the array can vary greatly. For use in smaller examinations, e.g., the

scalp, it is suggested that less imaging devices 203 would be required to generate a complete image.

FIG 3 depicts a horizontal cross section of an alternate embodiment of an imaging system 300 in accordance with the present invention utilizing a circular periphery. The system 300 may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be sized such that the person could easily stand at the center 308 of the device 300 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would comfortably at center 308. The system 300 is comprised of several panels 309. In this particular embodiment, eight (8) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, a circle was constructed. The shape is arbitrary, however, the only requirement is that the panels are set up in mirrored pairs. Each panel 301 is comprised of an imager array 302, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information. In this embodiment, we assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 303 are utilized. While fluorescent tubes are the preferred means, any type of illumination can be used. These light sources 303 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 302 is the perimeter wall 310. The perimeter wall can be made of plywood, particleboard or any other structural material capable of supporting the structure. In front of the light sources 303 and imager array 302 is shield 309. Shield 309 protects the imager array 302 and light sources 303 from contact with the subject. Standard 1/8" obscured plexiglass can be used as shield 309, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 301, there are dividers 306. Dividers 306 function to provide stability for shield 309, and also, when made opaque, reduce light interference between adjacent imager arrays 302. To effect access and egress, panel 304 functions as a doorway. By rotating on a double-hinge hinge 305 and clearing angled divider 307, panel 304 swings outward, thus allowing access to the interior of system 300. A system 300 is also contemplated without doorway 304 that can be used for examining small objects, such as the scalp or hands, for example.

FIG 4 depicts an exemplary imaging device 400 for use with the present invention. In practice, the imaging device 400 may be a standard or digital camera, or any other type of device capable of capturing the desired information from the subject with the imaging system. For example, devices capable of recording infrared or chemical information could be used. The present embodiment, however, contemplates the use of a digital camera as exemplified by the current figure. Such a device would comprise lens 403, mechanical actuator 402 and control cable 401. Preferably, cable 401 is used to electronically control, and further, download digital image information from imaging device 400. As is contemplated herein, the electronic control could be USB. Alternatively, control cable 401 could be used to trigger mechanical actuator 402. Although the present figure describes a specific imaging device, it should be understood that a wide variety of data collection devices could be employed without departing from the scope of the present invention.

FIG 5 depicts a schematic of a complete image processing system 500 in accordance with the present invention. As discussed above in FIG 1, imaging system 100 may be sized in any fashion to accord with the application. For example, should the system be used to image an entire person, the system will be sized such that the person could easily stand at the center 108 of the device 100 with sufficient comfort. However, if the particular application is for the examination of something smaller, the scalp, for example, the device could be made smaller such that just a person's cranium would fit comfortably at center 108. The system 100 is comprised of several panels 109. In this particular embodiment, fourteen (14) panels are used. The panels are interconnected to form an enclosed structure. In this particular embodiment, an 8-sided polygon was chosen. The shape is arbitrary, however, the only requirement is that the panels are set up in mirrored pairs. Each panel 109 is comprised of an imager array 102, comprising a vertical array of imaging devices. Imaging arrays 507 through 519 can be identical to imager array 102, or may vary in the information they garner in accord with the desired application. The present embodiment, however, contemplates identical imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information. In this embodiment, we assume the use of digital cameras operating in the conventional fashion. Thus, in order to optimize the performance of the cameras, light sources 101 are utilized. Each imaging array may utilize a light source 101 to enhance imaging ability. Furthermore, each of said light sources could have varying characteristics to accord with the

application. While fluorescent tubes are the preferred means, any type of illumination can be used. These light sources 101 can be always on, or, alternatively, only activated when the cameras are operating. Supporting the imager array 102 is the perimeter wall 103. The perimeter wall can be made of plywood, particle board or any other structural material capable of supporting the structure. In front of the light sources 101 and imager arrays 102 and 507-519 is shield 107. Shield 107 protects the imager arrays 102 and 507 through 519 and light sources 101 from contact with the subject. Standard 1/8" obscured plexiglass can be used as shield 107, and furthermore, a shield with variable transmittance is contemplated. In between the plurality of panels 109, there are dividers 106. Dividers 106 function to provide stability for shield 107, and also, when made opaque, reduce light interference between adjacent imager arrays 102 and 507 through 519. To effect access and egress, panels 104 function as a doorway. By rotating on hinge 105, panels 104 swing outward, thus allowing access to the interior of system 100. A system 100 is also contemplated without doorway 104 that can be used for examining small objects, such as the scalp or hands, for example. In order to effect the processing of the multiple images garnered from the plurality of imaging arrays, the imager arrays 102 and 507 through 519 are networked to a single computer 501. The present embodiment contemplates the use of USB to network the arrays 102 and 507 through 519. The imaging devices of arrays 102, 507, 508 and 509 are connected to USB hub 506 via interface cabling 102a, 507a, 508a and 509a, respectively. The imaging devices of arrays 517, 518 and 519 are connected to USB hub 505 via interface cabling 517a, 518a and 519a, respectively. The imaging devices of arrays 514, 515 and 516 connected to USB hub 504 via interface cabling 514a, 515a and 516a, respectively. The imaging devices of arrays 510, 511, 512 and 513 are connected to USB hub 503 via interface cabling 510a, 511a, 512a and 513a, respectively. Hub 506 is connected with hub 503 via cable 520. Hub 505 is connected with hub 504 via cable 521. Hubs 503 and 504 are then connected to hub 502 via cables 522 and 523, respectively. Finally, hub 502, which has the totality of imaging devices of imaging arrays 102 and 507 through 519 connected thereto, is connected to computer 501 via cable 524. The computer 501 is used to process the individual images garnered from each imaging device of each imaging array 102 and 507 through 519 to create a non-occluded image of the subject within system 100, and preferably, at center 108. It should be noted that the arrangement of hubs 506, 505, 504, 503 and 502 and the concomitant cabling presented heretofore is merely exemplary, and anyone with skill in the art will recognize the myriad ways of interconnecting the imaging devices of imaging

arrays 102 and 507 through 519 to computer 501.

5 While the present invention has been described with reference to one or more preferred embodiments, which embodiments have been set forth in considerable detail for the purposes of making a complete disclosure of the invention, such embodiments are merely exemplary and are not intended to be limiting or represent an exhaustive enumeration of all aspects of the invention. The scope of the invention, therefore, shall be defined solely by the following claims. Further, it will be apparent to those of skill in the art that numerous changes may be made in such details without departing from the spirit and the principles of the invention.

Electronic Patent Application Fee Transmittal

Application Number:

Filing Date:

Title of Invention:

Method for Total Immersion Photography

First Named Inventor/Applicant Name:

Rhett Drugge

Filer:

Mark D. Giarratana/Richard Twilley

Attorney Docket Number:

100504.00008

Filed as Small Entity

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	75	75
Utility Search Fee	2111	1	255	255
Utility Examination Fee	2311	1	105	105

Pages:

Claims:

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				435

Electronic Acknowledgement Receipt

EFS ID:	3151975
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Richard Twilley
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	14-APR-2008
Filing Date:	
Time Stamp:	20:54:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$435
RAM confirmation Number	4611
Deposit Account	503569
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	100504_00008_Utility_Transmittal.pdf	283544 9db1952382d47342bcbf4c55a4b805f6af0f9ac9	no	2

Warnings:

Information:

2		100504_00008_Application.pdf	2880513 29742ceff5c891185b31a27edd05d428ab1220ef	yes	35

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	30
Claims	31	34
Abstract	35	35

Warnings:

Information:

3	Drawings-only black and white line drawings	100504_00008_Drawings.pdf	125794 0c9aa08ac5a4d10861713cd18a5914f960417c6c	no	5

Warnings:

Information:

4	Oath or Declaration filed	100504_00008_Oath_Declaration.pdf	384583 75f3d07bd7edaa91eafab073125fc30b246fbf79	no	7

Warnings:

Information:

5	Specification	100504_00008_Sub_Spec_Statement.pdf	38893 2e56dc79d368884111d8f0424a0375e39c56cb1b	no	1

Warnings:

Information:

6	Specification	100504_00008_Sub_Spec_Marked.pdf	2757626 cd6eb8cd7efd911f74911339756b403b96defd45	no	31

Warnings:

Information:

7	Specification	100504_00008_Sub_Spec_Clean.pdf	2757878 6e6555e10a7c1b7db05d61700498340bc5dd4aa1	no	31
Warnings:					
Information:					
8	Fee Worksheet (PTO-06)	fee-info.pdf	8366 019092657b00fb65ef93e419dbdfb395df897fe0	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			9237197		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Rhett Drugge	)	Confirmation No.:	1863
	)		
Serial No.: 12/102,810	)	Group Art Unit:	TBA
	)		
Filing Date: April 14, 2008	)	Docket No.:	100504.00008
	)		
For: Method for Total Immersion Photography	)	Customer No.:	21832

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with 37 C.F.R. § 1.56, the materials listed on the enclosed Form PTO/SB/08 are being brought to the Examiner's attention for consideration in connection with the examination of the patent application reference above.

Pursuant to 37 C.F.R. § 1.98(a)(1), a list of all patents, publications, applications or other information submitted for consideration by the Patent & Trademark Office is set forth and cited on Form PTO/SB/08, which is enclosed herewith. Pursuant to 37 C.F.R. § 1.98(a)(2), legible copies of all foreign patents and publications set forth and cited on Form PTO/SB/08 are enclosed herewith, along with English-language abstracts where required, in compliance with the "concise explanation of the relevance" requirement set forth in 37 C.F.R. § 1.98(a)(3). It is respectfully requested that the Examiner indicate his or her consideration of the cited references by returning a copy of the enclosed Form PTO/SB/08, with initials or other appropriate marks.

In accordance with 37 C.F.R. § 1.97, the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made, or an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in

37 C.F.R. § 1.56(b). The filing of this Information Disclosure Statement shall also not be construed as an admission that the information cited on the enclosed Form PTO/SB/08 is, or is considered to be, prior art.

Because this Information Disclosure Statement is being filed prior to the mailing date of a first Office Action, no fee is believed to be required. However, if any fee is required, or is otherwise necessary to cover any deficiency in fees already paid, authorization is hereby given to charge our Deposit Account No. 50-3569.

Dated: April 14, 2008

Respectfully submitted

/ Mark D. Giarratana /
Mark D. Giarratana (Reg. No. 32,615)
Attorney for Applicants

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2**Complete if Known**

Application Number	TBA
Filing Date	04/14/2008
First Named Inventor	Drugge, Rhett
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	100504.00008

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	01	US- 6,339,216	01-15-2002	Wake	
	02	US- 5,261,404	11-16-2003	Mick et al.	
	03	US- 7,092,014	08-15-2006	Li et al.	
	04	US- 6,556,858	04-29-2003	Zeman	
	05	US- 6,597,941	07-22-2003	Fontenot et al.	
	06	US- 6,397,091	05-28-2002	Diab et al.	
	07	US- 6,011,986	01-04-2000	Diab et al.	
	08	US- 5,879,306	03-09-1999	Fontenot et al.	
	09	US- 5,865,829	02-02-1999	Kitajima	
	10	US- 5,797,845	08-25-1998	Barabash et al.	
	11	US- 5,782,762	07-21-1998	Vining	
	12	US- 6,083,162	07-04-2000	Vining	
	13	US- 6,236,875	05-22-2001	Bucholz et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	TBA
Filing Date	04/14/2008
First Named Inventor	Drugge, Rhett
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	100504.00008

Sheet 2 of 2

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²

Examiner
SignatureDate
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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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Electronic Acknowledgement Receipt

EFS ID:	3152002
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Richard Twilley
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	14-APR-2008
Filing Date:	
Time Stamp:	21:03:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement Letter	100504_00008_idsletter.pdf	97584 725b20edcb05e60610de3966ff152c5b a0b6cfe1	no	2

Warnings:

Information:

2	Information Disclosure Statement (IDS) Filed	ids.pdf	219458 e51e14ea973b12d6ac2b4110dcf95921 53c9ffd3	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
Total Files Size (in bytes):				317042	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

04/14/2008

PTO/SB/06 (12-04)

Approved for use through 7/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number

12/102,810**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	15	*
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	*
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE (\$)	FEE (\$)
N/A	75
N/A	255
N/A	105
X 25=	
X 105=	
N/A	
TOTAL	435

RATE (\$)	FEE (\$)
N/A	
N/A	
N/A	
X 50=	
X 200=	
N/A	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL	
ADD'T FEE	

RATE (\$)	ADDITIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL	
ADD'T FEE	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL	
ADD'T FEE	

OR

RATE (\$)	ADDITIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL	
ADD'T FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/102,810	04/14/2008	1618	435	100504.00008	15	1

CONFIRMATION NO. 1863

21832
MCCARTER & ENGLISH LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

FILING RECEIPT



OC000000029682402

Date Mailed: 05/05/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Rhett Drugge, Stamford, CT;

Power of Attorney: The patent practitioners associated with Customer Number 21832

Domestic Priority data as claimed by applicant

This application is a DIV of 09/625,712 07/26/2000 PAT 7,359,748

Foreign Applications

If Required, Foreign Filing License Granted: 04/30/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/102,810**

Projected Publication Date: 08/14/2008

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Method for Total Immersion Photography

Preliminary Class

424

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

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No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/102,810	04/14/2008	Rhett Drugge	100504.00008

CONFIRMATION NO. 1863

PUBLICATION NOTICE



OC000000031573446

21832
MCCARTER & ENGLISH LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

Title:Method for Total Immersion Photography

Publication No.US-2008-0194968-A1

Publication Date:08/14/2008

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 12/16/2010
MCCARTER & ENGLISH, LLP HARTFORD
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

RAMIREZ, JOHN FERNANDO

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

12/16/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner JOHN F. RAMIREZ	Art Unit 3777	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____.
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)	5) ☐ Notice of Informal Patent Application
Paper No(s)/Mail Date <u>4/14/08</u> .	6) ☐ Other: ____.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 11-14, 16-21 and 22 of U.S. Patent No. 7,359,748. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the current pending application are anticipated by the claims in the cited US patent (example below):

Application (12/102,810) claim 1 requires:

Claim 1. A method for identifying maladies that effect human tissue, the method comprising the following steps: positioning a person or portion thereof at a specified imaging position within an enclosure and located a predetermined distance relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other; illuminating the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light therefrom; generating an image of the illuminated person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices; and measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position

and a focal length of the respective imaging device.

While patent (7,359,748) claim 1 requires:

Claim 1. A device for the identification of maladies that effect human tissue comprising: an enclosure configured to receive a person or portion thereof for imaging the person or portion thereof, wherein the enclosure defines a specified imaging position for placing the person or portion thereof within the enclosure for imaging, and the specified imaging position defines a centerline; a plurality of imaging devices, wherein a plurality of the imaging devices are vertically spaced relative to each other, a plurality of the imaging devices are laterally spaced relative to each other, a plurality of the imaging devices are located on opposite sides of the centerline of the specified imaging position relative to each other, and each imaging device is located a predetermined distance relative to the specified imaging position; and a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices that illuminate the person or portion thereof located at the specified imaging position and generate refraction and reflectance light therefrom; wherein each of said imaging devices generates an image of the illuminated person or portion thereof located at the specified imaging position, and defines respective coordinates and said respective predetermined distance relative to the specified imaging position, and defines a respective focal length and resolution information, allowing precise measurement of imaged features of the person or portion thereof located at the specified imaging

Art Unit: 3777

position.

The following shows the claim anticipation analysis:

<u>Claims of Patent</u> <u>US 7,359,748</u>	<u>Anticipate claims of US</u> <u>Application 12/102,810</u>
1, 51, 53	1-3
2, 52	4
3	5
4	6
5, 54	7
6, 55	8
7, 56	9
11	10
8	11
9, 12-14, 57-59	12
16-21, 62-66, 68	13
22	14

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN F. RAMIREZ whose telephone number is (571)272-8685. The examiner can normally be reached on (Mon-Fri) 7:00 - 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chen Robert can be reached on (571) 272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. F. R./
Examiner, Art Unit 3777

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777

<i>Index of Claims</i> *1210281 0*	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	12/09/2010							
	1	✓							
	2	✓							
	3	✓							
	4	✓							
	5	✓							
	6	✓							
	7	✓							
	8	✓							
	9	✓							
	10	✓							
	11	✓							
	12	✓							
	13	✓							
	14	✓							
	15	✓							

Search Notes *1210281 0*	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

SEARCHED			
Class	Subclass	Date	Examiner
600	476,407,477,478,479,480	12/9/2010	JFR
250	317.1-345	12/10/2010	JFR
600	587	12/10/2010	JFR
700	90	12/10/2010	JFR
332	117	12/10/2010	JFR

SEARCH NOTES		
Search Notes	Date	Examiner
East search	12/10/2010	JFR
backward/forward citations	12/9/2010	JFR
inventor's name search	12/10/2010	JFR

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner



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CONFIRMATION NO. 1863

SERIAL NUMBER 12/102,810	FILING or 371(c) DATE 04/14/2008 RULE	CLASS 600	GROUP ART UNIT 3777	ATTORNEY DOCKET NO. 100504.00008	
APPLICANTS Rhett Drugge, Stamford, CT; ** CONTINUING DATA ***** This application is a DIV of 09/625,712 07/26/2000 PAT 7,359,748 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 04/30/2008					
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☐ No Verified and /JOHN FERNANDO RAMIREZ/ Acknowledged Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY CT	SHEETS DRAWINGS 5	TOTAL CLAIMS 15	INDEPENDENT CLAIMS 1
ADDRESS MCCARTER & ENGLISH, LLP HARTFORD CITYPLACE I 185 ASYLUM STREET HARTFORD, CT 06103 UNITED STATES					
TITLE Method for Total Immersion Photography					
FILING FEE RECEIVED 435	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

PTO/SB/08A (01-08)

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number	TBA
Filing Date	04/14/2008
First Named Inventor	Drugge, Rhett
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	100504.00008

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	01	US- 6,339,216	01-15-2002	Wake	
	02	US- 5,261,404	11-16-2003	Mick et al.	
	03	US- 7,092,014	08-15-2006	Li et al.	
	04	US- 6,556,858	04-29-2003	Zeman	
	05	US- 6,597,941	07-22-2003	Fontenot et al.	
	06	US- 6,397,091	05-28-2002	Diab et al.	
	07	US- 6,011,986	01-04-2000	Diab et al.	
	08	US- 5,879,306	03-09-1999	Fontenot et al.	
	09	US- 5,865,829	02-02-1999	Kitajima	
	10	US- 5,797,845	08-25-1998	Barabash et al.	
	11	US- 5,782,762	07-21-1998	Vining	
	12	US- 6,083,162	07-04-2000	Vining	
	13	US- 6,236,875	05-22-2001	Bucholz et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

Examiner
Signature

/John Ramirez/ (12/09/2010)

Date

Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	TBA
		Filing Date	04/14/2008
		First Named Inventor	Drugge, Rhett
		Art Unit	TBA
		Examiner Name	TBA
Sheet 2	of 2	Attorney Docket Number	100504.00008

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²

Examiner Signature	/John Ramirez/ (12/09/2010)	Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	2	((RHETT) near2 (DRUGGE)).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/09 13:00
S2	5718	600/476,407,477,478,479,480.CCLS.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/09 15:02
S3	9	("5261404" "5865829" "5879306" "6011986" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/09 15:04
S4	27525	600/407-480.ccls.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:17
S5	1213	dichroic and (filter mirror).ti.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:19
S6	45	S4 and fluorescence with (infrared) with reflectance	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:21
S7	18	S4 and fluorescence with (infrared) with reflectance with imaging	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:21
S8	1451	700/90.ccls.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:32
S9	365	332/117.ccls.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:33
S10	17857	250/317.1-345.ccls.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:33
S11	2013	600/587.ccls.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:33
S12	29357	378/37-195.ccls.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:34

S13	77138	S4 S8 S9 S10 S11 S12	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 09:35
S14	133	S13 and stress\$ with (tissue skin dermat\$) with (imaging image)	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 10:04
S15	156	((stress stressed) with (tissue skin dermat \$) with (imaging image)) and "600"/\$.ccls.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 10:05
S16	28	"imaging skin" and (stressed or stretched)	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 10:13
S17	6	"confocal imaging" and "stressed skin"	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 10:13
S18	1	"7359748".pn.	US-PGPUB; USPAT; USOCR; JPO	OR	ON	2010/12/10 11:31

12/ 10/ 2010 1:07:35 PM

C:\ Documents and Settings\ jramirez\ My Documents\ EAST\ Workspaces\ 12102810.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	)	Examiner: Ramirez, John Fernando
	)	
Serial No.: 12/102,810	)	Confirmation No.: 1863
	)	
Filing Date: April 14, 2008	)	Group Art Unit: 3777
	)	
For: Method for Total Immersion Photography	)	Docket No.: 100504.00008

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-FINAL OFFICIAL ACTION MAILED DECEMBER 16, 2010

Dear Sir:

This submission is in response to the non-final Office Action mailed December 16, 2010 pursuant to 37 C.F.R. § 1.111.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 5.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that ~~effect~~affect human tissue, the method comprising the following steps:

positioning a person or portion thereof at a specified imaging position within an enclosure and located a predetermined distance relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other;

illuminating the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light therefrom;

generating an image of the illuminated person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices; and

measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Original) A method as defined in claim 1, further comprising the step of providing a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Original) A method as defined in claim 1, further comprising the step of providing the plurality of light sources located amongst the plurality of imaging devices.

5. (Original) A method as defined in claim 4, further comprising the step of providing at least two light sources located lateral to at least two imaging devices.

6. (Original) A method as defined in claim 1, further comprising the step of providing the at least two light sources positioned substantially symmetrically relative to the center line of the specified imaging position.

7. (Original) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Original) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Original) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Original) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis.

11. (Original) A method as defined in claim 10, further comprising the step of providing the panels with at least one imaging means.

12. (Original) A method as defined in claim 1, further comprising the steps of capturing with the plurality of imaging devices at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

13. (Original) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources adequate illumination for the plurality of imaging devices to function in at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

14. (Original) A method as defined in claim 10, further comprising the steps of constructing the panels of a material capable of allowing adequate illumination to pass through the panels to illuminate the person or portion thereof.

15. (Original) A method as defined in claim 1, further comprising the steps of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

REMARKS

This submission is in response to the non-final Office Action mailed December 16, 2010. Claims 1-15 are pending in this application and stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 11-14, 16-22 of U.S. Patent No. 7,359,748. Applicant files herewith a terminal disclaimer pursuant to 37 C.F.R. § 1.321(c) signed by the undersigned attorney of record. Accordingly, Applicant requests withdrawal of the rejection.

In addition, claim 1 has also been amended to correct an obvious typographical error. No new matter has been added.

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited. If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

Date: January 27, 2011

By: /Kevin L. Reiner/
Kevin L. Reiner (Reg. No. 43,040)
Attorney for Applicant

PTO Correspondence Address:

McCarter & English, LLP
CityPlace I
185 Asylum Street
Hartford, CT 06103
Phone: (860) 275-6756
Fax: (860) 724-3397

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**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**Docket Number (Optional)
100504.00008

In re Application of: Rhett Drugge

Application No.: 12/102,810

Filed: April 14, 2008

For: Method for Total Immersion Photography

The owner*, Rhett Drugge, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term **prior patent** No. 7,359,748 as the term of said prior patent is defined in 35 U.S.C. 154 and 173, and as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 43,040

/Kevin L. Reiner/
Signature

January 27, 2011
Date

Kevin L. Reiner
Typed or printed name

860-275-6756
Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana/Gail Pajer			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Statutory or terminal disclaimer	2814	1	70	70
Total in USD (\$)				70

Electronic Acknowledgement Receipt

EFS ID:	9320952
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Gail Pajer
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	27-JAN-2011
Filing Date:	14-APR-2008
Time Stamp:	15:24:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$70
RAM confirmation Number	1648
Deposit Account	503569
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part (if appl.)	Pages (if appl.)

1		10050400008ROA.pdf	32557 07a4292fde5984a623d698defbaab0424f8bc91d	yes	6				
	Multipart Description/PDF files in .zip description								
	Document Description		Start	End					
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1					
	Claims		2	4					
	Applicant Arguments/Remarks Made in an Amendment		5	6					
Warnings:									
Information:									
2	Terminal Disclaimer Filed	10050400008TermDisc.pdf	52324 7803db94fb3d907503298d36a535c84505f4aee7	no	1				
Warnings:									
Information:									
3	Fee Worksheet (PTO-875)	fee-info.pdf	29592 8e2b863274294c16f95009464db078adc42265f6	no	2				
Warnings:									
Information:									
Total Files Size (in bytes):			114473						
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.									

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/102,810		Filing Date 04/14/2008		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☒ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=	OR	X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
			TOTAL			TOTAL				
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	01/27/2011	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0	X \$26 =	0	OR	X \$	=
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0	X \$110 =	0	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/CURTIS NELLOMS JR/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Application Number 	Application/Control No. 12/102,810	Applicant(s)/Patent under Reexamination DRUGGE, RHETT	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 27 JAN 2011	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
JAB



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 05/10/2011
MCCARTER & ENGLISH, LLP HARTFORD
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

REARDON, ROCHELLE D

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

05/10/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE REARDON	Art Unit 3777	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)	5) ☐ Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6, 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recites the limitation "the center line" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 13 and 14, the term "adequate" is not defined in the specification in such a way as to provide an objective standard, and is considered to depend solely on a subjective opinion and is therefore indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 12, 13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Chance (6,272,367).

Regarding claims 1, 4 and 5, Chance discloses a method for identifying maladies that affect human tissue, the method comprising the following steps: positioning a

Art Unit: 3777

portion of a patient thereof at a specified imaging position within an enclosure (skull cap), and wherein located a predetermined distance relative to each of a plurality of imaging devices (detectors) that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other does not set forth an active step in the method (fig.3a; claim 34); illuminating the portion of the patient thereof located at the specified imaging position and generating refraction and reflectance light therefrom, wherein with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices does not set forth an active step in the method (col.6, ll.19-26); generating an image of the illuminated portion of a person located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.13, ll.63-66); and measuring one or more imaged features of the portion of the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.9, ll.19-38).

Regarding claim 2, Chance discloses measuring based on the coordinates and resolution information of the respective imaging device (col.3, ll.17-20; col.16, ll.12-23).

Regarding claim 3, Chance discloses providing a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 6, Chance discloses providing the at least two light sources positioned substantially symmetrically relative to the center line of the specified imaging position (fig.2).

Regarding claims 12 and 13, Chance discloses capturing with the plurality of imaging devices at least one of light in the humanly perceivable light spectrum, the use of “perceivable” does not limit the light to be visible and could be interpreted as any wavelength in the light spectrum, and infrared emissions (col.6, ll.19-22).

Regarding claim 15, Chance discloses scanning the surface of the imaged objects synchronously and asynchronously (col.7, ll.23-28).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Chance et al (5,853,370).

Regarding 10, 11 and 14, Chance discloses the step of enclosing the portion of a person thereof throughout a radius about 360 degrees about a vertical axis (skull cap, col.14, ll.19-21), but fail to disclose enclosing a portion of the patient with panels of material with at least one imaging means.

However, Chance et al teach in the same medical field of endeavor, the use of a helmet having panels made of a material capable of allowing adequate illumination to pass through the panels to illuminate the portion thereof (fig.7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap of Chance with the helmet having panels capable of allowing adequate illumination of Chance et al as it was known in the art to do so to provide medical imaging of the brain.

Regarding claims 7-9, Chance discloses the use of an imaging array, but fails to disclose a first, second, third, and forth imaging array spaced a predetermined distance from the imaging position.

However, Chance et al teach in the same medical field of endeavor, providing a first, second, third and fourth imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the imaging arrays include a plurality of imaging devices vertically spaced relative to each other; wherein the second imaging array is laterally spaced adjacent to the first imaging array on an opposite side of the centerline; wherein the third imaging array is laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array; and wherein the fourth imaging array is laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array (fig.7, 7a, 7b; abstract; col.9, ll.29-37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap having an imaging array of Chance with the helmet

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having a first, second, third and fourth imaging array spaced relative to each other of Chance et al as it is well known in the art to do so to provide a full head scan of a patient.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE REARDON whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE REARDON/
Examiner, Art Unit 3777

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777

Notice of References Cited	Application/Control No. 12/102,810		Applicant(s)/Patent Under Reexamination DRUGGE, RHETT	
	Examiner ROCHELLE REARDON		Art Unit 3777	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,272,367	08-2001	Chance, Britton	600/407
*	B	US-5,853,370	12-1998	Chance et al.	600/473
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant				☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE							
Final	Original	12/09/2010	05/03/2011						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

SEARCHED			
Class	Subclass	Date	Examiner
600	473,476	05/03/11	RDR

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	05/03/11	RDR

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:15
S2	1	"12102810"	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:16
S3	2357	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:22
S4	524	S3 and breast	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:22
S5	9	("5261404" "5865829" "5879306" "6011986" "6339216" "6397091" "6556858" "6597941" "7092014").PN. OR ("7359748").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 13:20
S6	1	"5664570".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 12:20
S7	2358	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:10

S8	5	S7 and skull adj cap	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:10
S9	0	S7 and skull adj cover	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:11
S10	8	S7 and (skull brain head) adj (cover cap)	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:11
S11	78	S7 and (skull brain head) adj (imag \$3)	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:12

EAST Search History (I nterference)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Reardon
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-FINAL OFFICE ACTION

Dear Sir:

This submission is made pursuant to 37 C.F.R. § 1.111 in response to the outstanding non-final Office Action mailed.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 5.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that affect human tissue, the method comprising the following steps:

positioning a person or portion thereof at a specified imaging position within an enclosure and located a predetermined distance relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other;

illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light ~~therefrom~~ off of the illuminated external surface;

generating an image of the illuminated external surface of the person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices; and

measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Currently Amended) A method as defined in claim 1, further comprising ~~the step of providing~~ generating an image of the illuminated external surface with a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Currently Amended) A method as defined in claim 1, further comprising ~~the step of providing the~~ illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Currently Amended) A method as defined in claim 4, further comprising ~~the step of~~ providing illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Currently Amended) A method as defined in claim 1, further comprising ~~the step of~~ providing illuminating the external surface with the at least two light sources positioned substantially symmetrically relative to ~~the~~ a center line of the specified imaging position.

7. (Original) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Original) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Original) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging

arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Original) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis.

11. (Currently Amended) A method as defined in claim 10, ~~further comprising the step of providing wherein~~ the panels ~~[[with]]~~ include at least one imaging means.

12. (Original) A method as defined in claim 1, further comprising the steps of capturing with the plurality of imaging devices at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

13. (Currently Amended) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources ~~adequate an amount of~~ illumination for the plurality of imaging devices to function in at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

14. (Currently Amended) A method as defined in claim 10, ~~further comprising the steps of constructing wherein~~ the panels ~~[[of]]~~ include a material capable of allowing ~~adequate an amount of illumination~~ to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Original) A method as defined in claim 1, further comprising the steps of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (New) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

REMARKS

This submission is in response to the outstanding non-final Office Action. Claims 1-15 are pending in this application and stand rejected. Claims 1, 3-6, 11, 13 and 14 have been amended, new claim 16 has been added, and therefore claims 1-16 are pending in this application. Reconsideration of the application pursuant to 37 C.F.R. § 1.112 is respectfully requested.

Claim Rejections - 35 U.S.C. § 112

The Examiner rejects claims 6, 13 and 14 under 35 U.S.C. § 112, second paragraph, as being indefinite.

Turning to claim 6, the phrase “the center line” has been amended to “a center line.” Applicant submits that this addresses the Examiner’s antecedent basis issue.

For claims 13 and 14, the term “adequate” has been amended to read “an amount of” to address the Examiner’s objective standard issue.

Accordingly, it is respectfully submitted that the grounds for rejection under § 112 have been obviated.

Amendments to Claim 1

Applicant amended independent claim 1 to recite, in part, that an external surface of the person or portion is illuminated, the refraction and reflectance light is generated off of the illuminated external surface, and the image is generated of the illuminated external surface of the person or portion thereof. Support for this amendment can be found, for example, at paragraph [0013] of the published application and elsewhere in the specification.

Claim Rejections - Prior Art

The Examiner rejects claims 1-6, 12, 13 and 15 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,272,367 to Chance (hereinafter the "Chance '367 Patent"). Applicant respectfully traverses.

The Chance '367 Patent generally relates to a spectroscopic system for examining biological tissue. In particular, the spectroscopic system of the Chance '367 Patent includes an electromagnetic radiation of a pattern of photon density and of a wavelength selected to be scattered and absorbed while migrating in a subject. See the Chance '367 Patent, Col. 2, lines 6-20. A detector is provided for detecting the scattered and absorbed light that has migrated through the examined tissue. See the Chance '367 Patent, Col. 7, lines 4-6. The detected phase shifts and intensities from the phase detector are stored and used to construct an image of internal structures of the tissue of the subject, not an external surface of the person or portion thereof as recited in amended independent claim 1. See the Chance '367 Patent, Col. 9, lines 32-38.

The scattered and absorbed light in the Chance '367 Patent migrates in a subject and through the examined tissue, and therefore the Chance '367 Patent teaches away from illuminating an external surface of a person or portion thereof, as recited in amended independent claim 1.

Accordingly, Applicant respectfully submits that the Chance '367 Patent fails to disclose, teach, or suggest at least the following features of amended independent claim 1: "illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light off of the illuminated external surface; [and] generating an image of the illuminated external surface of the person or portion thereof

located at the specified imaging position with each of a plurality of the imaging devices.”
(Emphasis added).

The intended purpose of the spectroscopic system of the Chance ‘367 Patent is to examine the internal structures of biological tissues using radiation. If the spectroscopic system of the Chance ‘367 Patent were modified so as to illuminate the external surface of a person, as recited in amended independent claim 1, the spectroscopic system would be incapable of examining the internal structures of biological tissues. Therefore, such modification would render the spectroscopic system of Chance ‘367 inoperable for its intended purpose. Accordingly, there is no suggestion or motivation to modify the Chance ‘367 Patent to arrive at the present invention, as recited in amended independent claim 1.

Claims 2-6, 12, 13, and 15 depend from amended independent claim 1 and, as such, include all of the features of amended independent claim 1. Accordingly, Applicant respectfully submits that the Chance ‘367 Patent fails to disclose, teach or suggest each and every feature of claims 2-6, 12, 13, and 15 for at least the reasons set forth above in connection with amended independent claim 1, and for reciting additional patent subject matter.

The Examiner rejects claims 7-11 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the Chance ‘367 Patent in view of U.S. Patent No. 5,853,370 to Chance (hereinafter the “Chance ‘370 Patent”).

The Chance ‘370 Patent was only cited for its apparent disclosure of a helmet having panels made of a material capable of allowing illumination, and a plurality of imaging arrays. The Chance ‘370 Patent is not believed to be relevant to the patentability of the method for identifying maladies recited in amended independent claim 1, and there is no basis for arriving at

Applicant's claimed invention based on the proposed combination of the Chance '370 Patent and the Chance '367 Patent.

In view of the foregoing circumstances, even if the references were combined, the resulting combination would not result in the present invention, as recited in amended independent claim 1. For instance, the cited references do not disclose or suggest, *inter alia*, the following steps recited in amended independent claim 1: "illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light off of the illuminated external surface; [and] generating an image of the illuminated external surface of the person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices." (Emphasis added).

Accordingly, amended independent claim 1 is believed to be in condition for allowance along with dependent claims 7-11 and 14.

Conclusion

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

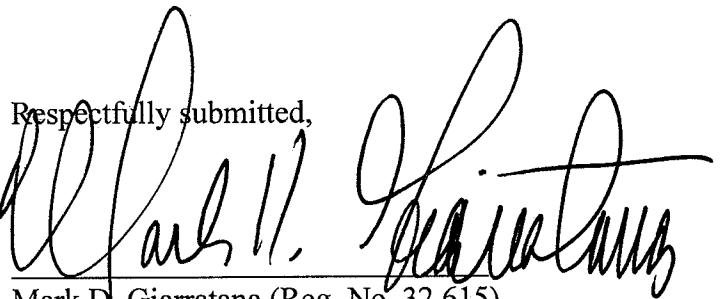
If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a

petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to
Deposit Account No. 50-3569.

Date: September 12, 2011

By:

Respectfully submitted,


Mark D. Giarratana (Reg. No. 32,615)
Attorney for Applicant

PTO Correspondence Address:

McCarter & English, LLP
CityPlace I
185 Asylum Street
Hartford, CT 06103
Phone: (860) 275-6719
Fax: (860) 724-3397

Electronic Acknowledgement Receipt

EFS ID:	10930982
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/joy whitney
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	12-SEP-2011
Filing Date:	14-APR-2008
Time Stamp:	19:42:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment Copy Claims/Response to Suggested Claims	100504_00008_ROA.pdf	388180 7835929c5e6bc60f0355bb33c7e3b24aa0baf0b1	no	9

Warnings:

Information:

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/102,810		Filing Date 04/14/2008		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☒ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)			
☒ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=	OR	X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.					TOTAL	75	TOTAL			
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	09/12/2011	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 16	Minus	** 20	= 0	X \$26 =	0	OR	X \$	=
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0	X \$110 =	0	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/FELICIA ALLEN-JENKINS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 11/29/2011
MCCARTER & ENGLISH, LLP HARTFORD
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

REARDON, ROCHELLE D

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

11/29/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE REARDON	Art Unit 3777	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-16 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-16 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____.	6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 12, 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827).

Regarding claims 1, 4, 5 and 16, Chance discloses a method for identifying maladies that affect human tissue, the method comprising the following steps: positioning a portion of a patient thereof at a specified imaging position within an enclosure(skull cap), and wherein located a predetermined distance relative to each of a plurality of imaging devices (detectors) that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other does not set forth an active step in the method (fig.3a; claim 34); illuminating the portion of the patient thereof located at the specified imaging position and generating refraction and reflectance light therefrom, wherein with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices does not set forth an active step in the method (col.6, ll.19-26); generating an image of the illuminated portion of a person located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.13, ll.63-66); and measuring one or more imaged features of the portion of

Art Unit: 3777

the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.9, ll.19-38), but fail to disclose wherein an external surface of a subject is illuminated.

However, Zavislan et al disclose imaging areas on the surface of the skin ([0039]) and that it is known to allow the operator to adjust the depth of the tissue being imaged ([0023]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Chance with imaging the surface of the skin as it was well known in the art to provide operator adjustment of imaging depths to image a desired target.

Regarding claim 2, Chance discloses measuring based on the coordinates and resolution information of the respective imaging device (col.3, ll.17-20; col.16, ll.12-23).

Regarding claim 3, Chance discloses providing a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 6, Chance discloses providing the at least two light sources positioned substantially symmetrically relative to the center line of the specified imaging position (fig.2).

Regarding claims 12 and 13, Chance discloses capturing with the plurality of imaging devices at least one of light in the humanly perceivable light spectrum, the use

Art Unit: 3777

of “perceivable” does not limit the light to be visible and could be interpreted as any wavelength in the light spectrum, and infrared emissions (col.6, ll.19-22).

Regarding claim 15, Chance discloses scanning the surface of the imaged objects synchronously and asynchronously (col.7, ll.23-28).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827) as applied to claim 1 above, and further in view of Chance et al (5,853,370).

Regarding 10, 11 and 14, Chance discloses the step of enclosing the portion of a person thereof throughout a radius about 360 degrees about a vertical axis (skull cap, col.14, ll.19-21). Chance as modified by Zavislan et al fail to disclose enclosing a portion of the patient with panels of material with at least one imaging means.

However, Chance et al teach in the same medical field of endeavor, the use of a helmet having panels made of a material capable of allowing adequate illumination to pass through the panels to illuminate the portion thereof (fig.7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap of Chance as modified by Zavislan et al with the helmet

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having panels capable of allowing adequate illumination of Chance et al as it was known in the art to do so to provide medical imaging of the brain.

Regarding claims 7-9, Chance discloses the use of an imaging array, but fails to disclose a first, second, third, and forth imaging array spaced a predetermined distance from the imaging position.

However, Chance et al teach in the same medical field of endeavor, providing a first, second, third and fourth imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the imaging arrays include a plurality of imaging devices vertically spaced relative to each other; wherein the second imaging array is laterally spaced adjacent to the first imaging array on an opposite side of the centerline; wherein the third imaging array is laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array; and wherein the fourth imaging array is laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array (fig.7, 7a, 7b; abstract; col.9, ll.29-37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap having an imaging array of Chance with the helmet having a first, second, third and fourth imaging array spaced relative to each other of Chance et al as it is well known in the art to do so to provide a full head scan of a patient.

Response to Arguments

5. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE REARDON whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE REARDON/
Examiner, Art Unit 3777

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777

Notice of References Cited	Application/Control No. 12/102,810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT	
	Examiner ROCHELLE REARDON	Art Unit 3777	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2004/0092827	05-2004	Zavislan et al.	600/476
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	11/23/11	RDR

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"6272367".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:29
L3	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:32
L4	9	L3 and skin	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:32
L5	2507	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:33
L6	414	L5 and imag\$3 with skin	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:33
L7	166	L5 and imag\$3 with skin with surface	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:34
L8	135	L5 and imag\$3 near10 skin near10 surface	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:34
L9	14	L5 and imag\$3 near10 skin near10 surface and adjust \$4 with depth	US-PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:35

EAST Search History (Interference)

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 \ 12102810.wsp**

<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	12/09/2010	05/03/2011	11/23/2011					
	1	✓	✓	✓					
	2	✓	✓	✓					
	3	✓	✓	✓					
	4	✓	✓	✓					
	5	✓	✓	✓					
	6	✓	✓	✓					
	7	✓	✓	✓					
	8	✓	✓	✓					
	9	✓	✓	✓					
	10	✓	✓	✓					
	11	✓	✓	✓					
	12	✓	✓	✓					
	13	✓	✓	✓					
	14	✓	✓	✓					
	15	✓	✓	✓					
	16			✓					

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Request for Continued Examination (RCE) Transmittal

Address to:
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P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	12/102,810
Filing Date	April 14, 2008
First Named Inventor	Rhett Drugge
Art Unit	3777
Examiner Name	Rochelle D. Reardon
Attorney Docket Number	100504.00008

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

ii. ☐ Other _____

b. ☒ Enclosed

i. ☒ Amendment/Reply

iii. ☐ Information Disclosure Statement (IDS)

ii. ☐ Affidavit(s)/ Declaration(s)

iv. ☐ Other _____

2. Miscellaneous

a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

b. ☐ Other _____

3. Fees

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

a. ☒ The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 50-3569.

i. ☒ RCE fee required under 37 CFR 1.17(e)

ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)

iii. ☐ Other _____

b. ☐ Check in the amount of \$ _____ enclosed

c. ☐ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	/Kevin L. Reiner/	Date	May 29, 2012
Name (Print/Type)	Kevin L. Reiner	Registration No.	43,040

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature		
Name (Print/Type)		Date

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)	Docket Number (Optional) 100504.00008																								
Application Number 12/102,810	Filed April 14, 2008																								
For Method for Total Immersion Photography																									
Art Unit 3777	Examiner Rochelle D. Reardon																								
This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application. The requested extension and fee are as follows (check time period desired and enter the appropriate fee below): <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;"><u>Fee</u></th> <th style="width: 15%; text-align: center;"><u>Small Entity Fee</u></th> <th style="width: 30%;"></th> </tr> </thead> <tbody> <tr> <td>☐ One month (37 CFR 1.17(a)(1))</td> <td style="text-align: center;">\$150</td> <td style="text-align: center;">\$75</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td>☐ Two months (37 CFR 1.17(a)(2))</td> <td style="text-align: center;">\$560</td> <td style="text-align: center;">\$280</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td>☒ Three months (37 CFR 1.17(a)(3))</td> <td style="text-align: center;">\$1270</td> <td style="text-align: center;">\$635</td> <td style="text-align: center;">\$ <u>635</u></td> </tr> <tr> <td>☐ Four months (37 CFR 1.17(a)(4))</td> <td style="text-align: center;">\$1980</td> <td style="text-align: center;">\$990</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td>☐ Five months (37 CFR 1.17(a)(5))</td> <td style="text-align: center;">\$2690</td> <td style="text-align: center;">\$1345</td> <td style="text-align: center;">\$ _____</td> </tr> </tbody> </table> ☐ Applicant claims small entity status. See 37 CFR 1.27. ☐ A check in the amount of the fee is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Director has already been authorized to charge fees in this application to a Deposit Account. ☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>50-3569</u>. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. I am the ☐ applicant/inventor. ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96). ☒ attorney or agent of record. Registration Number <u>43,040</u> ☐ attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____ <u>/Kevin L. Reiner/</u> Signature <u>Kevin L. Reiner</u> Typed or printed name <u>May 29, 2012</u> Date <u>860-275-6756</u> Telephone Number ☐ Total of _____ forms are submitted.			<u>Fee</u>	<u>Small Entity Fee</u>		☐ One month (37 CFR 1.17(a)(1))	\$150	\$75	\$ _____	☐ Two months (37 CFR 1.17(a)(2))	\$560	\$280	\$ _____	☒ Three months (37 CFR 1.17(a)(3))	\$1270	\$635	\$ <u>635</u>	☐ Four months (37 CFR 1.17(a)(4))	\$1980	\$990	\$ _____	☐ Five months (37 CFR 1.17(a)(5))	\$2690	\$1345	\$ _____
	<u>Fee</u>	<u>Small Entity Fee</u>																							
☐ One month (37 CFR 1.17(a)(1))	\$150	\$75	\$ _____																						
☐ Two months (37 CFR 1.17(a)(2))	\$560	\$280	\$ _____																						
☒ Three months (37 CFR 1.17(a)(3))	\$1270	\$635	\$ <u>635</u>																						
☐ Four months (37 CFR 1.17(a)(4))	\$1980	\$990	\$ _____																						
☐ Five months (37 CFR 1.17(a)(5))	\$2690	\$1345	\$ _____																						

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana/Kevin Reiner			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with \$0 paid	2253	1	635	635

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	2801	1	465	465
Total in USD (\$)				1100

Electronic Acknowledgement Receipt

EFS ID:	12887595
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Kevin Reiner
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	29-MAY-2012
Filing Date:	14-APR-2008
Time Stamp:	23:53:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$1100
RAM confirmation Number	9115
Deposit Account	503569
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ROA.pdf	7567106	yes	10
			5cc6b87178907e6b0a8d7ce77399a99e8e36aafc		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	10	
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	RCE.pdf	1234105	no	1
			d7d0f29d4580c1f56844639f1b1c29ec73795eb3		
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
3	Extension of Time	EOT.pdf	991067	no	1
			00e447a59f284249a2a333a8936b01393bab67e		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31766	no	2
			e92ae0332a1eca74b9bdb0f25c9a283ddf326188		
Warnings:					
Information:					
Total Files Size (in bytes):			9824044		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Reardon
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**SUBMISSION ACCOMPANYING RCE AND RESPONSE TO FINAL OFFICIAL
ACTION MAILED NOVEMBER 29, 2011**

Dear Sir:

Pursuant to 37 C.F.R. § 1.114, this submission accompanies the Request for Continued Examination filed herewith.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 5.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A method for identifying maladies that affect human tissue, the method comprising the following steps:

positioning a person or portion thereof at a specified imaging position within an enclosure and located a predetermined distance relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other;

illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light off of the illuminated external surface;

generating an image of the illuminated external surface of the person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices; and

measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Previously Presented) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned substantially symmetrically relative to a center line of the specified imaging position.

7. (Original) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Original) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Original) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Original) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis.
11. (Previously Presented) A method as defined in claim 10, wherein the panels include at least one imaging means.
12. (Original) A method as defined in claim 1, further comprising the steps of capturing with the plurality of imaging devices at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.
13. (Previously Presented) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.
14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.
15. (Original) A method as defined in claim 1, further comprising the steps of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.
16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.
17. (New) A method as defined in claim 1, wherein the step of generating an image includes capturing an image of the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

18. (New) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (New) A method as defined in claim 1, wherein the generating step comprises generating a plurality of images with a plurality of the imaging devices.

20. (New) A method as defined in claim 1, wherein the generating step includes generating an image utilizing said refraction and reflectance light off of the illuminated external surface.

REMARKS

This submission is in response to the final Official Action mailed November 29, 2011, and accompanies the Request for Continued Examination filed herewith. Claims 1-16 are pending in this application and stand rejected. Claims 17-19 have been added herein. Therefore, claims 1-19 are pending in this application. Reconsideration of the application is requested in view of the amendments and remarks herein.

Claim Rejections

The Examiner rejects claims 1-6, 12, 13 and 15 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,272,367 to Chance (hereinafter "Chance") in view of U.S. Publication No. US2004/009827 of Zavislan *et al.* (hereinafter "Zavislan"). Claims 7-11 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chance in view of Zavislan, and further in view of U.S. Patent No. 5,853,370 to Chance *et al.* (hereinafter "Chance *et al.*"). Applicant respectfully traverses.

As Applicants described in his September 12, 2011 submission, which is incorporated by reference, Chance relates to a system for examining internal tissue. It does this by sending light into and through the body and then detecting the light that migrates completely through the body. *See, e.g.*, Chance, col. 2, lines 6-20; col. 7, lines 4-6. Specifically, detector(s) detect phase shifts and change in intensities of the light compared to the known pattern of photon density and of a wavelength sent into the body. Chance, col. 9, lines 30-38.

In contrast, the claimed invention is directed to illuminating an external surface portion of the body, generating refraction and reflectance light off of the illuminated external surface portion, and then generating an image thereof. The Examiner expressly recognizes that Chance does not teach illuminating an external surface, and presumably that it does not generate

refraction and reflectance light off of the illuminated external surface or generate an image of the illuminated external surface. The Examiner cites Zavislan as disclosing imaging areas on the skin surface and allow the operator to adjust the depth of the tissue being imaged. The Examiner contends it would be obvious to modify Chance with imaging the skin surface as it was well-known to adjust imaging depths. Applicants respectfully traverse.

To begin with, the modification suggested by the Examiner violates two tenets of nonobviousness. First, a proposed modification cannot change the principle of operation of the prior art. MPEP § 2143.01(VI). Second, a proposed modification cannot render the prior art unsatisfactory for its intended purpose. The Examiner's proposed modification does both.

As to the first, Chance's principle of operation, as discussed above, is that light is sent into the body, passes through the tissue, and exits out the other side of body, where it is detected. That is, Chance detects light transmitted through the body. Conversely, the invention generates refraction and reflectance light off the surface, and generates an image of the illuminated surface. This refraction/reflection is an entirely different mode and principle of operation than the transmission principle of Chance. Such a change cannot be obvious under the law. *See* MPEP § 2143.01(VI).

Indeed, if one wanted to somehow modify Chance to work as in the invention, it would require very substantial changes. The detectors in Chance are located on the surface of the body. *See, e.g.*, Chance Fig. 1, 1A, 1B, 2, 2D, 3, 3A, 4, 5A-5C. As such, the detectors cannot detect light refracted/reflected **off of** an illuminated external surface. Nothing in the prior art suggests how the detectors in Chance could detect light refracted/reflected off of an illuminated an surface. Even if one could, it would be a complete change in the principle of operation of

Chance, which detects light passing through, not refracting/reflecting off of, the body. *See* MPEP § 2143.01(VI).

Zavislan's discussion of scanning subsurface cells does not change this. Zavislan operates by reflecting light off the tissue. *See, e.g.*, Zavislan paragraphs [0003], [0018]; [0019] claims 1, 11. It scans subsurface tissue by adjust the light and optical system so that it focuses the laser beam and confocal imaging system onto the desired location. Paragraph [0023]. This is still not the detection of light that has migrated or transmitted through the body as in Chance. So, whatever Zavislan teaches, it would still involve a change in principle of operation of Chance from a transmissive or migrating mode of operation to a reflective one. Such a change is not obvious. *See* MPEP § 2143.01(VI).

Moreover, if Chance were somehow modified so as to be able illuminate an external surface of a body (as opposed to sending light into and through the body), and then generate an image thereof as claimed, it could not then image internal tissue in the body. However, the very purpose of Chance is to image **internal** tissues. Thus, the modification proposed by the Examiner would improperly render Chance unsuitable and unsatisfactory for its intended purpose. *See* MPEP § 2143.01(V). Under the law, the invention cannot then be obvious.

Even if Chance were somehow so modified, it still would provide the invention. Claim 1 recites "generating an image of the illuminated external surface [] with *each* of a plurality of the imaging devices." That is, each imaging device is used to generate an image. This is not the case in Chance. An image is not generated with each detector. Rather, as discussed above, a **single image** is generated using the signals from the detectors. Col. 9, lines 30-36. Therefore, the claims are not obvious for this reason also.

For at least these reasons, claim 1 is patentable over the cited art, as are claims 2-16 dependent thereon. See MPEP § 2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (claims depending from a patentable claim are also patentable over the prior art). The other cited art, e.g., Chance *et al.*, does not address the deficiencies of Chance, nor does the Examiner contend that it does. Therefore, the rejections should be withdrawn.

New Claims 17-20

New claim 17 recites capturing an image of the illuminated external surface with each of a plurality of the imaging devices. Support is found on, e.g., page 5, lines 27-28 and p. 6, lines 25-26 of the application as filed. The prior art does not teach or suggest this claim. The detectors of Chance do not capture an image. As discussed above, the detectors generate a signal that a computer uses to generate an image. Col. 9, lines 30-39.

New claim 18 recites photographing the illuminated external surface with each of a plurality of the imaging devices. Support is found on, e.g., page 5, lines 24-28 and p. 6, lines 9-17 of the application as filed. The prior art does not teach or suggest this claim. The detectors of Chance do not photograph. They generate signals which must be processed by a computer to generate an image. Col. 9, lines 30-39.

New claim 19 recites generating a plurality of images using a plurality of the imaging devices. Support is found on, e.g., page 5, line 29, page 25, line 25 – page 26, line 1, page 30, lines 2-20 of the application as filed. The prior art does not teach or suggest this claim. Again, Chance (and Zavislan) generate a single image. Col. 9, lines 30-39.

New claim 20 recites generating the image using the refracted and reflected light off of the illuminated external surface. Support is found on, e.g., page 30, lines 2-20 of the application

as filed. The prior art does not teach or suggest this claim. Chance generates an image based on the light that migrates through the body.

Thus, aside from being dependent upon patentable claim 1, *see* MPEP § 2143.03, these claims are independently patentable.

Conclusion

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

Date: May 29, 2012

By: /Kevin L. Reiner/
Kevin L. Reiner (Reg. No. 43,040)
Attorney for Applicant

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Fax: (860) 724-3397

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/102,810		Filing Date 04/14/2008		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☒ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=	OR	X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
			TOTAL			TOTAL				
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	05/29/2012	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	=	0	OR	X \$	=	
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	=	0	OR	X \$	=	
	☐ Application Size Fee (37 CFR 1.16(s))						OR			
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR			
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE		
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))						OR			
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR			
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
							OR			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/RUTH LLOYD/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 12/19/2012
MCCARTER & ENGLISH, LLP HARTFORD
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

REARDON, ROCHELLE D

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

12/19/2012

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE REARDON	Art Unit 3777	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2012.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-20 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-20 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 29th, 2012 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 12, 13, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827).

Regarding claims 1, 4, 5 and 16-20, Chance discloses a method for identifying maladies that affect human tissue, the method comprising the following steps: positioning a portion of a patient thereof at a specified imaging position within an enclosure(skull cap), and wherein located a predetermined distance relative to each of a plurality of imaging devices (detectors) that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other does not set forth an active step in the method (fig.3a; claim 34); illuminating the portion of

Art Unit: 3777

the patient thereof located at the specified imaging position and generating refraction and reflectance light therefrom, wherein with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices does not set forth an active step in the method (col.6, ll.19-26); generating an image of the illuminated portion of a person located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.13, ll.63-66); and measuring one or more imaged features of the portion of the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.9, ll.19-38), but fail to disclose wherein an external surface of a subject is illuminated, utilizing said refraction and reflectance, and photographing the illuminated external surface.

However, Zavislan et al disclose imaging areas on the surface of the skin ([0039]) and that it is known to allow the operator to adjust the depth of the tissue being imaged ([0023]); and generating an image utilizing said refraction and reflectance light off of the illuminated external surface (abstract); and photographing the illuminated external surface of the person, wherein the detector produces signals representing conforcal images ([0009]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Chance with imaging the surface of the skin as it was well known in the art to provide operator adjustment of imaging depths to image a desired target.

Regarding claim 2, Chance discloses measuring based on the coordinates and resolution information of the respective imaging device (col.3, ll.17-20; col.16, ll.12-23).

Regarding claim 3, Chance discloses providing a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 6, Chance discloses providing the at least two light sources positioned substantially symmetrically relative to the center line of the specified imaging position (fig.2).

Regarding claims 12 and 13, Chance discloses capturing with the plurality of imaging devices at least one of light in the humanly perceivable light spectrum, the use of "perceivable" does not limit the light to be visible and could be interpreted as any wavelength in the light spectrum, and infrared emissions (col.6, ll.19-22).

Regarding claim 15, Chance discloses scanning the surface of the imaged objects synchronously and asynchronously (col.7, ll.23-28).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827) as applied to claim 1 above, and further in view of Chance et al (5,853,370).

Regarding 10, 11 and 14, Chance discloses the step of enclosing the portion of a person thereof throughout a radius about 360 degrees about a vertical axis (skull cap, col.14, ll.19-21). Chance as modified by Zavislan et al fail to disclose enclosing a portion of the patient with panels of material with at least one imaging means.

However, Chance et al teach in the same medical field of endeavor, the use of a helmet having panels made of a material capable of allowing adequate illumination to pass through the panels to illuminate the portion thereof (fig.7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap of Chance as modified by Zavislan et al with the helmet having panels capable of allowing adequate illumination of Chance et al as it was known in the art to do so to provide medical imaging of the brain.

Regarding claims 7-9, Chance discloses the use of an imaging array, but fails to disclose a first, second, third, and forth imaging array spaced a predetermined distance from the imaging position.

However, Chance et al teach in the same medical field of endeavor, providing a first, second, third and fourth imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the imaging arrays include a plurality of imaging devices vertically spaced relative to each other; wherein the second imaging array is laterally spaced adjacent to the first imaging array on an opposite side of the centerline; wherein the third imaging array is laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array; and wherein the fourth imaging array is laterally spaced

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relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array (fig.7, 7a, 7b; abstract; col.9, ll.29-37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap having an imaging array of Chance with the helmet having a first, second, third and fourth imaging array spaced relative to each other of Chance et al as it is well known in the art to do so to provide a full head scan of a patient.

Response to Arguments

6. Applicant's arguments filed May 29th, 2012 have been fully considered but they are not persuasive. Applicant states that while Zavislan is used to address the deficiencies of Chance regarding examining external tissue, it would not be obvious to one of ordinary skill in the art to combine the examination of internal tissue of Chance with external tissue of Zavislan. Applicant further states that the detectors cannot detect light refracted and reflected off of an illuminated external surface. Examiner's position is that Chance discloses that one of the detectors is capable of scanning the surface of the tissue (col.19, ll.43-49). Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Chance to only scan the surface of the tissue as it was well known in the art as taught by Zavislan to adjust the scanning depths based on the location of the target. Further, claim 1 states "generating refraction and reflectance light off of the illuminated external surface." The limitation does not specifically states measuring the reflection and refraction, and any illumination of tissue will generate reflection and refraction.

Conclusion

7. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE REARDON whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE REARDON/
Examiner, Art Unit 3777

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	12/12/12	RDR

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/12/13 10:48
L2	9	L1 and camera	US-PGPUB; USPAT; USOCR	OR	ON	2012/12/13 10:48
L3	3	L1 and photograph	US-PGPUB; USPAT; USOCR	OR	ON	2012/12/13 10:50
S1	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:15
S2	1	"12102810"	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:16
S3	2357	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:22
S4	524	S3 and breast	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 11:22
S5	9	("5261404" "5865829" "5879306" "6011986" "6339216" "6397091" "6556858" "6597941" "7092014").PN. OR ("7359748").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/28 13:20
S6	1	"5664570".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 12:20
S7	2358	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:10
S8	5	S7 and skull adj cap	US-PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:10
S9	0	S7 and skull adj cover	US-PGPUB; USPAT;	OR	ON	2011/05/03 13:11

			USOCR			
S10	8	S7 and (skull brain head) adj (cover cap)	US- PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:11
S11	78	S7 and (skull brain head) adj (imag\$3)	US- PGPUB; USPAT; USOCR	OR	ON	2011/05/03 13:12
S12	1	"6272367".pn.	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:29
S13	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:32
S14	9	S13 and skin	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:32
S15	2507	600/473,476.ccls.	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:33
S16	414	S15 and imag\$3 with skin	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:33
S17	166	S15 and imag\$3 with skin with surface	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:34
S18	135	S15 and imag\$3 near10 skin near10 surface	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:34
S19	14	S15 and imag\$3 near10 skin near10 surface and adjust\$4 with depth	US- PGPUB; USPAT; USOCR	OR	ON	2011/11/23 11:35
S20	3	"6272367".pn. "20040092827"	US- PGPUB; USPAT; USOCR	OR	ON	2012/12/12 13:19
S21	12	(US-20020045831-\$).did. or (US-5692511-\$ or US-5694938-\$ or US-5807263-\$ or US- 6272367-\$ or US-6331700-\$ or US-6603988-\$ or US-6556858-\$ or US-6424852-\$ or US- 5853370-\$ or US-5297555-\$ or US-8036727- \$).did.	US- PGPUB; USPAT	OR	ON	2012/12/12 14:05
S22	10	S21 and reflect\$3	US- PGPUB; USPAT; USOCR	OR	ON	2012/12/12 14:05
S23	10	S21 and reflect\$4	US- PGPUB; USPAT;	OR	ON	2012/12/12 14:06

				USOCR			

12/ 13/ 2012 11:13:51 AM

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<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012				
	1	✓	✓	✓	✓				
	2	✓	✓	✓	✓				
	3	✓	✓	✓	✓				
	4	✓	✓	✓	✓				
	5	✓	✓	✓	✓				
	6	✓	✓	✓	✓				
	7	✓	✓	✓	✓				
	8	✓	✓	✓	✓				
	9	✓	✓	✓	✓				
	10	✓	✓	✓	✓				
	11	✓	✓	✓	✓				
	12	✓	✓	✓	✓				
	13	✓	✓	✓	✓				
	14	✓	✓	✓	✓				
	15	✓	✓	✓	✓				
	16			✓	✓				
	17				✓				
	18				✓				
	19				✓				
	20				✓				

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)

Application Number	12/102,810	Filing Date	2008-04-14	Docket Number (if applicable)	100504.00008	Art Unit	3777
First Named Inventor	Rhett Drugge			Examiner Name	Rochelle D. Reardon		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☒ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
Deposit Account No 503569

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

Signature of Registered U.S. Patent Practitioner			
Signature	/Kevin L. Reiner/	Date (YYYY-MM-DD)	2013-05-20
Name	Kevin L. Reiner/	Registration Number	43040

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Reardon
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**SUBMISSION ACCOMPANYING RCE AND RESPONSE TO FINAL OFFICIAL
ACTION MAILED DECEMBER 19, 2012**

Dear Sir:

Pursuant to 37 C.F.R. § 1.114, this submission accompanies the Request for Continued Examination filed herewith.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 5.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that affect human tissue, the method comprising the following steps:

positioning a person or portion thereof at a specified imaging position within an enclosure and located a predetermined distance relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other;

illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light off of the illuminated external surface;

generating an image of the illuminated external surface of the person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices using only the said refraction and reflectance light off of the illuminated external surface; and

measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Previously Presented) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned substantially symmetrically relative to a center line of the specified imaging position.

7. (Original) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Original) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Original) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Original) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis.

11. (Previously Presented) A method as defined in claim 10, wherein the panels include at least one imaging means.

12. (Original) A method as defined in claim 1, further comprising the steps of capturing with the plurality of imaging devices at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

13. (Previously Presented) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Original) A method as defined in claim 1, further comprising the steps of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

17. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes capturing an image of the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

18. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (Previously Presented) A method as defined in claim 1, wherein the generating step comprises generating a plurality of images with a plurality of the imaging devices.

20. (Canceled).

REMARKS

This submission is in response to the final Official Action mailed November 29, 2011, and accompanies the Request for Continued Examination filed herewith. Claims 1-20 were pending in this application and stand rejected. Claim 20 has been canceled herein. Thus, claims 1-19 are currently pending. Reconsideration of the application is requested in view of the amendments and remarks herein.

The Examiner rejects claims 1-6, 12, 13 and 15 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,272,367 to Chance (hereinafter “Chance ‘367”) in view of U.S. Publication No. US2004/009827 of Zavislan *et al.* (hereinafter “Zavislan”). Claims 7-11 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chance in view of Zavislan, and further in view of U.S. Patent No. 5,853,370 to Chance *et al.* (hereinafter “Chance ‘370”). Applicant respectfully traverses.

As a first matter, Applicant has amended claim 1 to, *inter alia*, include the features of claim 20, to avoid any misunderstanding about that the present invention operates on an entirely different principle from Chance ‘367.

The Examiner essentially contends, though, that because light microscopes work off reflected light (the Zavislan device is just a fancy light microscope), one of ordinary skill in the art would make at least the following modifications to Chance ‘367:

- 1) Would modify Chance ‘367 to completely change the principle of operation of Chance ‘367 so that it utilized refraction and reflectance light off of an illuminated external surface instead of light scattered and absorbed while migrating through internal tissue and exiting out of the body at a different location from where the light entered the body. *See* Chance ‘367 col. 2, lines 6-20; col. 7, lines 4-6.
- 2) Would modify Chance ‘367 so as to make it unsatisfactory for its intended purpose of imaging internal tissues.

- 3) Would modify Chance '367 so as to remove the detectors from the surface of the body, *see* Chance '367 Figs. 1, 1A, 1B, 2, 2D, 3, 3A, 4, 5A-5C, and move them off the surface to detect light refracted/reflected off of an illuminated surface.
- 4) Would modify Chance '367 so as to substitute for each of the detectors an imaging device or otherwise modify the detectors to become imaging devices. *See* Chance '367 col. 9, lines 30-38 (detectors do not generate an image but detect phase shifts and change in intensities of the light compared to the known pattern of photon density and of a wavelength sent into the body).
- 5) Would modify Chance '367 so that, instead of generating a single image created using all the detectors, *see* Chance '367 col. 9, lines 30-36, it would generate multiple images, one image per modified detector.

The Examiner contends one of ordinary skill in the art would make these many and drastic changes to Chance '367 even though the MPEP is very clear that it is ***legally improper*** to contend that an invention is obvious when the required modification would either, change the principle of operation of the Chance '367 **or** render Chance '367 unsuitable for its intended purpose. *See* MPEP § 2143.01(V); 2143.01(VI). In this instance, the Examiner violates both rules.

The Examiner contends that one of ordinary skill in the art would create a modified system that generates multiple images even though neither Chance '367 nor Zavislan generate multiple images. *See* Zavislan Figs. 1-3 (Zavislan has only one detector 28).

The Examiner also contends that more than one image per Chance '367 teaches “measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.” However, Chance '367 does not do this. Nothing in Chance '367 discusses using a focal length of an imaging device. This is nonsensical, because the photon detectors of Chance '367 do not have a focal length. Nor does Chance '367 use a predetermined distance relative to a specified imaging position. In Chance '367, the distance to the internal tissue being evaluated is unknown because it cannot be seen. The

Examiner cites col. 9, lines 19-38 of Chance '367 as supporting her assertion, but this passage has nothing to do with focal lengths or predetermined distances. All this passage describes is the basic principle of operation of Chance '367, that laser light is transmitted through tissue, emerges out the other side of the person or body part, and the detectors detect the emergent signals. These features are simply completely missing from Chance '367.

The Examiner also contends, on page 6 of the Office Action, that "Chance discloses that one of the detectors is capable of scanning the surface of the tissue," citing col. 19, lines 43-49. Respectfully, the Examiner misunderstands Chance. That portion recites, in describing FIG. 4:

The system may include several PMT detectors and phase detectors (only one set of detectors is shown in FIG. 4) operating simultaneously or one detector scans the surface of tissue 70.

All that passage states is that, instead of multiple detectors as seen in, for example, Chance '367 Figs. 2, 3 and 3A, Chance '367 can have one detector as shown in Fig. 4. It does not mean that it "scans" refraction and reflectance light off of an illuminated external surface as claimed. As is clearly seen in FIG. 4, PMT detector 74 detects light *exiting* the person 70 after passing through the person 70. This is no different from any other embodiment disclosed in Chance '367.

In sum, in addition to the reasons set forth in Applicant's previous submission, the claims are not unpatentable over the cited prior art for the reasons set forth herein. Applicant respectfully requests withdrawal of the pending rejections.

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

Date: May 20, 2013

By: /Kevin L. Reiner/
Kevin L. Reiner (Reg. No. 43,040)
Attorney for Applicant

PTO Correspondence Address:

McCarter & English, LLP
CityPlace I
185 Asylum Street
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Phone: (860) 275-6719
Fax: (860) 724-3397

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 100504.00008
Application Number 12/102,810	Filed April 14, 2008	
For Method for Total Immersion Photography		
Art Unit 3777	Examiner Rochelle D. Reardon	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☒ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ 300 _____
☐ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ _____
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3569.

☐ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant.

☒ attorney or agent of record. Registration number 43,040.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Kevin L. Reiner/

May 20, 2013

Signature

Date

Kevin L. Reiner

860-275-6756

Typed or printed name

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with \$0 paid	2252	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
RCE - 2nd and Subsequent Request	2820	1	850	850
Total in USD (\$)				1150

Electronic Acknowledgement Receipt

EFS ID:	15825660
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana
Filer Authorized By:	
Attorney Docket Number:	100504.00008
Receipt Date:	20-MAY-2013
Filing Date:	14-APR-2008
Time Stamp:	23:51:28
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1150
RAM confirmation Number	8141
Deposit Account	503569
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	RCE_5-20-13.PDF	797971	no	3
			ee199861bcbded05126863e664ce86974325538c		
Warnings:					
Information:					
2		ROA_5-20-13.pdf	35966	yes	9
			0db6b89a6240c4336579bbfb163cd71618a6713a		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	9	
Warnings:					
Information:					
3	Extension of Time	EOT_5-20-13.PDF	152117	no	2
			311bceadc5de6d7662055c3f0a4f04ca8db63f0b		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31629	no	2
			be9c0ba9b4ff98cb675ae74c0a316128ee7eb593		
Warnings:					
Information:					
Total Files Size (in bytes):			1017683		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/102,810	Filing Date 04/14/2008	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	05/20/2013	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X \$40 =	0
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X \$210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/DEANNA RORIE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 07/31/2013
MCCARTER & ENGLISH, LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

REARDON, ROCHELLE D

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

07/31/2013

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE REARDON	Art Unit 3777	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-19 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-19 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20th, 2013 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 12, 13, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827).

Regarding claims 1, 4, 5 and 16-19, Chance discloses a method for identifying maladies that affect human tissue, the method comprising the following steps: positioning a portion of a patient thereof at a specified imaging position within an enclosure(skull cap), and wherein located a predetermined distance relative to each of a plurality of imaging devices (detectors) that are vertically spaced relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other does not set forth an active step in the method (fig.3a; claim 34); illuminating the portion of

Art Unit: 3777

the patient thereof located at the specified imaging position and generating refraction and reflectance light therefrom, wherein with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices does not set forth an active step in the method (col.6, ll.19-26); generating an image of the illuminated portion of a person located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.13, ll.63-66); and measuring one or more imaged features of the portion of the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.9, ll.19-38), but fail to disclose wherein an external surface of a subject is illuminated, utilizing said refraction and reflectance, and photographing the illuminated external surface.

However, Zavislan et al disclose imaging areas on the surface of the skin ([0039]) and that it is known to allow the operator to adjust the depth of the tissue being imaged ([0023]); and generating an image utilizing said refraction and reflectance light off of the illuminated external surface (abstract); and photographing the illuminated external surface of the person, wherein the detector produces signals representing conforcal images ([0009]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Chance with imaging the surface of the skin as it was well known in the art to provide operator adjustment of imaging depths to image a desired target.

Regarding claim 2, Chance discloses measuring based on the coordinates and resolution information of the respective imaging device (col.3, ll.17-20; col.16, ll.12-23).

Regarding claim 3, Chance discloses providing a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 6, Chance discloses providing the at least two light sources positioned substantially symmetrically relative to the center line of the specified imaging position (fig.2).

Regarding claims 12 and 13, Chance discloses capturing with the plurality of imaging devices at least one of light in the humanly perceivable light spectrum, the use of “perceivable” does not limit the light to be visible and could be interpreted as any wavelength in the light spectrum, and infrared emissions (col.6, ll.19-22).

Regarding claim 15, Chance discloses scanning the surface of the imaged objects synchronously and asynchronously (col.7, ll.23-28).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827) as applied to claim 1 above, and further in view of Chance et al (5,853,370).

Regarding 10, 11 and 14, Chance discloses the step of enclosing the portion of a person thereof throughout a radius about 360 degrees about a vertical axis (skull cap, col.14, ll.19-21). Chance as modified by Zavislan et al fail to disclose enclosing a portion of the patient with panels of material with at least one imaging means.

However, Chance et al teach in the same medical field of endeavor, the use of a helmet having panels made of a material capable of allowing adequate illumination to pass through the panels to illuminate the portion thereof (fig.7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap of Chance as modified by Zavislan et al with the helmet having panels capable of allowing adequate illumination of Chance et al as it was known in the art to do so to provide medical imaging of the brain.

Regarding claims 7-9, Chance discloses the use of an imaging array, but fails to disclose a first, second, third, and forth imaging array spaced a predetermined distance from the imaging position.

However, Chance et al teach in the same medical field of endeavor, providing a first, second, third and fourth imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the imaging arrays include a plurality of imaging devices vertically spaced relative to each other; wherein the second imaging array is laterally spaced adjacent to the first imaging array on an opposite side of the centerline; wherein the third imaging array is laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array; and wherein the fourth imaging array is laterally spaced

Art Unit: 3777

relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array (fig.7, 7a, 7b; abstract; col.9, ll.29-37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap having an imaging array of Chance with the helmet having a first, second, third and fourth imaging array spaced relative to each other of Chance et al as it is well known in the art to do so to provide a full head scan of a patient.

Response to Arguments

6. Applicant's arguments filed May 20th, 2013 have been fully considered but they are not persuasive. Applicant states that while Zavislan is used to address the deficiencies of Chance regarding examining external tissue, it would not be obvious to one of ordinary skill in the art to combine the examination of internal tissue of Chance with external tissue of Zavislan. Applicant further states that the detectors cannot detect light refracted and reflected off of an illuminated external surface. Further, Applicant states that it would not be obvious to modify Chance to remove the detectors from the surface of the body, as well as to substitute for each of the detectors an imaging device, and to modify the device so that each detector would generate a separate image. Examiner maintains the position that Chance discloses that one of the detectors is capable of scanning the surface of the tissue, as well as adjusting the depth of the detectors (col.19, ll.43-49). Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Chance to only scan the surface of the tissue as it was well known in the art as taught by Zavislan to adjust the scanning depths based on

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the location of the target. Further, claim 1 states "generating refraction and reflectance light off of the illuminated external surface." The limitation does not specifically states measuring the reflection and refraction, and any illumination of tissue will generate reflection and refraction. Examiner's position regarding removing the detectors so that they are not on the surface of the tissue, is that the claim does not require that the imaging devices must be located a predetermined distance from the person or portion; however, this does not preclude from the detectors being on the patient. Further, claim 1 merely discloses imaging devices, and does not specifically disclose that each imaging device acquires a separate image. The claim only provides for generating "an image." The detectors are considered imaging devices, as each detector acquires its own imaging data to generate an image.

Conclusion

7. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 3777

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE REARDON whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 12/102,810

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Art Unit: 3777

/ROCHELLE REARDON/
Examiner, Art Unit 3777

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777

EAST Search History

EAST Search History (Prior Art)

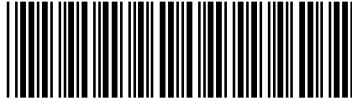
Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3096	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2013/07/26 14:24
L2	6	l1 and skull adj cap	US-PGPUB; USPAT; USOCR	OR	ON	2013/07/26 14:24
L3	3096	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2013/07/26 14:24
L4	531	L3 and imag\$3 with skin	US-PGPUB; USPAT; USOCR	OR	ON	2013/07/26 14:24
L5	15	L3 and imag\$3 near10 skin near10 surface and adjust\$4 with depth	US-PGPUB; USPAT; USOCR	OR	ON	2013/07/26 14:25

EAST Search History (I nterference)

<This search history is empty>

7/ 26/ 2013 2:25:37 PM

C:\ Users\ rreardon\ Documents\ EAST\ Workspaces\ 12102810.wsp

<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012	07/24/2013			
	1	✓	✓	✓	✓	✓			
	2	✓	✓	✓	✓	✓			
	3	✓	✓	✓	✓	✓			
	4	✓	✓	✓	✓	✓			
	5	✓	✓	✓	✓	✓			
	6	✓	✓	✓	✓	✓			
	7	✓	✓	✓	✓	✓			
	8	✓	✓	✓	✓	✓			
	9	✓	✓	✓	✓	✓			
	10	✓	✓	✓	✓	✓			
	11	✓	✓	✓	✓	✓			
	12	✓	✓	✓	✓	✓			
	13	✓	✓	✓	✓	✓			
	14	✓	✓	✓	✓	✓			
	15	✓	✓	✓	✓	✓			
	16			✓	✓	✓			
	17				✓	✓			
	18				✓	✓			
	19				✓	✓			
	20				✓	-			

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	07/24/13	RDR

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)

Application Number	12/102,810	Filing Date	2008-04-14	Docket Number (if applicable)	100504.00008	Art Unit	3777
First Named Inventor	Rhett Drugge			Examiner Name	Rochelle D. Reardon		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☒ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
Deposit Account No 503569

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

Signature of Registered U.S. Patent Practitioner			
Signature	/Kevin L. Reiner/	Date (YYYY-MM-DD)	2014-01-31
Name	Kevin L. Reiner/	Registration Number	43040

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 100504.00008
Application Number 12/102,810	Filed April 14, 2008	
For Method for Total Immersion Photography		
Art Unit 3777	Examiner Rochelle D. Reardon	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ _____
☒ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ <u>700</u>
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.☐ A check in the amount of the fee is enclosed.☐ Payment by credit card. Form PTO-2038 is attached.☐ The Director has already been authorized to charge fees in this application to a Deposit Account.☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3569.☐ Payment made via EFS-Web.**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

I am the

☐ applicant.☒ attorney or agent of record. Registration number 43,040.☐ attorney or agent acting under 37 CFR 1.34. Registration number _____./Kevin L. Reiner/

Signature

January 31, 2014

Date

Kevin L. Reiner

Typed or printed name

860-275-6756

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana/Kevin Reiner			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with \$0 paid	2253	1	700	700

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
RCE - 2nd and Subsequent Request	2820	1	850	850
Total in USD (\$)				1550

Electronic Acknowledgement Receipt

EFS ID:	18089313
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Kevin Reiner
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	31-JAN-2014
Filing Date:	14-APR-2008
Time Stamp:	23:40:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1550
RAM confirmation Number	6818
Deposit Account	503569
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		100504-00008_ROA_1-31-14.pdf	41997 dd1ae17c6a634e1569e08781c87648f5a102979f	yes	10
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	10	
Warnings:					
Information:					
2	Affidavit-traversing rejectns or objectns rule 132	100504-00008_Dictionary_Distance.pdf	128534 6862b6c9d08197a4e8a2fcb6914505f598dd91d2	no	2
Warnings:					
Information:					
3	Request for Continued Examination (RCE)	100504-00008_RCE_1-31-14.pdf	806126 aa0bc96dbf943991882532c2e4cf7eb5ef3bc94a	no	3
Warnings:					
Information:					
4	Extension of Time	100504-00008_EOT_1-31-14.pdf	153400 79e16d9b5ec36873bc1b7866c2ff2ee374156911	no	2
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	31795 0b5a2f0f5d65d57cc9d7d1fe12a45a6fb43f574e	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			1161852		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Reardon
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**SUBMISSION ACCOMPANYING RCE AND RESPONSE TO FINAL OFFICIAL
ACTION MAILED JULY 31, 2013**

Dear Sir:

Pursuant to 37 C.F.R. § 1.114, this submission accompanies the Request for Continued Examination filed herewith.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 6.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that affect human tissue, the method comprising the following steps:

positioning a person or portion thereof at a specified imaging position within an enclosure and located a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and away from and relative to a plurality of imaging devices that are laterally spaced relative to each other;

illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light off of the illuminated external surface;

obtaining a plurality of images by generating an image of the illuminated external surface of the person or portion thereof located at the specified imaging position with each of a plurality of the imaging devices using only the said refraction and reflectance light off of the illuminated external surface; and

measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Previously Presented) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned substantially symmetrically relative to a center line of the specified imaging position.

7. (Original) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Original) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Original) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Original) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis.

11. (Previously Presented) A method as defined in claim 10, wherein the panels include at least one imaging means.

12. (Original) A method as defined in claim 1, further comprising the steps of capturing with the plurality of imaging devices at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

13. (Previously Presented) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Original) A method as defined in claim 1, further comprising the steps of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

17. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes capturing an image of the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

18. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (Previously Presented) A method as defined in claim 1, wherein the generating step comprises generating a plurality of images with a plurality of the imaging devices.

20. (Canceled).

REMARKS

This submission is in response to the final Official Action mailed July 31, 2013, and accompanies the Request for Continued Examination filed herewith. Claims 1-19 are pending in this application and stand rejected. Reconsideration of the application is requested in view of the amendments and remarks herein.

The Examiner rejects claims 1-6, 12, 13 and 15-19 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,272,367 to Chance (hereinafter “Chance ‘367”) in view of U.S. Publication No. US2004/009827 of Zavislan *et al.* (hereinafter “Zavislan”). Claims 7-11 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chance ‘367 in view of Zavislan, and further in view of U.S. Patent No. 5,853,370 to Chance *et al.* (hereinafter “Chance ‘370”). Applicant respectfully traverses.

Applicant respectfully maintains that the claims are patentable for the reasons set forth in Applicant’s previous submissions, which are incorporated by reference. For the sake of brevity and advancing prosecution, Applicant responds in detail only to the Examiner’s Response to Arguments set forth in paragraph 6 of the pending Office Action.

First, the Examiner again cites Chance ‘367, col. 19, lines 43-49, for that “one of the detectors is capable of scanning the surface of the tissue.” Applicants respectfully maintain that the Examiner misreads that portion of Chance ‘367. All that portion of Chance ‘367 states is that the device can have multiple detectors, or one detector as seen in Figure 4 (on “left” side of head as viewed in the drawing – not the anatomical “left” side of the head). As for “scanning the surface,” that clearly refers to scanning for photons that reach the surface upon which the detector rests (again, “left” side of head”) that travel *through* the head 70 from the transmitters on the “right” side of the head.

Nothing in Chance '367 states or suggest that the detector (whether one or multiple) can “scan” or detect *reflected* light from the surface, as in the claimed invention. Nothing in Chance '367 even states or suggests that any light is reflected from or off of the surface. *See, e.g.*, Figs. 2, 3A, 3B, 5A-5B. If light was reflected from the surface, Chance '367 surely would have mentioned or shown it. Based on Chance's silence, one of ordinary skill in the art would not have thought that Chance '367 involved reflected light, much less could detect it.

The Examiner contends that it was taught by Zavislan to adjust the scanning depths based on the location of the target. Even in true, and Applicant maintains that one of ordinary skill in the art would not modify Chance '367 in view of Zavislan for the reasons previously set forth, this does not lead one of ordinary skill in the art to somehow modify Chance '367 to detect light *reflected* from the surface 70.

Of note, Chance '367 only teaches detection of light that travels *through* and refracts in the tissue. Chance '367, *e.g.*, Figs. 1A, 1B, 2, 3, 3A, 4, 5A-5C. Even if one of ordinary skill in the art desired to modify Chance '367 to detect light that reflects off the surface 70 as claimed, the prior art provides no guidance as to how to modify Chance '367 to accomplish this. The Examiner does not describe how Chance '367 could be so modified. At most, the Examiner proposes a goal. Modifying a DeLorean car into a time machine may be a “goal” (*see* the 1980's “Back to the Future” movies), but that would not make a successful time machine obvious. Without the ability of one of ordinary skill in the art to modify the prior art as proposed, there is no reasonable expectation of success, and the invention cannot be obvious. *See* MPEP §§ 2143.01; 2143.02.

The Examiner next states that the claims do not “require that the imaging devices must be located a predetermined distance from the person or portion.” This is not correct. Claim 1

expressly specifies the step of positioning the person or portion “a predetermined distance relative to each of a plurality of imaging devices.” To the extent that the Examiner contends that this includes the imaging devices being against the surface of the person or portion, this is contrary to the plain meaning of the word “distance,” which means “the state or fact of being apart in space, as of one thing from another.” *See* attached Definition (dictionary.com). If the imaging devices were on the surface or against the person or portion, as in Chance ‘367, they would not be “located at a [] distance” as claimed.

Nonetheless, to avoid any misunderstanding by the Examiner, claim 1 has been amended to recite that the person or portion is located a predetermined distance “away from” the imaging devices. As the amendments merely restate what was already present in the claims, no narrowing of scope is effected. However, Applicant’s figures expressly show the imaging devices being located a distance “away from” the subject. *E.g.*, Figures 1, 3, 5. Applicants also describe how “Shield 107 protects the imager array 102 and light sources 101 from contact with the subject.” Paragraphs [0090], [0094].

As noted above, in Chance ‘367, the detectors are located against the surface 70, and the person is not, as claimed, located at a distance away from and relative to the detector. *E.g.*, Figs. 1A, 1B, 2, 3, 3A, 4, 5A-5C. Nothing suggests locating the detector in Chance ‘367 away from the surface of the person, or that removing the detector from the surface would even work. Once again, Chance ‘367 teaches only detecting photons that pass through the tissue, and the detector is placed on the surface 70 to accomplish this.

The Examiner next contends that claim 1 “does not specifically disclose that each imaging device acquires a separate image,” but “only provides for generating ‘an image.’” This too is incorrect. Claim 1 recites “generating an image [] with each of a plurality of the imaging

devices.” Obviously, as each of the plurality of imaging devices is used to generate *an* image, then a plurality of images is generated in total. Moreover, Applicants’ specification makes clear that multiple images are obtained. *E.g.*, paragraphs [0019] (“When in position, the camera device and enhancement, if not engaged, are so engaged and the *image(s)* obtained. Thereafter, the *images* are transmitted from the camera device(s) through the USB(s) onto a server/computer means capable of aggregating, manipulating and disseminating the image(s) collected into a visually discernable [sic] format. As such, the *images* can be displayed” (emphasis added)); [0088] (“a TIP device that provides non-occluded *images* by employing an array of imaging devices and thereafter combining individual *images*” (emphasis added)); [0094] (“In order to effect the processing of the multiple *images garnered from the plurality of imaging arrays*” (emphasis added)).

Nonetheless, to avoid any misunderstanding by the Examiner, claim 1 has been amended to recite obtaining a plurality of images by generating an image with each of the imaging devices. As the amendments merely restate what was already present in the claims, no narrowing of scope is effected. In any case, the application as filed clearly teaches obtaining multiple images. *E.g.*, paragraphs [0019], [0088], [0094].

As previously discussed, and as seemingly acknowledged by the Examiner, Chance ‘367 generates only one image (as does Zavislan). *See* Chance ‘367 col. 9, lines 30-36; Zavislan Figs. 1-3 (Zavislan has only one detector 28). Nothing in the prior art teaches or suggests generating (or obtaining) multiple images, the benefit of doing so, or how this could be accomplished with the device of Chance ‘367. *See* MPEP §§ 2143.01; 2143.02. The only suggestion to obtain or generate multiple images as claimed comes from Applicants own disclosure. Applicants

disclosure cannot be the basis or rationale for modifying or combining the prior art. *See* MPEP § 2145(X)(A) (using Applicants own disclosure to reject claim is improper hindsight).

In sum, in addition to the reasons set forth in Applicant's previous submissions, the claims are patentable over the cited prior art for the reasons set forth herein. Applicant respectfully requests withdrawal of the pending rejections.

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

Date: January 31, 2014

By: /Kevin L. Reiner/
Kevin L. Reiner (Reg. No. 43,040)
Attorney for Applicant

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McCarter & English, LLP
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185 Asylum Street
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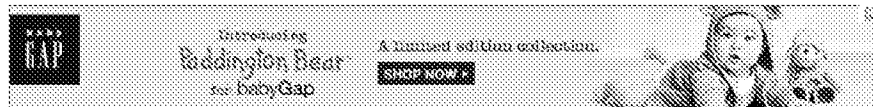
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[dis-tuh ns] Listen

noun

- the extent or amount of space between two things, points, lines, etc.
- the state or fact of being apart in space, as of one thing from another; remoteness.
- a linear extent of space: *Seven miles is a distance too great to walk in an hour.*
- an expanse; area: *A vast distance of water surrounded the ship.*
- the interval between two points of time; an extent of time: *His vacation period was a good distance away.*

Relevant Questions

What Is The Distance?

How To Maintain Longdistance RelationshipsHow To Cycle Long Distances

How To Send Long Distance Faxes

How To Get More Distance

How To Calculate Flight Distances

verb (used with object), distanced, distancing.

16. to leave behind at a distance, as at a race; surpass.

17. to place at a distance.

18. to cause to appear distant.

Idioms

19. go the distance.

a. (in horse racing) to be able to run well in a long race.

b. *informal* to finish or complete something, especially something difficult, challenging, or requiring sustained effort.

20. keep at a distance, to treat coldly or in an unfriendly manner.

21. keep one's distance, to avoid becoming familiar or involved; remain cool or aloof.

Origin:

1250-1300; Middle English < Latin

equivalent to

(see *distant*) + *-ity*; replacing Middle

English < Anglo-French

Related forms

dis-tance-less, adjective

Synonyms

16. remoteness, restraint, coolness, aloofness.

Dictionary.com Unabridged

Based on the Random House Dictionary, © Random House, Inc. 2015.

See This Course | Link To Distance

);

World English Dictionary

distance (distəns)

— *n*

- the intervening space between two points or things
- the length of this gap
- the state of being apart in space; remoteness
- an interval between two points in time
- the extent of progress; advance
- a distant place or time: *he lives at a distance from his work*
- a separation or remoteness in relationship; disparity
- geometry*
 - the length of the shortest line segment joining two points
 - the length along a straight line or curve
- the distance** the most distant or a faraway part of the visible scene or landscape
- horse racing*
 - (*Brit*) a point on a racecourse 240 yards from the winning post
 - (*Brit*) any interval of more than 20 lengths between any two finishers in a race
 - (*US*) the part of a racecourse that a horse must reach in any heat before the winner passes the finishing line in order to qualify for later heats
- go the distance**
 - boxing* to complete a bout without being knocked out
 - to be able to complete an assigned task or responsibility
- keep one's distance** to maintain a proper or discreet reserve in respect of another person
- the distant parts of a picture, such as a landscape
- middle distance**
 - (in a picture) halfway between the foreground and the horizon
 - (in a natural situation) halfway between the observer and the horizon
- (*modifier*) **athletics** relating to or denoting the longer races, usually those longer than a mile: *a distance runner*

— *vb*

- to hold or place at a distance
- to separate (oneself) mentally or emotionally from something

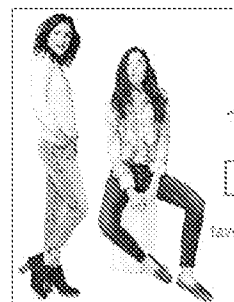
Example sentences

The researchers identified a trait that suggest human and distance runners.

The essential challenge of distance overcoming distance.

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Since the path and distance at by neutrinos is not precisely



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height	metric
span	altitude
throw	distance
range	eccentric
hailing distance	focal length
horizon distance	infinity

MORE

Slang

put some distance within
 between so and so/sth

Idioms & Phrases

go the distance
 keep one's distance
 spitting distance

MORE

Matching Quote

"Honor the spirits, but keep distance from them."

— unknown author

MORE

Related Questions

What is the distance of a kilometer?
 What is the distance of a marathon?

FAVORITES RECENT

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18.to outdo; outstrip

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Word Origin & History

Etymology

distance
late 13c., from O.Fr. *distance*, from L. *distantiā* "a standing apart," from *distans* (nom. *distans*) "standing apart, separate, distant," *ppr.* of *distare* "stand apart," from *dis-* "apart, off" + *stare* "to stand" (see *stet*). The figurative sense is the same as in *stand-offish*.

Online Etymology Dictionary, © 2010 Douglas Harper
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Medical Dictionary

American Heritage

distance *dis-tance* (dis'təns)
n.
The extent of space between two objects or places; an intervening space.

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Idioms & Phrases

American Heritage

distance
see go the distance; keep one's distance; spitting distance.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 12/102,810		Filing Date 04/14/2008		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED – PART I									
(Column 1)			(Column 2)						
FOR		NUMBER FILED	NUMBER EXTRA			RATE (\$)		FEE (\$)	
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A			N/A			
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A			N/A			
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A			N/A			
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		X \$ =			
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL			
APPLICATION AS AMENDED – PART II									
(Column 1)			(Column 2)		(Column 3)				
AMENDMENT	01/31/2014	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	x \$40 =		0	
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0	x \$210 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		0	
(Column 1)			(Column 2)		(Column 3)				
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =			
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

LIE
/LYNNELL JOHNSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 02/24/2014
MCCARTER & ENGLISH, LLP HARTFORD
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

REARDON, ROCHELLE D

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

02/24/2014

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE REARDON	Art Unit 3777	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2014.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-19 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-19 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 31st, 2014 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 12, 13, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827).

Regarding claims 1, 4, 5 and 16-19, Chance discloses a method for identifying maladies that affect human tissue, the method comprising the following steps:
positioning a portion of a patient thereof at a specified imaging position within an enclosure(skull cap), and wherein located a predetermined distance away from and relative to each of a plurality of imaging devices (detectors) that are vertically spaced

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relative to each other, and a plurality of imaging devices that are laterally spaced relative to each other does not set forth an active step in the method (fig.3a; claim 34); illuminating the portion of the patient thereof located at the specified imaging position and generating refraction and reflectance light therefrom, wherein with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices does not set forth an active step in the method (col.6, ll.19-26); obtaining a plurality of images by generating an image of the illuminated portion of a person located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.13, ll.63-66); and measuring one or more imaged features of the portion of the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.9, ll.19-38), but fail to disclose wherein an external surface of a subject is illuminated, utilizing said refraction and reflectance, and photographing the illuminated external surface.

However, Zavislan et al disclose imaging areas on the surface of the skin ([0039]) and that it is known to allow the operator to adjust the depth of the tissue being imaged ([0023]); and generating an image utilizing said refraction and reflectance light off of the illuminated external surface (abstract); and photographing the illuminated external surface of the person, wherein the detector produces signals representing conforcal images ([0009]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Chance with imaging the surface of the skin as it was well known in the art to provide operator adjustment of imaging depths to image a desired target.

Regarding claim 2, Chance discloses measuring based on the coordinates and resolution information of the respective imaging device (col.3, ll.17-20; col.16, ll.12-23).

Regarding claim 3, Chance discloses providing a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 6, Chance discloses providing the at least two light sources positioned substantially symmetrically relative to the center line of the specified imaging position (fig.2).

Regarding claims 12 and 13, Chance discloses capturing with the plurality of imaging devices at least one of light in the humanly perceivable light spectrum, the use of "perceivable" does not limit the light to be visible and could be interpreted as any wavelength in the light spectrum, and infrared emissions (col.6, ll.19-22).

Regarding claim 15, Chance discloses scanning the surface of the imaged objects synchronously and asynchronously (col.7, ll.23-28).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 3777

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (6,272,367) in view of Zavislan et al (2004/0092827) as applied to claim 1 above, and further in view of Chance et al (5,853,370).

Regarding 10, 11 and 14, Chance discloses the step of enclosing the portion of a person thereof throughout a radius about 360 degrees about a vertical axis (skull cap, col.14, ll.19-21). Chance as modified by Zavislan et al fail to disclose enclosing a portion of the patient with panels of material with at least one imaging means.

However, Chance et al teach in the same medical field of endeavor, the use of a helmet having panels made of a material capable of allowing adequate illumination to pass through the panels to illuminate the portion thereof (fig.7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap of Chance as modified by Zavislan et al with the helmet having panels capable of allowing adequate illumination of Chance et al as it was known in the art to do so to provide medical imaging of the brain.

Regarding claims 7-9, Chance discloses the use of an imaging array, but fails to disclose a first, second, third, and forth imaging array spaced a predetermined distance from the imaging position.

However, Chance et al teach in the same medical field of endeavor, providing a first, second, third and fourth imaging array spaced a predetermined distance relative to the specified imaging position to a side of the enclosure, wherein the imaging arrays include a plurality of imaging devices vertically spaced relative to each other; wherein

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the second imaging array is laterally spaced adjacent to the first imaging array on an opposite side of the centerline; wherein the third imaging array is laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array; and wherein the fourth imaging array is laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array (fig.7, 7a, 7b; abstract; col.9, ll.29-37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the skull cap having an imaging array of Chance with the helmet having a first, second, third and fourth imaging array spaced relative to each other of Chance et al as it is well known in the art to do so to provide a full head scan of a patient.

Response to Arguments

7. Applicant's arguments filed January 31st, 2014 have been fully considered but they are not persuasive. Applicant states that the prior art fails to disclose "scanning the surface of the tissue", as well as that the "detector can scan or detect reflected light from the external surface of the patient". Applicant specifically compares the modification of the primary reference Chance with Zavislan to provide detection of reflected light to that of modifying a DeLorean car into a time machine. Applicant further states that the prior art fail to disclose "positioning a patient a predetermined distance away from each of the plurality of imaging devices." Applicant contends that the prior art does not disclose "obtaining a plurality of images by generating an image with each of a plurality of the imaging devices."

8. Examiner maintains the position that Chance discloses that one of the detectors is capable of scanning the surface of the tissue, as well as adjusting the depth of the detectors (col.19, ll.43-49) while Zavislan discloses imaging areas of the surface of the skin ([0039]) as well as disclosing adjusting the depth of the tissue being imaged ([0023]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the optical imaging of Chance having detectors having the ability to adjust the depth with imaging reflected light of the surface of a patient as it would provide imaging at a specific desired depth and location. Further, regarding “generating refraction and reflectance light off of the illuminated external surface.” Examiner’s position is that all light which contacts the tissue of a patient will inherently result in some refraction and reflectance light off of the tissue. Further, Examiner relies on Zavislan for utilizing said refraction and reflectance to generate an image (abstract). In response to Applicant’s statement that the combination of Chance with Zavislan to provide detecting reflected light, is equivalent to “modifying a DeLorean car into a time machine,” it should be noted that the only motivation for modifying a car into a time machine is based on a fictional movie, therefore Examiner is interpreting Applicant’s argument as an attempt to state that Chance and Zavislan are non-analogous arts. In response to applicant's argument that Zavislan is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case,

Chance is directed to optical imaging of a patient using transmitters and receivers, while Zavislan is directed to optical imaging of a patient using transmitters and receivers to collect reflected light. Both Chance and Zavislan are directed to the same medical endeavor as the field of Applicant's endeavor which is directed to optical imaging.

Regarding the amended limitation "positioning a patient a predetermined distance away from each of the plurality of imaging devices," this limitation has not changed the scope of the claim as the predetermined distance away can still be zero, in other words, the limitation does not preclude the plurality of imaging devices being in contact with a person or portion thereof (fig.3a, claim 34). Finally, Applicant has amended the claims to include the limitation "obtaining a plurality of images by generating an image with each of a plurality of the imaging devices," which does not change the scope of the claim as obtaining a plurality of images is still provided by "generating an image with each of a plurality of the imaging devices." Chance discloses of the each of the detectors (imaging devices) acquiring image data to generate an image, and further discloses generating a 3-dimensional image which would consist of each of 2-dimensional image slices (col.13, l.65-col.14, l.2, ll.17-32).

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued

examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE REARDON whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3777

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE REARDON/
Examiner, Art Unit 3777

/TSE CHEN/
Supervisory Patent Examiner, Art Unit 3777

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3355	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2014/02/18 10:58
L2	6	L1 and skull adj cap	US-PGPUB; USPAT; USOCR	OR	ON	2014/02/18 10:58
L3	3355	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2014/02/18 10:58
L4	586	L3 and imag\$3 with skin	US-PGPUB; USPAT; USOCR	OR	ON	2014/02/18 10:58
L5	15	L3 and imag\$3 near10 skin near10 surface and adjust\$4 with depth	US-PGPUB; USPAT; USOCR	OR	ON	2014/02/18 10:58

EAST Search History (Interference)

<This search history is empty>

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Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE D REARDON	Art Unit 3777

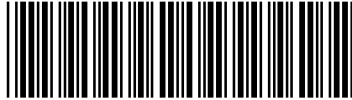
CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	2/18/14	RDR

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner JOHN F RAMIREZ	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012	07/24/2013	02/18/2014		
	1	✓	✓	✓	✓	✓	✓		
	2	✓	✓	✓	✓	✓	✓		
	3	✓	✓	✓	✓	✓	✓		
	4	✓	✓	✓	✓	✓	✓		
	5	✓	✓	✓	✓	✓	✓		
	6	✓	✓	✓	✓	✓	✓		
	7	✓	✓	✓	✓	✓	✓		
	8	✓	✓	✓	✓	✓	✓		
	9	✓	✓	✓	✓	✓	✓		
	10	✓	✓	✓	✓	✓	✓		
	11	✓	✓	✓	✓	✓	✓		
	12	✓	✓	✓	✓	✓	✓		
	13	✓	✓	✓	✓	✓	✓		
	14	✓	✓	✓	✓	✓	✓		
	15	✓	✓	✓	✓	✓	✓		
	16			✓	✓	✓	✓		
	17				✓	✓	✓		
	18				✓	✓	✓		
	19				✓	✓	✓		
	20				✓	-	-		

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)

Application Number	12/102,810	Filing Date	2008-04-14	Docket Number (if applicable)	100504.00008	Art Unit	3777
First Named Inventor	Rhett Drugge			Examiner Name	Rochelle D. Reardon		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☒ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
Deposit Account No 503569

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

Signature of Registered U.S. Patent Practitioner			
Signature	/Kevin L. Reiner/	Date (YYYY-MM-DD)	2014-08-25
Name	Kevin L. Reiner/	Registration Number	43040

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 100504.00008
Application Number 12/102,810	Filed April 14, 2008	
For Method for Total Immersion Photography		
Art Unit 3777	Examiner Rochelle D. Reardon	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ _____
☒ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ <u>700</u>
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.☐ A check in the amount of the fee is enclosed.☐ Payment by credit card. Form PTO-2038 is attached.☐ The Director has already been authorized to charge fees in this application to a Deposit Account.☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3569.☐ Payment made via EFS-Web.**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

I am the

☐ applicant.☒ attorney or agent of record. Registration number 43,040.☐ attorney or agent acting under 37 CFR 1.34. Registration number _____./Kevin L. Reiner/

Signature

August 24, 2014

Date

Kevin L. Reiner

Typed or printed name

860-275-6756

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana/Kevin Reiner			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Claims in excess of 20	2202	1	40	40
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
RCE - 2nd and Subsequent Request	2820	1	850	850
Total in USD (\$)				1590

Electronic Acknowledgement Receipt

EFS ID:	19961445
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Kevin Reiner
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	25-AUG-2014
Filing Date:	14-APR-2008
Time Stamp:	21:24:23
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1590
RAM confirmation Number	6737
Deposit Account	503569
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		100504-00008_ROA_8-25-14. PDF	69563 3aeea89204993b644c11b2fa7991cd4112718e2d	yes	12
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	12	
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	100504-00008_RCE_8-25-14. PDF	814283 22146374183de625f2539647226f6c819241f586	no	3
Warnings:					
Information:					
3	Extension of Time	100504-00008_EOT_8-25-14. PDF	133049 c74ffa848c65a823ad13a86b178d013441f9451f	no	1
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	33575 7e6eb898ebdc98a50c72cfdc137de23de4dec5a1	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			1050470		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Reardon
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**SUBMISSION ACCOMPANYING RCE AND RESPONSE TO FINAL OFFICIAL
ACTION MAILED FEBRUARY 24, 2014**

Dear Sir:

Pursuant to 37 C.F.R. § 1.114, this submission accompanies the Request for Continued Examination filed herewith.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 6.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that affect human tissue, the method comprising the following steps:

(a) positioning a person or portion thereof at a specified imaging position within an enclosure and ~~located~~ spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other;

(b) illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating refraction and reflectance light off of the illuminated external surface;

(c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of a plurality of imaging devices, of the illuminated external surface of the person or portion thereof located at the specified imaging position ~~with each of a plurality of the imaging devices~~ using only the said refraction and reflectance light off of the illuminated external surface; and

(d) measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Previously Presented) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of such imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned substantially symmetrically relative to a center line of the specified imaging position.

7. (Currently Amended) A method as defined in claim 1, further comprising the steps of:
providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and
providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Currently Amended) A method as defined in claim 7, further comprising the steps of:
providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and
providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Original) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging

arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Original) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis.

11. (Previously Presented) A method as defined in claim 10, wherein the panels include at least one imaging means.

12. (Original) A method as defined in claim 1, further comprising the steps of capturing with the plurality of imaging devices at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

13. (Previously Presented) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in at least one of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; and (vi) temperature emissions.

14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Original) A method as defined in claim 1, further comprising the steps of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

17. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes capturing an image of the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

18. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (Previously Presented) A method as defined in claim 1, wherein the generating step comprises generating a plurality of images with a plurality of the imaging devices.

20. (Canceled).

21. (New) A method as defined in claim 1, further comprising repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position.

22. (New) . A method as defined in claim 1, further comprising repeating steps (a) through (d) at a later point in time.

REMARKS

This submission is in response to the final Official Action mailed February 24, 2014 and accompanies the Request for Continued Examination filed herewith. Claims 1-19 were pending in this application and stand rejected. Claims 21 and 22 have been added herein. Thus, claims 1-19 and 21-22 are currently pending. Reconsideration of the application is requested in view of the amendments and remarks herein.

Claim Rejections

The Examiner rejects claims 1-6, 12, 13 and 15-19 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,272,367 to Chance (hereinafter “Chance ‘367”) in view of U.S. Publication No. US2004/009827 of Zavislan *et al.* (hereinafter “Zavislan”). Claims 7-11 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chance ‘367 in view of Zavislan, and further in view of U.S. Patent No. 5,853,370 to Chance *et al.* (hereinafter “Chance ‘370”). Applicant respectfully traverses.

Applicant respectfully maintains that the claims are patentable for the reasons set forth in Applicant’s previous submissions, which are incorporated by reference. Applicant makes the following additional remarks.

Claim 1 recited, *inter alia*, “positioning a person or portion thereof . . . located a predetermined distance away from . . . imaging devices . . . and away from . . . imaging devices” As explained to the Examiner in Applicant’s January 31, 2014 submission, the plain and ordinary meaning of “distance,” as evidenced by the dictionary entry submitted to the Examiner, is “the state or fact of being apart in space, as of one thing from another.” *See* MPEP § 2111.05 (claim interpretation is based on the plain and ordinary meaning of terms). Moreover, the claims

were amended to recite “away from,” whose plain and ordinary meaning entails items being apart from each other. *See id.*

The Examiner does not dispute that that the detectors in Chance are the detectors are located against the surface 70 of the person. *See, e.g.,* Figs. 1A, 1B, 2, 3, 3A, 4, 5A-5C. The Examiner contends, though, that this feature of the claim is met by Chance ‘367 because “the predetermined distance away can still be zero.” Office Action, p. 8. Applicant respectfully disagrees. A “distance” of zero is contrary to the meaning of “distance,” which again, is evidenced by the dictionary entry filed by Applicant. The Examiner has not provided any evidence that “distance” means something different. Further, it is also contrary to the plain meaning of “away from.” Something that is in contact with an object is not “away from” that object under any reasonable interpretation of that term.

Nonetheless, to advance prosecution, Applicants have amended claim 1 to recite “spaced” instead of “located.” *See, e.g.,* Application as filed, Figs. 1, 3, 5; claim 7. The plain and only reasonable meaning of the term “spaced” is that there is a space of gap therebetween. In Chance ‘367, there is no gap or space between the detectors and the surface 70. They are not “spaced” as claimed. Nothing in Chance ‘367 in any way suggests otherwise.

Similarly, for claims 7 and 8, the Examiner contends that Chance ‘370 teaches imaging arrays spaced a predetermined distance relative the specified imaging position. They are not. As clearly seen Figures 7, 7a, 7b and the written description at col. 9, lines 29-37, the optical modules 12 are attached to, i.e., in contact with and not spaced away from, the patient’s skull (“FIGS. 7, 7A and 7B depict a helmet constructed to attach optical module 12 to selected locations on the skull”). Thus, at most, Chance ‘370 teaches the same as Chance ‘367 on this issue.

The Examiner also contends that Chance '367 teaches generating an image with each of the imaging devices. Applicants still respectfully disagree. As the Examiner acknowledges, the detectors in Chance '367 acquire imaging data, not an image. Office Action p. 8. That data is used to generate an image, but the data is not an image, and only one image is generated. In the present invention, an image is created with each imaging device, that is, one image per device. For example, if there are forty imaging devices, forty images, one garnered from each device, is generated. Claim 1 has been amended to avoid any misunderstanding by the Examiner that there is an individual image generated per imaging device. Claim 1 has also been amended to recite that the images are obtained simultaneously to avoid any misunderstanding by the Examiner that the plurality of images are generated at different point in time. No new matter has been added. *See, e.g.*, Application as filed, p. 6, lines 23-30; p. 26, lines 1-4; p. 30, lines 2-4, 14-17.

As for the combination of Chance '367 and Zavislan, Applicant purposely used the "DeLorean" example to make a point, which the Examiner seems to have missed. Even assuming, *arguendo*, that Chance '367 and Zavislan are analogous art, that does not mean one of ordinary skill in the art would, or could, modify Chance '367 using Zavislan. The Examiner contends one of ordinary skill in the art would modify Chance '367 so that it did not detect photons migrating completely through the tissue, *see, e.g.*, Chance '367 Figs. 1A, 1B, 2, 3, 3A, 4, 5A-5C, but rather, detected photons refracted and reflected off the external surface 70.

The Examiner contends that one of ordinary skill in the art would do this in view of Zavislan, alleging it generates images by collecting reflected and refracted light. On this point, though, Zavislan nowhere states that images are generated using refracted light. Zavislan states only that it collects *reflected* light. *E.g.*, ¶¶ [0003], [0017], [0018], [0019]; claims 1, 3, 10, 11. Thus, the Examiner's contention that one of ordinary skill in the art would modify Chance '367

to detect light refracted off the external surface 70 of the patient in view of Zavislan fails for this reason alone. Zavislan does not teach or suggest using light *refracted* off an external surface as claimed.

Yet further, even if Zavislan suggested modifying Chance '367 to detect light off an external surface as opposed to traveling through the tissue, it is not obvious unless one of ordinary skill in the art could make the modification with a reasonable expectation of success. *See* MPEP §§ 2143.01; 2143.02. Zavislan does not teach one of ordinary skill in the art how to successfully (with reasonable expectation) modify Chance '367 to function as the Examiner contends. Indeed, the Examiner has not, in multiple Office Actions, explained what specific modifications to Chance '367 would be made so that it could, successfully, detect reflection and refraction light off an external surface as claimed. *See id.*

Zavislan certainly does not do so. Zavislan works like a typical light microscope in which light passes through various lenses 18, 19, 21, 22, 24, 26 and reflects off various mirrors 16, 17, etc. to focus the entirety of the light beam onto a image plane. *See* FIGS. 1-3. In contrast, Chance '367 uses individual photon detectors to detect individual photons. Even through the documents both generally relate to imaging, the technology is significantly different. Consequently, Zavislan does not teach one of ordinary skill in the art how to modify Chance '367 in accordance with the claimed invention with a reasonable expectation of success. Put another way, even if Zavislan suggested the desirability of the proposed modification (which as discussed above it does not), in the same way a fictional movie suggesting the desirability of a time-traveling car does not make such a car obvious, the prior art of record does not make the invention obvious.

In addition, as previously discussed, Chance '367 does not measure a feature(s) **based on** a predetermined distance relative to the specified imaging position and a focal length of a respective imaging device as recited in claim 1. As Applicant discussed in his May 20, 2013 submission, the photon detectors of Chance '367 do not have a "focal length." The detectors do not and cannot "focus" anything. They merely generate an electrical signal if a photon strikes the detector. Indeed, a photon, being a discrete particle, cannot be "focused." Nor does Chance '367, much less col. 9, lines 19-38 thereof relied on by the Examiner, make even the slightest suggestion regarding focal lengths. It is an irrelevant concept to the Chance '367 device and method. Though this was fully explained to the Examiner in Applicant's May 20, 2013 submission, the Examiner has not, in the two Office Actions since, addressed this argument, much less explained how Applicant is not correct.

Similarly, Chance '367 does not use a predetermined distance relative to a specified imaging position. As was also explained in Applicant's May 20, 2013 submission, in Chance '367, the distance to the internal tissue being evaluated is unknown because it is located internally to the patient and cannot be seen. Again, the portion of Chance relied on by the Examiner, col. 9, lines 19-38, says nothing about using any predetermined distance to measure a feature.

On this point, the term "based on" in the claim means that the claimed "measuring" takes into account the predetermined distance and the focal length. In other words, these characteristics are inputs that determine, at least in part, the output, e.g., the resulting measurement. If these characteristics are varied, for example, different among the various plurality of imaging devices, this must be taken into consideration. For example, if one wants to calculate the height on the building in the distance that appears very small in an image, one can

do so ***based on*** (perhaps among other things) the distance of the building from the imaging device used to generate the image.

None of this, though, is discussed or suggested anywhere in Chance '367. Moreover, as discussed above, it is irrelevant to the photon detection in Chance '367. Therefore, contrary to the Examiner's contention, Chance '367 fails to teach (or suggest), clause (d) of claim 1.

For the above reasons, the rejections should be withdrawn and the claims allowed.

New Claims 21 and 22

Claim 21 recites that the procedure set forth in claim 1 is repeated with the person (or portion thereof) in a different imaging position. Claim 22 recites that the procedure set forth in claim 1 is repeated at a later point in time. Support for these claims is found in the application as filed, *e.g.*, p. 5, lines 24-28; p. 8, lines 16-18, 23-27; p. 9, lines 12-14; p. 10, lines 22-27; p. 11, lines 7-10. Advantageously, by repeating the procedure over time, changes can be evaluated. *See id.*

Claims 21 and 22 are patentable at least for being dependent upon patentable claims. *See* MPEP § 2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (claims depending from a patentable claim are also patentable over the prior art). Applicant submits, however, that these claims are independently patentable, as the cited art does not teach or suggest the claimed combinations of features.

Claims 21 and 22 should be allowed.

Conclusion

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

Date: August 25, 2014

By: /Kevin L. Reiner/
Kevin L. Reiner (Reg. No. 43,040)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/102,810	Filing Date 04/14/2008	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

	08/25/2014	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	* 21	Minus	** 20	= 1		x \$40 =	40
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0		x \$210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
TOTAL ADD'L FEE								40

(Column 1)

(Column 2)

(Column 3)

		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=		X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
TOTAL ADD'L FEE								

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/DENISE LILES/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 03/09/2015
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EXAMINER

TURCHEN, ROCHELLE DEANNA

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

03/09/2015

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2014.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-19,21 and 22 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-19,21 and 22 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 25th, 2014 has been entered.

Priority

3. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of 35 U.S.C. 112(a) or the first paragraph of pre-AIA 35 U.S.C. 112, except for the best mode requirement. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994)

4. The disclosure of the prior-filed application, Application No. 09/625,712, fails to provide adequate support or enablement in the manner provided by 35 U.S.C. 112(a) or pre-AIA 35 U.S.C. 112, first paragraph for one or more claims of this application. The limitations of claim 1 including, “simultaneously obtaining a plurality of images” and “using only the said refraction and reflectance light off of the illuminated external surface.” The terms “simultaneously” and “only” are not found in the written description. Further, while “generating refraction and reflectance light off of the illuminated external surface” is an inherent result of illuminating with a plurality of sources, the written description does not explicitly disclose using the said refraction to obtain images as the term “refraction” is not found in the written description.

5. Claim 11 discloses “wherein the panels include at least one imaging means,” however; the written description does not provide support for this limitation. The term “imaging means” is not found in the written description.

6. Claim 21 discloses “repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position,” however; the written description does not provide support for this limitation. The terms “repeating” and “second specified imaging position” are not found in the written description.

7. Claim 22 discloses the limitation “repeating steps (a) through (d) at a later point in time. The terms “repeating” and “later” are not found in the written description.

Accordingly, claims 1-19, 20 and 21 are not entitled to the benefit of the prior application.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1-19, 21 and 22 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations of claim 1 including, “simultaneously obtaining a plurality of images” and “using only the said refraction and reflectance light off of the illuminated external surface.” The terms “simultaneously” and “only” are not found in the written description. Further, while “generating refraction and reflectance light off of the illuminated external surface” is an inherent result of illuminating with a plurality of sources, the written description does not explicitly disclose using the said refraction to obtain images as the term “refraction” is not found in the written description.

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10. Claim 11 discloses "wherein the panels include at least one imaging means," however; the written description does not provide support for this limitation. The term "imaging means" is not found in the written description.

11. Claim 21 discloses "repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position," however; the written description does not provide support for this limitation. The terms "repeating" and "second specified imaging position" are not found in the written description.

12. Claim 22 discloses the limitation "repeating steps (a) through (d) at a later point in time. The terms "repeating" and "later" are not found in the written description.

13. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-19, 21 and 22 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention. Regarding claims 1 and 17, it is unclear as to whether "each of a plurality of imaging devices" is referring to "a plurality of imaging devices that are vertically spaced," "a plurality of imaging devices that are laterally spaced" or both, or if "each of a plurality of imaging devices" refers to an additional plurality of imaging devices. Regarding claim 3, it is unclear as to which imaging devices "a plurality of such imaging devices" refers. Regarding claim 12, it is unclear as

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to which "the plurality of imaging devices" of claim 1 is being referred. Regarding claim 19, it is unclear as to whether "a plurality of the imaging devices" is referring to "a plurality of imaging devices" of claim 1, and if so, which "plurality of imaging devices" are being referred.

15. Claim 15 recites the limitation "the imaged objects" in line 2. There is insufficient antecedent basis for this limitation in the claim.

16. The term "substantially symmetrically" in claims 6 and 9 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "substantially" is a relative term for which the written description has not provided a specific definition to provide upper and lower bounds for "substantially symmetrically."

17. The term "about 360 degrees" in claim 10 is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "about" is a relative term for which the written description has not provided a specific definition to provide upper and lower bounds for "about 360 degrees."

18. The following is a quotation of 35 U.S.C. 112(d):

(d) REFERENCE IN DEPENDENT FORMS.—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), fourth paragraph:

Subject to the [fifth paragraph of 35 U.S.C. 112 (pre-AIA)], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

19. Claims 17 and 19 are rejected under 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Claim 17 discloses “wherein the step of generating an image includes capturing an image of the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices” which does not further limit claim 1. Claim 19 discloses “wherein the generating step comprises generating a plurality of images with a plurality of imaging devices” which does not further limit claim 1. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

Claim Rejections - 35 USC § 102

20. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

21. Claim 1-4, 6, 7, 10-19, 21 and 22 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Genest (6,546,356).

Regarding claims 1, 4, 17 and 19, Genest disclose a method for identifying maladies that affect human tissue, the method comprising the following steps: (a) positioning a portion of a person (foot or entire person) at a specified imaging position within an enclosure (foot measurement system placed in a room) and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other (fig.3; col.10, ll.55-57); (b) illuminating an external surface of the person thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging device, and generating refraction and reflectance light off of the illuminated external surface (digital cameras, fig.3; col.2, ll.34-39; col.4, ll.16-23); (c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of a plurality of imaging devices, of the illuminated external surface of the person at the specified imaging position using only said refraction and reflectance light off of the illuminated external surface (col.10, l.55-col.11, l.34); and (d) measuring one or more imaged features of the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.10, l.55-col.11, l.34).

Regarding claim 2, Genest discloses wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device (col.2, ll.34-51; col.3, ll.20-40).

Regarding claims 3 and 6, Genest discloses generating an image of the illuminated external surface with a plurality of such imaging devices and light sources located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 7, Genest discloses providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other (fig.3).

Regarding claim 10, Genest discloses enclosing the person or portion thereof with panels throughout a radius selected from at least one of: about 360 degrees about a vertical axis and about 360 degrees about a horizontal axis (figs. 3 and 4).

Regarding claim 11, Genest discloses wherein the panels include at least one imaging means (camera, fig.3).

Regarding claims 12 and 13, Genest discloses producing with the plurality of light sources and capturing with the plurality of imaging devices light in the humanly perceivable light spectrum (digital camera, col.2, ll.34-39).

Regarding claim 14, Genest discloses wherein the panels include a material structurally capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof (the limitation “capable of” is directed to the intended use and therefore not given any patentable weight, col.3, ll.5-19).

Regarding claim 15, Genest discloses further comprising the sets of scanning the surface of the imaged objects synchronously and asynchronously from a physically dispersed matrix of cameras and multiple angled lighting sources (col.10, l.55-col.11, l.24).

Regarding claim 16, Genest discloses wherein the external surface of the person or portion thereof is a surface of the person’s skin (surface of foot, col.4, ll.16-23).

Regarding claim 18, Genest discloses wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of imaging devices (cameras, col.4, ll.16-23; fig.3).

Regarding claims 21 and 22, Genest discloses repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position at a later point in time (col.11, ll.22-34).

Claim Rejections - 35 USC § 103

22. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 5, 8 and 9 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Barney (6,301,549).

Regarding claims 5, 8 and 9, Genest discloses the invention substantially as claimed, but fail to explicitly disclose illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third and fourth array, and positioning the plurality of light sources substantially symmetrically about the center light of the first, second, third and fourth imaging arrays.

However, Barney teaches in the same medical field of endeavor, illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side

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of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other, and positioning the plurality of light sources substantially symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and substantially symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array (fig.1; col.3, ll.29-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging devices and light sources of Genest with the specific configuration of Barney as it would provide optimized and increased image data collection.

Response to Arguments

24. Applicant's arguments with respect to claims 1-19, 21 and 22 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE TURCHEN whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE TURCHEN/
Examiner, Art Unit 3777

Notice of References Cited	Application/Control No. 12/102,810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,546,356	04-2003	Genest, Leonard J.	702/153
*	B	US-6,301,549	10-2001	Barney, Matthew F.	702/167
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S39	3	"6262367".pn. "20040092827"	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:09
S40	1	"6272367".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:09
S41	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:16
S42	182	600/473-476.cds. and reflect\$3 and refract\$3 and (plural\$3 multiple) with source and (plural\$3 multiple) with detector and imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:21
S43	3119002	@ad< "20000726"	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:22
S44	36	@ad< "20000726" and S42	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:22
S45	6	S44 and refract\$3 with imag\$3 and reflect\$3 with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:23
S46	1	"12102810"	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:28
S47	7185	reflect\$3 and refract\$3 and (plural\$3 multiple) with source and (plural\$3 multiple) with detector and imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:30
S48	1316	S47 and refract\$3 with imag\$3 and reflect\$3 with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:30
S49	131	@ad< "20000726" and S48	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:31
S50	31	("4649275" "4767928" "4807637" "4829184" "4948974" "5452723" "5555885" "5596987").PN. OR ("6345194").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:32

S51	31	("3863154" "4499430" "4554460" "5408093" "5471049" "5477051" "5572118" "5692511" "5694938" "5708414" "5717608" "5719398" "5813987" "5815410" "5821541" "5851181" "5880827").PN. OR ("6339216").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:32
S52	62	S50 S51	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:32
S53	1	S52 and refract\$3 with imag\$3 and reflect\$3 with imag\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/12 09:33
S54	16	("6397091" "6597941" "5879306" "6083162" "5261404" "5865829" "6272367" "6556858" "5797845" "6011986" "6236875" "6339216" "7092014" "5853370" "20040092827" "5782762").PN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:35
S55	17489	plurality near5 (optic\$2 light) near5 source and imag\$3 and reflect\$3 and refract\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:38
S56	144	S55 and 600/472-476.ccls.	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:38
S57	2	"09625712"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:40
S58	1	S54 and plurality near5 (optic\$2 light) near5 source and imag\$3 and reflect\$3 and refract\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:41
S59	0	S54 and plurality near5 (optic\$2 light) near5 source and imag\$3 and reflect\$3 with refract\$3 with imag\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:44
S60	1402	plurality near5 (optic\$2 light) near5 source and imag\$3 and reflect\$3 with refract\$3 with imag\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:44
S61	11	S60 and 600/472-476.ccls.	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:44
S62	166	("4129125" "4223680" "4224948" "4281645" "4321930" "4515165" "4576173" "4700708" "4714341" "4773422" "4807637" "4824242" "4836207" "4846183" "4869254" "4908762" "4926867" "4951682" "4972331" "5062431" "5088493" "5090415" "5122974" "5158090" "5174298" "5203339" "5213105" "5257202" "5309907" "5309912" "5353799" "5416582" "5664574"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:46

		"5673701" "5752519" "5807263" "5820558" "6058324").PN. OR ("6272367").URPN.				
S63	171	S60 and @ad<"20000726"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 10:49
S64	903	S60 and @ad<"20080414"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:14
S65	260	S64 and head	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:15
S66	331	plurality near5 (optic\$2 light) near5 source and imag\$3 and reflect\$3 near5 refract\$3 near5 imag\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:16
S67	200	S66 and @ad<"20080414"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:16
S68	10	S67 and medical	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:16
S69	6	S66 and @ad<"20080414" and surgical	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:17
S70	1154	optical adj imag\$3 and imag\$3 near10 refract\$3 near10 reflect\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:24
S71	705	S70 and @ad<"20080414"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:25
S72	177	S71 and @ad<"20000726"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:25
S73	513	optical adj imag\$3 and imag\$3 near10 refract\$3 near10 reflect\$3 near10 light	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:27
S74	76	S73 and @ad<"20000726"	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 11:27
S75	12	reflect\$3 near5 refract\$3 near5 imag\$3 and 600/473-476.ccls.	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:05
S76	663	reflect\$3 near5 refract\$3 near5 imag\$3 and optical adj imag\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:08

S77	113	S76 and (patient medical surgical hospital)	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:08
S78	66	S77 and @ad<"20080414"	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:08
S79	9	("5261404" "5865829" "5879306" "6011986" "6339216" "6397091" "6556858" "6597941" "7092014").PN. OR ("7359748").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:11
S80	60	("4817622" "4908876" "4947850" "5041965" "5231434" "5353075" "5359550" "5424838" "5519208" "5608210" "5757544" "5772593" "5907395" "5947906" "6178340").PN. OR ("6556858").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:13
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S82	90	S80 S81	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:14
S83	17	S82 and reflect\$3 and refract\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:14
S84	986	optical adj imag\$3 and breast and reflect\$3 and refract\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:16
S85	530	S84 and @ad<"20080414"	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 12:16
S86	20666	(light optic\$2) near5 imag\$3 with surface near5 (object patient subject tissue)	US-PGPUB; USPAT; USOCR	OR	ON	2015/01/30 14:12
S87	42	reflect\$4 with refract\$3 with imag\$3 and 600/473-476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:39
S88	7237	reflect\$4 with refract\$3 with imag\$3 and light adj source	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:43
S89	2	"20040092827"	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:44
S90	927	reflect\$4 with refract\$3 with imag\$3 and (plural plurality multiple) near5 light adj	US-PGPUB;	OR	ON	2015/03/02 09:45

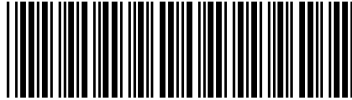
		(source transmitter)	USPAT; USOCR			
S91	137	S90 and @ad<"20000726"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:46
S92	1	"12102810"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:49
S93	1	"7359748".pn.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:49
S94	9	("5261404" "5865829" "5879306" "6011986" "6339216" "6397091" "6556858" "6597941" "7092014").PN. OR ("7359748").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:49
S95	1	S94 and reflect\$4 and refract\$4	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:50
S96	16	(US-20020045831-\$ or US-20100056898-\$).did. or (US-5692511-\$ or US-5694938-\$ or US-5807263-\$ or US-6272367-\$ or US-6331700-\$ or US-6603988-\$ or US-6556858-\$ or US-6424852-\$ or US-5853370-\$ or US-5297555-\$ or US-8036727-\$ or US-5836872-\$ or US-6529617-\$ or US-6339216-\$).did.	US- PGPUB; USPAT	OR	ON	2015/03/02 09:52
S97	9	S96 and reflect\$4 and refract\$4	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 09:53
S98	1	"12102810" and simultaneous\$2	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 11:14
S99	1	"7359748".pn. and simultaneous\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 11:14
S100	16	(US-20020045831-\$ or US-20100056898-\$).did. or (US-5692511-\$ or US-5694938-\$ or US-5807263-\$ or US-6272367-\$ or US-6331700-\$ or US-6603988-\$ or US-6556858-\$ or US-6424852-\$ or US-5853370-\$ or US-5297555-\$ or US-8036727-\$ or US-5836872-\$ or US-6529617-\$ or US-6339216-\$).did.	US- PGPUB; USPAT	OR	ON	2015/03/02 11:15
S101	9	S100 and reflect\$4 and refract\$4	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 11:15
S102	4	S101 and simultaneous\$2	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 11:15
S103	2	"20040092827"	US-	OR	ON	2015/03/02

			PGPUB; USPAT; USOCR			11:27
S104	1	"12102810"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 12:27
S105	1	"12022480"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 12:35
S106	1	"12022480"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 12:35
S107	3612038	"12022480" and changing information	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 12:35
S108	1	"12022480" and changing adj information	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/02 12:35
S109	2	"20040092827"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 09:12
S110	3	"20040092827" "20100056898"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 09:16
S111	2	S110 and "52" with imag\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 09:21
S112	90	("4515165" "4807637" "4836207" "4908762" "4972331" "5062431" "5090415" "5158090" "5174298" "5203339" "5213105" "5309907" "5309912" "5416582").PN. OR ("5807263").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 09:30
S113	1	"6272367".pn.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 09:44
S114	1	"5853370".pn.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 09:55
S115	186	600/473-476.cds. and reflect\$3 and refract\$3 and (plural\$3 multiple) with source and (plural\$3 multiple) with detector and imag\$3	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:24
S116	129	S115 and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:24
S117	1	"7359748".pn.	US- PGPUB;	OR	ON	2015/03/03 10:29

			USPAT; USOCR			
S118	0	("7359748").URPN.	USPAT	OR	ON	2015/03/03 10:29
S119	9	("5261404" "5865829" "5879306" "6011986" "6339216" "6397091" "6556858" "6597941" "7092014").PN. OR ("7359748").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:29
S120	31	("3863154" "4499430" "4554460" "5408093" "5471049" "5477051" "5572118" "5692511" "5694938" "5708414" "5717608" "5719398" "5813987" "5815410" "5821541" "5851181" "5880827").PN. OR ("6339216").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:30
S121	2	total adj immersion adj photography	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:32
S122	8877	optical adj imag\$3 with (skin surface) and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:47
S123	4914	optical adj imag\$3 near5 (skin surface) and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:47
S124	60	optical adj imag\$3 near5 (skin external adj surface) and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 10:47
S125	10	total adj body adj photography	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:10
S126	3	S125 and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:10
S127	2	photography near5 skin near5 cancer and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:11
S128	4	photography with skin near5 cancer and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:11
S129	375	photography with skin and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:12
S130	7	camera with skin near5 cancer and @ad<"20080418"	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:12
S131	39	drugge.in.	US- PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:18

S132	2	drugge.in. adj rhett	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:18
S133	10	total adj body near5 photography	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:19
S134	3	"20050119551" "6993167".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:27
S135	1	"5836872".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:30
S136	1	"5911126".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 11:31
S137	18	("20040064974" "20040152976" "4670781" "4922909" "5363854" "5369527" "5836872" "5911126" "6208749" "6405072" "6427022" "6571003" "6761697" "6873340" "6993167" "7239906").PN. OR ("7457659").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 12:53
S138	1	"20090185727"	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 12:55
S139	1	medascape	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 12:56
S140	18	"20070073113" "20050195316" "20050119551" "20040146290" "20040125996" "20040076414" "20030045916" "20010011262"	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 12:57
S141	7	"7020390".pn. "6961517".pn. "6915071".pn. "6792137".pn. "6369908".pn. "6317560".pn. "6085195".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 12:59
S142	56	("4697240" "4745290" "4819660" "4821200" "4969106" "4982438" "5127420" "5432703").PN. OR ("5911126").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/03 16:34

3/ 4/ 2015 11:20:28 AM
C:\Users\rrardon\ Documents\ EAST\ Workspaces\ 12102810.wsp

<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE TURCHEN	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47				
CLAIM		DATE								
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012	07/24/2013	02/18/2014	03/02/2015		
	1	✓	✓	✓	✓	✓	✓	✓		
	2	✓	✓	✓	✓	✓	✓	✓		
	3	✓	✓	✓	✓	✓	✓	✓		
	4	✓	✓	✓	✓	✓	✓	✓		
	5	✓	✓	✓	✓	✓	✓	✓		
	6	✓	✓	✓	✓	✓	✓	✓		
	7	✓	✓	✓	✓	✓	✓	✓		
	8	✓	✓	✓	✓	✓	✓	✓		
	9	✓	✓	✓	✓	✓	✓	✓		
	10	✓	✓	✓	✓	✓	✓	✓		
	11	✓	✓	✓	✓	✓	✓	✓		
	12	✓	✓	✓	✓	✓	✓	✓		
	13	✓	✓	✓	✓	✓	✓	✓		
	14	✓	✓	✓	✓	✓	✓	✓		
	15	✓	✓	✓	✓	✓	✓	✓		
	16			✓	✓	✓	✓	✓		
	17				✓	✓	✓	✓		
	18				✓	✓	✓	✓		
	19				✓	✓	✓	✓		
	20				✓	-	-	-		
	21							✓		
	22							✓		

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE D TURCHEN	Art Unit 3777

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	2/18/14	RDR
Updated EAST Search	3/2/15	RDT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Turchen
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICIAL ACTION

Dear Sir:

Amendments to the Claims may be found on page 2.

Remarks may be found on page 6.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that affect human tissue, the method comprising the following steps:

(a) positioning a person or portion thereof at a specified imaging position within an enclosure and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other;

(b) illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating ~~refraction and~~ reflectance light off of the illuminated external surface;

(c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of [[a]] said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person or portion thereof located at the specified imaging position using only the said ~~refraction and~~ reflectance light off of the illuminated external surface; and `

(d) measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Currently Amended) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of [[such]]said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.
5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.
6. (Currently Amended) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned ~~substantially~~-symmetrically relative to a center line of the specified imaging position.
7. (Previously Presented) A method as defined in claim 1, further comprising the steps of:
providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and
providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.
8. (Previously Presented) A method as defined in claim 7, further comprising the steps of:
providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and
providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Currently Amended) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources ~~substantially~~-symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and ~~substantially~~-symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Currently Amended) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from at least one or more of: ~~about~~ 360 degrees about a vertical axis ~~and about~~ or 360 degrees about a horizontal axis.

11. (Currently Amended) A method as defined in claim 10, wherein the panels include at least one means for imaging.

12. (Currently Amended) A method as defined in claim 1, further comprising the steps of capturing with all of the plurality of imaging devices ~~at least one~~ or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions;[[and]] or (vi) temperature emissions.

13. (Currently Amended) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in ~~at least one~~ or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions;[[and]] or (vi) temperature emissions.

14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Currently Amended) A method as defined in claim 1, further comprising the steps of scanning the illuminated external surface of the ~~imaged objects~~ synchronously and

asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

17. (Canceled).

18. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (Canceled).

20. (Canceled).

21. (Previously Presented) A method as defined in claim 1, further comprising repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position.

22. (Previously Presented) A method as defined in claim 1, further comprising repeating steps (a) through (d) at a later point in time.

REMARKS

This submission is in response to the non-final Official Action mailed March 9, 2015. Claims 1-19, 21 and 22 were pending in this application and stand rejected. Claims 17 and 19 have been canceled herein. Reconsideration of the application is requested in view of the amendments and remarks herein.

Priority and Rejections under 35 U.S.C. 112, 1st paragraph

The Examiner contends that multiple features recited in the claims are not found in the parent application, serial no. 09/625,712 and therefore the present application is not entitled the benefit of the parent under 35 U.S.C. § 120. Similarly, the Examiner rejects the claims under 35 U.S.C. 112, 1st paragraph, on grounds that these terms lack written description in the application as filed. These contentions are jointly addressed below.

First, the Examiner contends that the term “simultaneously” is not found in the specification and therefore this term lacks support. Respectfully, the Examiner improperly requires *ipsis verbis* recitation of a term in the specification. See MPEP § 2163(II)(3)(a)(i) (citing *Martin v. Johnson*, 454 F.2d 746 (CCPA 1972)). Page 6, lines 7-8 states that the cameras may be activated “at a desired time.” Page 6, lines 15-17 states that the cameras may be triggered “at a predetermined time.” If the cameras are activated *at* a time, this means that they are activated at the same time, and thus, “simultaneously.”

Next, the Examiner contends that the term “refraction” is not found in the specification. The term has been removed from the claims.

The Examiner also contends that the term “only” is not found in the specification. Again, the Examiner improperly requires *ipsis verbis* recitation. The specification is clear that it is the

reflectance light that is used and not something else. The term “only” was added merely to address a prior misunderstanding by the Examiner about what the claim meant.

The Examiner states that the term “imaging means” in claim 11 is not found in the specification. The claim has been amended to recite “means for imaging” to avoid any misunderstanding by the Examiner that the term falls under 35 U.S.C. § 112, ¶ 6.

With respect to claims 21 and 22, The Examiner takes issue with the terms “repeating,” “second imaging position,” and “later.” However, once again, *ipsis verbis* support is not required. As previously cited to the Examiner, at least p. 5, lines 24-28; p. 8, lines 16-18, 23-27; p. 9, lines 12-14; p. 10, lines 22-27; and p. 11, lines 7-10 of the specification support these claims. These passages make clear that the imaging can be performed more than once at different times or intervals. When a second imaging is done at a different time than a previous imaging, it necessarily means that it is done “later.” The application also makes clear that the same imaging steps are performed at the later time, and thus “repeated” as claimed. It would also be clearly understood by those of ordinary skill in the art that when a second imaging is done at a later time, the person or portion would not be at the same imaging position as during the previous imaging, because it occurred at a different time. Applicant notes that the term “second” was used to avoid any misunderstanding by the Examiner that the “specified imaging position” was a double inclusion of that term from claim 1.

In view of the above, Applicants submits that the present application is entitled to the benefit of the parent application and that the claims comply with 35 U.S.C. § 112, ¶ 1.

Rejections under 35 U.S.C. 112, 2nd paragraph

The claims have been amended herein to address the Examiner’s rejection.

Rejections under 35 U.S.C. 112, 4th paragraph

The rejections of claims 17 and 19 are mooted by the cancelation thereof herein.

Rejections over Prior Art

The Examiner rejects claims 1-4, 6, 7, 10-19, 21 and 22 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,546,356 to Genest and claims 5, 8, 9 under 35 U.S.C. § 103(a) as being unpatentable over Genest in view of U.S. Patent No. 6,301,549 to Barney. Applicant respectfully traverses.

Independent claim 1 recites, *inter alia*, that the person or portion is positioned “at a specified imaging position . . . and spaced away a predetermined distance away from” the imaging devices. Claim 1 also recites that the imaged features are measured based on a predetermined distance relative to the specified imaging position and the focal length of each respective imaging device. Contrary to the Examiner’s contention, these features are not found in Genest.

First, Genest makes no mention of placing the body part at a *predetermined* distance away from each of the cameras. Rather, in Genest, the distance of the body part from the cameras is unknown, and must be determined using the background pattern and/or target reference points. *E.g.*, col. 11, lines 56-60 (“a relative reference point is needed **to determine the distance** from a known point to the point of image interruption” (emphasis added); claim 1 (“2D determining a distance between the reference area and obstructed patterned area for determining the 2D edge point of the object relative to the reference area”). The fact that Genest uses the images to, *after-the-fact*, determine the distance of the body part necessarily means that there is no “predetermined” distance, i.e., a distance that is determined beforehand. Further, as

there is no predetermined distance in Genest, the features of body part are not and cannot be measured using a “predetermined distance” as claimed.

In addition, Genest makes absolutely no mention of the focal length of the cameras, much less using the focal length of the cameras to measure features of the body part as claimed. Therefore, this feature of the claims is also entirely absent from Genest.

Accordingly, claim 1 is not anticipated by Genest, nor are the rejected claims dependent thereon. *See* MPEP § 2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (claims depending from a patentable claim are also patentable over the prior art). Applicant submits, however, that these claims are independently patentable, as the cited art does not teach the claimed combinations of features. The rejection should be withdrawn.

As for the rejection of claims 5, 8 and 9, these claims are also dependent upon patentable claim 1, and therefore also patentable. The additional cited art, Barney, is not contended to address the deficiencies of Genest. In addition, Applicant submits that these claims are independently patentable, as the cited art does not teach the claimed combinations of features.

For the above reasons, the claims should be allowed.

Conclusion

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant’s attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a

petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

Date: September 9, 2015

By: /Kevin L. Reiner/
Kevin L. Reiner (Reg. No. 43,040)
Attorney for Applicant

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Phone: (860) 275-6719
Fax: (860) 724-3397

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 100504.00008
Application Number 12/102,810	Filed April 14, 2008	
For Method for Total Immersion Photography		
Art Unit 3777	Examiner Rochelle D. Turchen	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ _____
☒ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ 700
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.☐ A check in the amount of the fee is enclosed.☐ Payment by credit card. Form PTO-2038 is attached.☐ The Director has already been authorized to charge fees in this application to a Deposit Account.☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3569.☐ Payment made via EFS-Web.**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

I am the

☐ applicant.☒ attorney or agent of record. Registration number 43,040.☐ attorney or agent acting under 37 CFR 1.34. Registration number _____./Kevin L. Reiner/

Signature

September 9, 2015

Date

Kevin L. Reiner

Typed or printed name

860-275-6756

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana/Kevin Reiner			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
Total in USD (\$)				700

Electronic Acknowledgement Receipt

EFS ID:	23447965
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Kevin Reiner
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	09-SEP-2015
Filing Date:	14-APR-2008
Time Stamp:	23:38:45
Application Type:	Utility under 35 USC 111(a)

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Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$700
RAM confirmation Number	10669
Deposit Account	503569
Authorized User	REINER, KEVIN L

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		100504-00008_ROA_9-9-15. PDF	59923	yes	10
			f7f16d1b09eb11ee8a4bd7777cf267b3699c6619		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	10	
Warnings:					
Information:					
2	Extension of Time	100504-00008_EOT_9-9-15.PDF	143363	no	1
			9638c19209bcf42ed90cd77fe7296678fd1a5e26		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30280	no	2
			aa7f953db81599fa42b0a889f9d7f41a3de9b812		
Warnings:					
Information:					
Total Files Size (in bytes):			233566		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/102,810	Filing Date 04/14/2008	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	09/09/2015	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 19	Minus	** 21	= 0	X \$40 =	0
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X \$210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
						TOTAL ADD'L FEE

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/ANDREA FREEMAN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 09/24/2015
MCCARTER & ENGLISH, LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

TURCHEN, ROCHELLE DEANNA

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

09/24/2015

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9 September 2015.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-16,18,21 and 22 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-16,18,21 and 22 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claim Objections

2. Claim 3 objected to because of the following informalities: the amended limitation "a plurality of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other imaging devices" is unclear. Examiner suggests amending the claim to delete "imaging devices" of line 4. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 11 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor,

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or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Claim 11 discloses "wherein the panels include at least one means for imaging," however; the written description does not provide support for this limitation. The term "means for imaging" is not defined in the written description.

6. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 11 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

8. The following is a quotation of 35 U.S.C. 112(f):

(f) Element in Claim for a Combination. — An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Claim element “means for imaging” is a limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The term “means for imaging” is language which invokes 112, sixth paragraph as the term does not have a known structure within the art. The written description discloses the term “means for imaging,” but does not provide a corresponding structure or algorithm to transform a general purpose computer into a specialized computer.

Applicant may:

(a) Amend the claim so that the claim limitation will no longer be interpreted as a limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant should clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function

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and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claim 1-4, 6, 7, 10-16, 18, 21 and 22 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Genest (6,546,356).

Regarding claims 1 and 4, Genest disclose a method for identifying maladies that affect human tissue, the method comprising the following steps: (a) positioning a portion of a person (foot or entire person) at a specified imaging position within an enclosure (foot measurement system placed in a room) and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other (fig.3; col.10, ll.55-57);

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(b) illuminating an external surface of the person thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging device, and generating reflectance light off of the illuminated external surface (digital cameras, fig.3; col.2, ll.34-39; col.4, ll.16-23); (c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person at the specified imaging position using only said reflectance light off of the illuminated external surface (col.10, l.55-col.11, l.34); and (d) measuring one or more imaged features of the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.10, l.55-col.11, l.34).

Regarding claim 2, Genest discloses wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device (col.2, ll.34-51; col.3, ll.20-40).

Regarding claims 3 and 6, Genest discloses generating an image of the illuminated external surface with a plurality of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other imaging devices and light sources located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 7, Genest discloses providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other (fig.3).

Regarding claim 10, Genest discloses enclosing the person or portion thereof with panels throughout a radius selected from at least one of: 360 degrees about a vertical axis and 360 degrees about a horizontal axis (figs. 3 and 4).

Regarding claim 11, Genest discloses wherein the panels include at least one imaging means (camera, fig.3).

Regarding claims 12 and 13, Genest discloses producing with the plurality of light sources and capturing with all of the plurality of imaging devices light in the humanly perceivable light spectrum (digital camera, col.2, ll.34-39).

Regarding claim 14, Genest discloses wherein the panels include a material structurally capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof (the limitation "capable of" is directed to the intended use and therefore not given any patentable weight, col.3, ll.5-19).

Regarding claim 15, Genest discloses further comprising the sets of scanning the surface of synchronously and asynchronously from a physically dispersed matrix of cameras and multiple angled lighting sources (col.10, l.55-col.11, l.24).

Regarding claim 16, Genest discloses wherein the external surface of the person or portion thereof is a surface of the person's skin (surface of foot, col.4, ll.16-23).

Regarding claim 18, Genest discloses wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of imaging devices (cameras, col.4, ll.16-23; fig.3).

Regarding claims 21 and 22, Genest discloses repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position at a later point in time (col.11, ll.22-34).

Claim Rejections - 35 USC § 103

11. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 5, 8 and 9 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Barney (6,301,549).

Regarding claims 5, 8 and 9, Genest discloses the invention substantially as claimed, but fail to explicitly disclose illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third and fourth

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array, and positioning the plurality of light sources symmetrically about the center light of the first, second, third and fourth imaging arrays.

However, Barney teaches in the same medical field of endeavor, illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other, and positioning the plurality of light sources symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array (fig.1; col.3, ll.29-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging devices and light sources of Genest with the specific

configuration of Barney as it would provide optimized and increased image data collection.

Response to Arguments

13. Applicant's arguments filed September 9th, 2015 have been fully considered but they are not persuasive. Regarding claim 11, Applicant states the claim has been amended to recite "means for imaging" to avoid any misunderstanding by the Examiner that the term falls under 35 U.S.C. 112, sixth paragraph.

14. Regarding claim 1, Applicant states the prior art fail to disclose "at a specified imaging position...and spaced away a predetermined distance away from" the imaging devices. Specifically, Applicant states Genest discloses the distance of the body part from the cameras is unknown. Further, Applicant states the prior art fail to disclose using the focal length of the cameras to measure features of the body part as claimed.

15. Examiner's position regarding claim 11, is the term "means for imaging" does invoke 35 U.S.C. 112, sixth paragraph. The term "means for imaging" does not have a known structure within the art, and while the written description does disclose the term, there is no disclosure of a corresponding structure or algorithm to transform a general purpose computer into a specialized computer.

16. Regarding claim 1, Examiner's position is Genest does disclose positioning a person or portion thereof at a specified imaging position and spaced a predetermined distance away from and relative to each of a plurality of imaging devices. Specifically, the disclosure of Genest requires the two feet be disposed on a double patterned floor plane with cameras capturing the feet as seen in figure 3. The foot measurement

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system is configured prior to placing the feet into the system and therefore the imaging position is specified and the feet are spaced a predetermined distance away from and relative to each of a plurality of imaging devices, as the feet must be placed on the floor plane (fig.3; col.5, ll.11-13). The claim as written does not require a specific predetermined distance and does not require the predetermined distance be a known quantitative amount. Regarding step (d) of claim 1, Examiner's position is the imaged features which are measured are not defined within the claim. Further, while the features are measured based on "a predetermined distance" and "focal length," the claim does not define in what way the measurement uses these parameters to measure the image features. Examiner's position is an acquired image has both a distance and focal length and therefore any feature measured using an image will inherently be based in part on the position and focal length. Genest uses images to determine the dimensions of an foot which is considered to be an imaged feature. Examiner suggests further defining the "one or more imaged features" as well as clarifying the limitation to explicitly disclose in what way the parameters "position" and "focal length" are used to measure the features.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE TURCHEN whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE TURCHEN/
Primary Examiner, Art Unit 3777

EAST Search History

EAST Search History (Prior Art)

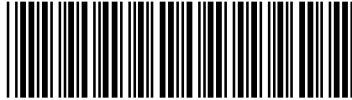
Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	8471	plurality with (camera) and light with source and reflect\$4 with image	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:46
L4	919	l3 and reflectance with light	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:46
L5	161	l4 and (distance position) with focal near5 length	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:46
L6	27	l5 and @ad<"20000726"	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:47
L7	8	l6 and reflectance with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:47
L8	10	l6 and array	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:48
L9	57	a61b5/0064	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:49
L10	0	l9 and @ad<"20000726"	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:49
L11	166331	simultaneous\$2 with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:49
L12	33171	plurality with (camera light adj source) and light with source and reflect\$4 with image	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:50
L13	7729	l11 and l12	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:50
L14	994	l13 and reflectance with light	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:50
L15	1135	l13 and reflectance near15 (light imag\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:50
L16	140	l15 and @ad<"20000726"	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:50
L17	20	l16 and (maladies abnormality cancer tissue)	US-PGPUB; USPAT; USOCR	OR	ON	2015/09/21 19:51

EAST Search History (I nterference)

<This search history is empty>

9/ 21/ 2015 7:51:41 PM

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<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE TURCHEN	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47				
CLAIM		DATE								
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012	07/24/2013	02/18/2014	03/02/2015	09/21/2015	
	1	✓	✓	✓	✓	✓	✓	✓	✓	
	2	✓	✓	✓	✓	✓	✓	✓	✓	
	3	✓	✓	✓	✓	✓	✓	✓	✓	
	4	✓	✓	✓	✓	✓	✓	✓	✓	
	5	✓	✓	✓	✓	✓	✓	✓	✓	
	6	✓	✓	✓	✓	✓	✓	✓	✓	
	7	✓	✓	✓	✓	✓	✓	✓	✓	
	8	✓	✓	✓	✓	✓	✓	✓	✓	
	9	✓	✓	✓	✓	✓	✓	✓	✓	
	10	✓	✓	✓	✓	✓	✓	✓	✓	
	11	✓	✓	✓	✓	✓	✓	✓	✓	
	12	✓	✓	✓	✓	✓	✓	✓	✓	
	13	✓	✓	✓	✓	✓	✓	✓	✓	
	14	✓	✓	✓	✓	✓	✓	✓	✓	
	15	✓	✓	✓	✓	✓	✓	✓	✓	
	16			✓	✓	✓	✓	✓	✓	
	17				✓	✓	✓	✓	-	
	18				✓	✓	✓	✓	✓	
	19				✓	✓	✓	✓	-	
	20				✓	-	-	-	-	
	21							✓	✓	
	22							✓	✓	

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE D TURCHEN	Art Unit 3777

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	2/18/14	RDR
Updated EAST Search	3/2/15	RDT
Updated EAST Search	9/21/15	RDT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL **(Submitted Only via EFS-Web)**

Application Number	12/102,810	Filing Date	2008-04-14	Docket Number (if applicable)	100504.00008	Art Unit	3777
First Named Inventor	Rhett Drugge			Examiner Name	Rochelle D. Reardon		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☒ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
 The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
 Deposit Account No 503569

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature
 Applicant Signature

Signature of Registered U.S. Patent Practitioner			
Signature	Kevin L. Reiner/	Date (YYYY-MM-DD)	2016-03-24
Name	Kevin L. Reiner/	Registration Number	43040

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Turchen
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBMISSION ACCOMPANYING RCE
AND RESPONSE TO FINAL OFFICIAL ACTION

Dear Sir:

Pursuant to 37 C.F.R. § 1.114, this submission accompanies the Request for Continued Examination filed herewith.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 6.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A method for identifying maladies that affect human tissue, the method comprising the following steps:

(a) positioning a person or portion thereof at a specified imaging position within an enclosure and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other;

(b) illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating reflectance light off of the illuminated external surface;

(c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person or portion thereof located at the specified imaging position using only the said reflectance light off of the illuminated external surface; and

(d) measuring one or more imaged features of the person or portion thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.

2. (Original) A method as defined in claim 1, wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device.

3. (Previously Presented) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned symmetrically relative to a center line of the specified imaging position.

7. (Previously Presented) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Previously Presented) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth

imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Previously Presented) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Previously Presented) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from one or more of: 360 degrees about a vertical axis or 360 degrees about a horizontal axis.

11. (Currently Amended) A method as defined in claim 10, wherein the panels include at least one means for imaging or imaging device.

12. (Previously Presented) A method as defined in claim 1, further comprising the steps of capturing with all of the plurality of imaging devices one or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; or (vi) temperature emissions.

13. (Previously Presented) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in one or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; or (vi) temperature emissions.

14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Previously Presented) A method as defined in claim 1, further comprising the steps of scanning the illuminated external surface synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

17. (Canceled).

18. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (Canceled).

20. (Canceled).

21. (Previously Presented) A method as defined in claim 1, further comprising repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position.

22. (Previously Presented) A method as defined in claim 1, further comprising repeating steps (a) through (d) at a later point in time.

REMARKS

This submission is in response to the pending final Official Action and accompanies the Request for Continued Examination filed herewith. Claims 1-16, 18, 21 and 22 are pending in this application and stand rejected. Reconsideration of the application under 37 C.F.R. § 1.114 is respectfully requested.

Rejections under 35 U.S.C. 112

The Examiner rejects claim 11 under 35 U.S.C. § 112, 1st paragraph and 2nd paragraph. The Examiner contends that the claim language “means for imaging” lacks written description in the specification because “the term ‘means for imaging’ is not defined in the specification. The Examiner contends that this language also is indefinite because the written description fails to disclose the structure, material or acts for the claimed function. Applicant disagrees.

First, the Examiner improperly requires *ipsis verbis* recitation of a term in the specification. See MPEP § 2163(II)(3)(a)(i) (citing *Martin v. Johnson*, 454 F.2d 746 (CCPA 1972)). That is not required under the law. What is required is that the specification discloses the corresponding structure, materials and acts, and that one of ordinary skill in the art would understand what structure would perform the recited function. See MPEP § 2181(II)(A), (C); (III); (IV), That is certainly the case here.

Claim 11 recites that the panels include at least one means for imaging. The specification discloses in multiple places that panels can include imaging devices, such as cameras. *E.g.*, page 26, lines 16-19 (“Each panel 109 is comprised of an imager array 102, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature, chemical information or other information of interest”); page 27, lines 13-15 (“Imaging arrays 205 and 206 [of panel 200] comprise a

plurality of imaging devices 203. Imaging devices 203 may be a standard or digital camera, or any other type of device capable of capturing the desired information from the subject with the imaging system”); page 28, lines 2-4 (“Each panel 301 is comprised of an imager array 302, comprising a vertical array of imaging devices. The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information”); page 29, lines 11-16 (“Each panel 109 is comprised of an imager array 102, comprising a vertical array of imaging devices . . . The imaging devices could comprise standard or digital cameras, or other devices capable of capturing light, temperature or chemical information”). Each of these passages describe components of the panels, e.g., imaging devices, cameras, etc., that perform the recited function of imaging. In addition, these components are shown in the drawings. *E.g.*, Figs. 1, 2, 3 and 5; *see also* Fig. 4 (showing in detail an imaging device). Thus, the specification discloses, at length and in detail, the corresponding structure/material that performs the recited function of “imaging.” *See* MPEP § 2181. There can also be no doubt that one of ordinary skill in the art would understand that the disclosed imaging devices, cameras, etc. of the panels can perform the recited function. *See id.* Indeed, it is general knowledge that imaging devices or cameras perform the function of “imaging” as claimed.

Therefore, claim 11 complies with 35 U.S.C. 112 and the rejection should be withdrawn.

Rejections over Prior Art

The Examiner rejects claims 1-4, 6, 7, 10-16, 18, 21 and 22 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,546,356 to Genest and claims 5, 8, 9 under 35 U.S.C. § 103(a) as being unpatentable over Genest in view of U.S. Patent No. 6,301,549 to Barney. Applicant respectfully traverses.

As a first matter, in the current rejection, the Examiner's *directly contradicts* what she contended in the previous rejection. In the previous Office Action, the Examiner stated that Genest discloses "generating refraction and reflectance light off of the illuminated surfaces" and "obtaining a plurality of images, by generating an individual image . . . using only said refraction and reflectance light" March 9, 2015 Office Action, page 8 (emphasis added). In contrast, the Examiner now contends that Genest discloses "generating reflectance light off of the illuminated surfaces" and "obtaining a plurality of images, by generating an individual image . . . using only said reflectance light" Office Action, page 6 (emphasis added). Thus, the Examiner now contends that Genest discloses something different from what she contended just in the previous office action. Specifically, the Examiner first contended that Genest used both refraction and reflectance light to generate images, but now contends that Genest uses only reflectance light to generate images. That is, the Examiner now contends, in contradiction to herself that Genest does not use refraction light.

This contradiction is curious at best, because in both Office Actions the Examiner relied on the **exact same** passages of Genest for the alleged (but differing) disclosure(s) – "fig. 3, col. 2, ll.34-39; col. 4, ll. 16-23" and "col. 10, l. 55-col. 11, l. 34." March 9, 2015 Office Action, page 8 and Office Action, page 6. Yet the Examiner has made no effort in the present Office Action to explain why she has changed her contentions about Genest's disclosure. In addition, none of the passages relied on by the Examiner even mention what type of light is used to create images – refraction, reflectance or otherwise. Those terms, or equivalent terms, are nowhere to be found there. All those passage state is that the Genest system uses cameras or light sensors to generate images. Moreover, nothing in Fig. 3 relied on by the Examiner has any disclosure regarding the light generated by the Genest system, much less what type of light is used by the

system. Rather, Fig. 3 merely shows the fields of view (FOV) of the various cameras in the system. *See* Genest, col. 5, line 55 – col. 6, line 19 (describing the FOV's of the various cameras in the system).

Respectfully, it appears that the Examiner is, perhaps in hindsight, “creating” disclosure from Genest to read on whatever is in Applicant's claims at the time the Examiner is making the rejection. However, that is not the legal standard. In order to anticipate an invention, the Examiner must show that the prior art discloses each and every element of the claim. MPEP § 2131. As discussed above, the Examiner has not done so. The Examiner relies on disclosure that makes no mention of refraction or reflectance light, much less in the context of the claimed features. The mere fact the Examiner's contention about what Genest discloses demonstrates that the Examiner cannot meet her burden to establish inherency.

Regardless, Genest fails to disclose all the features of the claims. For example, claim 1 recites that the image(s) are generated “using *only* the said reflectance light.” Genest simply does not teach this. Nowhere does Genest teach that it uses reflectance light to the exclusion of other light, e.g., refraction light. The passages cited by the Examiner as allegedly disclosing this feature do not state this. Indeed, the fact that the Examiner has affirmatively contended that Genest teaches using refraction light necessarily means that Genest does not teach using only reflective light in a manner that allows the Examiner to meet her burden to reject the claims.

The Examiner is also incorrect that Genest discloses a method for identifying maladies that affect human tissue. No such disclosure is found in Genest. Rather, Genest images a human body part, such as a foot, in order to determine which shoe manufacturer and shoe size is most appropriate for the particular person. *E.g.*, Genest, col. 3, lines 54-57; col. 4, lines 47-55 (“so that a customer can be provided with the best fitting footwear size produced by the footwear

manufacture”); col. 5, lines 49-52. Genest no more identifies maladies that affect human tissue than does a tailor who uses a measuring tape to fit a suit.

Applicant also respectfully disagrees with the Examiner’s response to Applicant’s arguments in the previous Response. The Examiner contends that Genest discloses that the feet are placed at a *specified* imaging position and spaced a *predetermined* distance away from the imaging devices because the feet must be place somewhere on the floor. However, in Genest, the foot may be placed at various different positions and distances on the floor. By definition, the fact that the foot can be placed at multiple positions and distances means that there is not a specified *position* and predetermined *distance* as claimed.

The fact that the claims do not quantitatively define the position or distance is irrelevant. That does not change the fact that the claim recites that there is a position and distance, and there is no such requirement in Genest. Indeed, as previously explained to the Examiner, Genest uses, and requires, a fixed reference point or target that is independent of the location of the foot in order to function, because there is no specified position and predetermined distance of the foot. *See, e.g.*, col. 11, lines 56-60 (“a relative reference point is needed to determine the distance from a known point to the point of image interruption” (emphasis added); claim 1 (“2D determining a distance between the reference area and obstructed patterned area for determining the 2D edge point of the object relative to the reference area”). In contrast, the invention, by utilizing a specified position and predetermined distance, avoids the need for fixed targets or reference points.

With respect to the Examiner’s arguments regarding “based on,” the Examiner over-reads the claims. Under the Examiner’s theory, nothing would be patentable, because everything in the universe is “based on” something else.

For the above reasons, the claims should be allowed.

Conclusion

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

Date: March 24, 2016

By: /Kevin L. Reiner/
Mark D. Giarratana (Reg. No. 32,615)
Kevin L. Reiner (Reg. No. 43,040)
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 100504.00008
Application Number 12/102,810	Filed April 14, 2008	
For Method for Total Immersion Photography		
Art Unit 3777	Examiner Rochelle D. Turchen	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ _____
☒ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ <u>700</u>
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.☐ A check in the amount of the fee is enclosed.☐ Payment by credit card. Form PTO-2038 is attached.☐ The Director has already been authorized to charge fees in this application to a Deposit Account.☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3569.☐ Payment made via EFS-Web.**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

I am the

☐ applicant.☒ attorney or agent of record. Registration number 43,040.☐ attorney or agent acting under 37 CFR 1.34. Registration number _____./Kevin L. Reiner/

Signature

March 24, 2016

Date

Kevin L. Reiner

Typed or printed name

860-275-6756

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana/Kevin Reiner			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
RCE- 2nd and Subsequent Request	2820	1	850	850
Total in USD (\$)				1550

Electronic Acknowledgement Receipt

EFS ID:	25303365
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Kevin Reiner
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	24-MAR-2016
Filing Date:	14-APR-2008
Time Stamp:	23:48:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1550
RAM confirmation Number	8814
Deposit Account	503569
Authorized User	REINER, KEVIN L

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	100504-00008_RCE_3-24-16. PDF	822438	no	3
			7b9449f0e7647e026c0c0f87dee793ac55cdfc23		
Warnings:					
Information:					
2		100504-00008_ROA_3-24-16. PDF	66551	yes	11
			b550ebefce173621ce1ff070e14d97436e6bb3b10		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	11	
Warnings:					
Information:					
3	Extension of Time	100504-00008_EOT_3-24-16. PDF	148511	no	1
			727c78d6eb4046666a8c187c4e8b7c463d0bb9f5d		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32066	no	2
			fda5b87cbe2c898608e7335b1ea4395cc129350		
Warnings:					
Information:					
Total Files Size (in bytes):			1069566		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 12/102,810		Filing Date 04/14/2008		☐ To be Mailed		
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO										
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)							
FOR		NUMBER FILED	NUMBER EXTRA			RATE (\$)		FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =	*			X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*			X \$ =				
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL				
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)		(Column 3)					
AMENDMENT	03/24/2016	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 19	Minus	** 21	= 0		x \$40 =		0	
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0		x \$210 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		0		
(Column 1)			(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=		X \$ =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$ =			
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE				
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

LIE
/DEBORAH POLLARD/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 06/20/2016
MCCARTER & ENGLISH, LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

TURCHEN, ROCHELLE DEANNA

ART UNIT	PAPER NUMBER

3777

MAIL DATE	DELIVERY MODE

06/20/2016

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2016.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-16,18,21 and 22 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-16,18,21 and 22 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 24th, 2016 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6, 7, 10-16, 18, 21 and 22 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Borchers et al (6,289,107).

Regarding claims 1 and 4, Genest disclose a method for identifying maladies that affect human tissue, the method comprising the following steps: (a) positioning a portion of a person (foot or entire person) at a specified imaging position within an enclosure

(foot measurement system placed in a room) and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other (fig.3; col.10, ll.55-57); (b) illuminating an external surface of the person thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging device, and generating reflectance light off of the illuminated external surface (digital cameras, fig.3; col.2, ll.34-39; col.4, ll.16-23); (c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person at the specified imaging position using said reflectance light off of the illuminated external surface (col.10, l.55-col.11, l.34); and (d) measuring one or more imaged features of the person thereof located at the specified imaging position based on a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device (col.10, l.55-col.11, l.34), but fail to explicitly disclose using only said reflectance light off of the illuminated external surface.

However, Borchers et al teach in the same medical field of endeavor, using only said reflectance light off of the illuminated external surface (claim 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging using reflectance of Genest with the explicit disclosure

of using only reflectance of Borchers et al as it would provide imaging and measurements of an external structure.

Regarding claim 2, Genest discloses wherein the measuring step further includes measuring based on the coordinates and resolution information of the respective imaging device (col.2, ll.34-51; col.3, ll.20-40).

Regarding claims 3 and 6, Genest discloses generating an image of the illuminated external surface with a plurality of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other imaging devices and light sources located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 7, Genest discloses providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other (fig.3).

Regarding claim 10, Genest discloses enclosing the person or portion thereof with panels throughout a radius selected from at least one of: 360 degrees about a vertical axis and 360 degrees about a horizontal axis (figs. 3 and 4).

Regarding claim 11, Genest discloses wherein the panels include at least one imaging means (camera, fig.3).

Regarding claims 12 and 13, Genest discloses producing with the plurality of light sources and capturing with all of the plurality of imaging devices light in the humanly perceivable light spectrum (digital camera, col.2, ll.34-39).

Regarding claim 14, Genest discloses wherein the panels include a material structurally capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof (the limitation “capable of” is directed to the intended use and therefore not given any patentable weight, col.3, ll.5-19).

Regarding claim 15, Genest discloses further comprising the sets of scanning the surface of synchronously and asynchronously from a physically dispersed matrix of cameras and multiple angled lighting sources (col.10, l.55-col.11, l.24).

Regarding claim 16, Genest discloses wherein the external surface of the person or portion thereof is a surface of the person’s skin (surface of foot, col.4, ll.16-23).

Regarding claim 18, Genest discloses wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of imaging devices (cameras, col.4, ll.16-23; fig.3).

Regarding claims 21 and 22, Genest discloses repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position at a later point in time (col.11, ll.22-34).

5. Claims 5, 8 and 9 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Borchers et al (6,289,107) as applied to claim 1 above, and further in view of Barney (6,301,549).

Regarding claims 5, 8 and 9, Genest as modified by Borchers et al disclose the invention as claimed and discussed above, but fail to explicitly disclose illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third and fourth array, and positioning the plurality of light sources symmetrically about the center light of the first, second, third and fourth imaging arrays.

However, Barney teaches in the same medical field of endeavor, illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array , wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other, and positioning the plurality of light sources symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source

located between the third and fourth imaging arrays and symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array (fig.1; col.3, ll.29-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging devices and light sources of Genest as modified by Borchers et al with the specific configuration of Barney as it would provide optimized and increased image data collection.

Response to Arguments

6. Applicant's arguments with respect to claims 1-16, 18, 21 and 22, regarding the use of only reflectance light off of the illuminated external surface, have been considered but are moot based on the current grounds of rejection.

7. Applicant's arguments filed March 24th, 2016 have been fully considered but they are not persuasive. Regarding claim 1, Applicant states Genest fails to disclose "a method for identifying maladies that affect human tissue."

8. Regarding claim 1, Applicant states the prior art fail to disclose "at a specified imaging position...and spaced away a predetermined distance away from" the imaging devices. Specifically, Applicant states Genest discloses the distance of the body part from the cameras is unknown. Further, Applicant states the prior art fail to disclose using the focal length of the cameras to measure features of the body part as claimed.

9. In response to applicant's arguments, the recitation "a method for identifying maladies that affect human tissue" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable

Art Unit: 3777

weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

10. Further, the disclosure of “a method for identifying maladies that affect human tissue” is a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

11. Examiner maintains the position previously set forth in the Final Office Action dated September 24th, 2015. Regarding claim 1, Examiner’s position is Genest does disclose positioning a person or portion thereof at a specified imaging position and spaced a predetermined distance away from and relative to each of a plurality of imaging devices. Specifically, the disclosure of Genest requires the two feet be disposed on a double patterned floor plane with cameras capturing the feet as seen in figure 3. The foot measurement system is configured prior to placing the feet into the system and therefore the imaging position is specified and the feet are spaced a predetermined distance away from and relative to each of a plurality of imaging devices, as the feet must be placed on the floor plane (fig.3; col.5, ll.11-13). The claim as written does not require a specific predetermined distance and does not require the predetermined distance be a known quantitative amount. Regarding step (d) of claim 1,

Art Unit: 3777

Examiner's position is the imaged features which are measured are not defined within the claim. Further, while the features are measured based on "a predetermined distance" and "focal length," the claim does not define in what way the measurement uses these parameters to measure the image features. Examiner's position is an acquired image has both a distance and focal length and therefore any feature measured using an image will inherently be based in part on the position and focal length. Genest uses images to determine the dimensions of a foot which is considered to be an imaged feature. Examiner suggests further defining the "one or more imaged features" as well as clarifying the limitation to explicitly disclose in what way the parameters "position" and "focal length" are used to measure the features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE TURCHEN whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3777

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE TURCHEN/
Primary Examiner, Art Unit 3777

Notice of References Cited	Application/Control No. 12/102,810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-6,289,107 B1	09-2001	Borchers; Robert E.	A43D1/02	356/391
	B	US-				
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE D TURCHEN	Art Unit 3777

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	2/18/14	RDR
Updated EAST Search	3/2/15	RDT
Updated EAST Search	9/21/15	RDT
Updated EAST Search	6/17/16	RDT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
A61B	5/0064	6/17/16	RDT

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S163	1	"6546356".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/08 09:29
S164	1	"6546356".pn. and laser with light	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/08 09:34
S165	1	"6546356".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 09:53
S166	1	"6546356".pn. and reflect\$3 with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 09:57
S167	10406	only near5 reflect\$3 with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 10:01
S168	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT	OR	ON	2016/06/17 10:02
S169	1	S168 and only with reflect\$3	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 10:02
S170	6	S168 and reflect\$3 with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 10:03
S171	0	S168 and reflect\$3 with imag\$3 and refract\$3	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 10:03
S172	77	("4817622" "4908876" "4947850" "5041965" "5231434" "5353075" "5359550" "5424838" "5519208" "5608210" "5757544" "5772593" "5907395" "5947906" "6178340").PN. OR ("6556858").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 10:09
S173	10	("5261404" "5865829" "5879306" "6011986" "6339216" "6397091" "6556858" "6597941" "7092014").PN. OR ("7359748").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/17 10:13
S174	1	"6272367".pn.	US-PGPUB;	OR	ON	2016/06/17 10:26

			USPAT; USOCR			
S175	1	"6289107".PN. AND REFLECT\$4 WITH IMAG\$3	US- PGPUB; USPAT; USOCR	OR	ON	2016/06/17 10:43

EAST Search History (Interference)

<This search history is empty>

6/ 17/ 2016 12:22:53 PM
C:\ Users\ rreardon\ Documents\ EAST\ Workspaces\ 12102810.wsp

<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE TURCHEN	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant
 ☐ CPA
 ☐ T.D.
 ☐ R.1.47

CLAIM		DATE								
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012	07/24/2013	02/18/2014	03/02/2015	09/21/2015	06/17/2016
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓
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	14	✓	✓	✓	✓	✓	✓	✓	✓	✓
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	16			✓	✓	✓	✓	✓	✓	✓
	17				✓	✓	✓	✓	-	-
	18				✓	✓	✓	✓	✓	✓
	19				✓	✓	✓	✓	-	-
	20				✓	-	-	-	-	-
	21							✓	✓	✓
	22							✓	✓	✓

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Turchen
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICIAL ACTION

Dear Sir:

Pursuant to 37 C.F.R. § 1.111, this submission accompanies the Request for Continued Examination filed herewith.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 6.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that affect human tissue, the method comprising the following steps:

(a) positioning a person or portion thereof at a specified imaging position within an enclosure and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other, wherein each of said imaging devices is located a predetermined distance relative to the specified imaging position and defines respective coordinates and said respective predetermined distance relative to the specified imaging position, and defines a respective focal length and resolution information;

(b) illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating reflectance light off of the illuminated external surface;

(c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person or portion thereof located at the specified imaging position using ~~only the~~ said reflectance light off of the illuminated external surface; and

(d) measuring one or more imaged features of the person or portion thereof located at the specified imaging position, and thereby generating at least one first measurement of said one or more imaged features, based on the plurality of images ~~a predetermined distance relative to the specified imaging position and a focal length of the respective imaging device.~~

2. (Canceled).

3. (Previously Presented) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices

that are laterally spaced relative to each other imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned symmetrically relative to a center line of the specified imaging position.

7. (Previously Presented) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Previously Presented) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Previously Presented) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Previously Presented) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from one or more of: 360 degrees about a vertical axis or 360 degrees about a horizontal axis.

11. (Previously Presented) A method as defined in claim 10, wherein the panels include at least one means for imaging or imaging device.

12. (Previously Presented) A method as defined in claim 1, further comprising the steps of capturing with all of the plurality of imaging devices one or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; or (vi) temperature emissions.

13. (Previously Presented) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in one or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; or (vi) temperature emissions.

14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Previously Presented) A method as defined in claim 1, further comprising the steps of scanning the illuminated external surface synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

17. (Canceled).

18. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (Canceled).

20. (Canceled).

21. (Previously Presented) A method as defined in claim 1, further comprising repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position.

22. (Currently Amended) A method as defined in claim 1, further comprising repeating steps (a) through (d) at a later point in time, thereby generating at least one second measurement of said one or more imaged features, comparing said at least one first measurement and said at least one second measurement, and determining any change over time from said at least one first measurement to said at least one second measurement.

23. (New) A method as defined in claim 1, wherein step (c) includes generating refraction light from the illuminated person.

24. (New) A method as defined in claim 1, wherein the enclosure encloses the person throughout a radius selected from one or more of: 360 degrees about a vertical axis or 360 degrees about a horizontal axis.

REMARKS

This submission is in response to the pending Official Action. Claims 1-16, 18, 21 and 22 were pending in this application and were rejected. Claim 2 has been canceled herein without prejudice. Claims 23 and 24 have been added herein. Thus, claims 1, 3-16, 18 and 21-24 are currently pending. Reconsideration of the application under 37 C.F.R. § 1.112 is respectfully requested.

Rejections over Prior Art

The Examiner rejects claims 1-4, 6, 7, 10-16, 18, 21 and 22 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,546,356 to Genest in view of U.S. Patent No. 6,289,107 to Borchers. Claims 5, 8, 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Genest and Borchers in view of U.S. Patent No. 6,301,549 to Barney. Applicant respectfully traverses.

Claim 1 has been amended herein¹ to recite, *inter alia*, a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other, wherein each of said imaging devices is located a predetermined distance relative to the specified imaging position and defines respective coordinates and said respective predetermined distance relative to the specified imaging position. In Genest, the camera(s) having the horizontal FOV(s) move along a vertical range in order to capture multiple images of the body part, e.g., at different angles. *E.g.*, Genest at col. 5, line 63 – col. 6, line 1 (“there is a single camera **traversing the vertical range** . . . The camera can be a single camera . . . or two cameras **vertically translated** by the motor in tandem”

¹ No new matter has been added, as the amendments are fully supported by the application as filed. *E.g.*, p. 1, lines 1-7; p. 4, line 25 – p. 5, line 3; p. 5, line 24 – p. 6, line 8; p. 8, lines 5-8; p. 9, lines 20-23; p. 11, lines 5-8; claims 1, 2 as filed.

(emphasis added)); col. 6, lines 13-14 (“imaging camera is shown to **traverse the vertical camera position range**” (emphasis added)); col. 8, lines 61-63 (“Referring to all of the Figures, and more particularly to FIGS. 4A, 4B and 4C, the **vertically traversing** imaging camera capture images at various vertical positions to generate multiple 2D images. As indicated in FIGS. 4A, 4B and 4C, **the vertical imaging camera captures images at various vertical positions**” (emphasis added)); col. 9, lines 59-60 (“the camera is **moved incrementally vertically** while taking multiple 2D images” (emphasis added)); col. 11, lines 67 (discussing movement of camera); FIGS. 1, 3; claim 2 (the method includes “repositioning the camera at different positions”). Thus, Genest does not have a plurality of imaging devices that are both vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other, where each imaging device is located a predetermined distance relative to the specified imaging position and defines respective coordinates and said respective predetermined distance relative to the specified imaging position.

It should be noted that Genest expressly discusses the **necessity** of the movement of the camera(s). *E.g.*, col. 9, line 26-41 (“the camera is vertically positioned at a particular elevation for each capture 2D image . . . Elevating the camera by motor control to varying elevations enable the capturing multiple 2D images **to adequately image** the instep . . . When the camera takes multiple 2D images at respective multiple vertical heights . . . Through triangulation computer processing, the actual height of the instep can be calculated from the plurality of 2D images” (emphasis added)); col. 9, line 58-60 (“To adequately determine the contour of the arch, the camera is moved incrementally vertically while taking multiple 2D images”); col. 10, line 64 – col. 11, line 10 (the camera **will need to assume several locations** both horizontal and vertical so that the same method of triangulation calculation can be used to produce the curved edges of

the human body being measured. . . a plurality of cameras could be placed vertically and staggered from each other so that all of the cameras move in unison when actuating the motor” (emphasis added)); *see also* col. 8, line 61 – col. 9, line 7 (describing how vertically traversing the camera provides multiple 2-D images); FIGS. 4A-4C (showing multiple scan geometries generated by vertically traversing the camera).

None of the additional references cited by the Examiner addresses the deficiencies of Genest. Accordingly, claim 1 is patentable.

As claim 1 is patentable, the other claims dependent thereon are also patentable. *See* MPEP § 2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (claims depending from a patentable claim are also patentable over the prior art). However, Applicant submits that these dependent claims are independently patentable.

For example, contrary to the Examiner’s contention, Genest does not teach or suggest the features of claim 10. Claim 10 recites enclosing the person or portion thereof with panels throughout a radius of 360 degrees about a vertical axis and/or 360 degrees about a horizontal axis. Though Applicant does not concede that Genest teaches an enclosure, it certainly does not teach or suggest enclosing throughout a radius of 360 degrees about a vertical axis and/or 360 degrees about a horizontal axis as claimed. The Examiner contends that Genest teaches this in FIGS. 3 and 4. This is not correct. As seen in FIG. 3, Genest has only a floor plane and a back plane for each foot. It does not have any plane in the front, rear or top. This is apparent from the fact that in FIG. 3 is a front view of the system. Col. 4, line 67. Yet in FIG. 3, one can only see, and the figure only identifies, a floor plane and a back plane. No front, rear or top plane is in the figure. Indeed, if the Genest system did have a front plane, one could not view into the interior of the system as seen in FIG. 3 because the view would be blocked by the front plane. Further,

the entirety of Genest mentions only a floor plane and a rear plane. *E.g.*, col. 5, line 56 – col. 6, line 22 (describing the embodiment of FIGS. 2-4 as having floor and back planes, but not mentioning a front, rear or top plane).

Having established that Genest has only a floor plane and two opposing vertical back planes, that is, having only the shape of a “U,” it is clear that the Genest system does not enclose the foot through a radius of 360 degrees in any manner. It thus does not enclose the foot or feet throughout a radius of 360 degrees about a vertical axis and/or 360 degrees about a horizontal axis as claimed in claim 10.

Claim 10 is thus patentable for at least these additional reasons.

Genest does not teach or suggest the features of claim 22 either. Claim 22 as amended recites, *inter alia*, that at a later time, the steps (a)-(d) recited in claim 1 are performed, generating a second measurement of the imaged feature(s). The second measurement is compared to the first measurement (generated by performing the acts in claim 1), and any change over time from the first to second measurements is determined. Support for the amendment is found in the application as filed, e.g., p. 8, lines 16-18, 23-25; p. 9, lines 12-13, 26-27; p. 11, lines 6-8; p. 24, lines 14-17.

Nothing in Genest teaches taking a second measurement at a later point in time, comparing the first and second measurements, and determining any change over time from the first to the second measurement. The passage relied on by the Examiner in the Office Action as allegedly teaching repeating the steps of claim 1 at a later point in time, col. 11, lines 22-34, makes absolute no mention of comparing measurements and determining change over time.

Thus, claim 22 is patentable for at least these reasons also.

For at least the above reasons, the rejections should be withdrawn.

New Claims

Claims 23 and 24 have been added herein. No new matter has been added. Support for claim 23 is found in the application as filed at, e.g., claim 1 as filed. Support for claim 24 is found in the application as filed, e.g., claim 10 as filed and FIGS. 1, 3, 5.

Claims 23 and 24 are patentable at least for being dependent on patentable claim 1. *See* MPEP § 2143.03. However, Applicant submits that these dependent claims are independently patentable. For example, claim 24 is patentable for similar reasons as to why claim 10 is patentable. Genest does not teach or suggest an enclosure that encloses the person throughout a radius of 360 degrees about a vertical axis and/or 360 degrees about a horizontal axis. Rather, Genest's floor plane(s) and back plane(s) extend only part-way around the foot. *See* Genest, FIGS. 1-3.

For at least the above reasons, claims 23 and 24 should be allowed.

Conclusion

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

By: /Kevin L. Reiner/
Mark D. Giarratana (Reg. No. 32,615)
Kevin L. Reiner (Reg. No. 43,040)
Attorneys for Applicant

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 100504.00008
Application Number 12/102,810	Filed April 14, 2008	
For Method for Total Immersion Photography		
Art Unit 3777	Examiner Rochelle D. Turchen	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ _____
☒ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ <u>700</u>
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.☐ A check in the amount of the fee is enclosed.☐ Payment by credit card. Form PTO-2038 is attached.☐ The Director has already been authorized to charge fees in this application to a Deposit Account.☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3569.☐ Payment made via EFS-Web.**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

I am the

☐ applicant.☒ attorney or agent of record. Registration number 43,040.☐ attorney or agent acting under 37 CFR 1.34. Registration number _____./Kevin L. Reiner/

Signature

December 20, 2016

Date

Kevin L. Reiner

Typed or printed name

860-275-6756

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Mark D. Giarratana/Kevin Reiner			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
Total in USD (\$)				700

Electronic Acknowledgement Receipt

EFS ID:	27856526
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Mark D. Giarratana/Kevin Reiner
Filer Authorized By:	Mark D. Giarratana
Attorney Docket Number:	100504.00008
Receipt Date:	20-DEC-2016
Filing Date:	14-APR-2008
Time Stamp:	22:03:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 700
RAM confirmation Number	122116INTEFSW00007630503569
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		100504-00008_ROA.PDF	62656	yes	11
			0881723db42a5ddb40664f81479359ce5a0af8d7		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	11	
Warnings:					
Information:					
2	Extension of Time	100504-00008_EOT.PDF	126542	no	1
			515b9b5ec1ef65b3ec51cbf8a6924c7801b1b50f		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30280	no	2
			a3dfd11be7f9f00dfd59232deb09b0ee1d629bd5		
Warnings:					
Information:					
Total Files Size (in bytes):			219478		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/102,810	Filing Date 04/14/2008	☐ To be Mailed

 ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

	12/20/2016	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	* 20	Minus	** 21	= 0	X \$40 =	0
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X \$210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
	TOTAL ADD'L FEE						0

(Column 1)

(Column 2)

(Column 3)

	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
	TOTAL ADD'L FEE					

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

 LIE
 TYWANA LOVELACE

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 02/01/2017
MCCARTER & ENGLISH, LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

TURCHEN, ROCHELLE DEANNA

ART UNIT	PAPER NUMBER

3777

NOTIFICATION DATE	DELIVERY MODE

02/01/2017

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hartforddocketing@mccarter.com

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2016.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1,3-16,18 and 21-24 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) _____ is/are allowed.
- 7) ☒ Claim(s) 1,3-16,18 and 21-24 is/are rejected.
- 8) ☐ Claim(s) _____ is/are objected to.
- 9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____	4) ☐ Other: _____

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 4, 6, 7, 10-16, 18 and 21-24 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Genest (6,546,356).

Regarding claims 1 and 4, Genest disclose a method for identifying maladies that affect human tissue, the method comprising the following steps: (a) positioning a portion of a person (foot or entire person) at a specified imaging position within an enclosure (foot measurement system placed in a room) and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other, wherein each of said imaging devices is located a predetermined distance relative to the specified imaging position and defines respective coordinates and said respective predetermined distance relative to the specified imaging position, and defines a respective focal length and

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resolution information (fig.3; col.10, ll.55-57); (b) illuminating an external surface of the person thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging device, and generating reflectance light off of the illuminated external surface (digital cameras, fig.3; col.2, ll.34-39; col.4, ll.16-23); (c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person at the specified imaging position using said reflectance light off of the illuminated external surface (col.10, l.55-col.11, l.34); and (d) measuring one or more imaged features of the person thereof located at the specified imaging position, and thereby generating at least one first measurement of said one or more features, based on the plurality of images (limitations including "thereby" and "whereby" are considered to merely be the result of the measuring step and does not provide additional patentable weight; col.10, l.55-col.11, l.34)

Regarding claims 3 and 6, Genest discloses generating an image of the illuminated external surface with a plurality of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other imaging devices and light sources located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 7, Genest discloses providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a

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side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other (fig.3).

Regarding claims 10 and 24, Genest discloses enclosing the person or portion thereof with panels throughout a radius selected from at least one of: 360 degrees about a vertical axis and 360 degrees about a horizontal axis (figs. 3 and 4).

Regarding claim 11, Genest discloses wherein the panels include at least one imaging means (camera, fig.3).

Regarding claims 12 and 13, Genest discloses producing with the plurality of light sources and capturing with all of the plurality of imaging devices light in the humanly perceivable light spectrum (digital camera, col.2, ll.34-39).

Regarding claim 14, Genest discloses wherein the panels include a material structurally capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof (the limitation "capable of" is directed to the intended use and therefore not given any patentable weight, col.3, ll.5-19).

Regarding claim 15, Genest discloses further comprising the sets of scanning the surface of synchronously and asynchronously from a physically dispersed matrix of cameras and multiple angled lighting sources (col.10, l.55-col.11, l.24).

Regarding claim 16, Genest discloses wherein the external surface of the person or portion thereof is a surface of the person's skin (surface of foot, col.4, ll.16-23).

Regarding claim 18, Genest discloses wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of imaging devices (cameras, col.4, ll.16-23; fig.3).

Regarding claims 21 and 22, Genest discloses repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position at a later point in time, thereby generating at least one second measurement of said one or more imaged features, comparing said at least one first measurement and said at least one second measurement, and determining any change over time from said at least one first measurement to said at least one second measurement (limitations including "thereby" and "whereby" are considered to merely be the result of the measuring step and does not provide additional patentable weight; col.11, ll.22-34).

Regarding claim 23, Genest discloses wherein step (c) includes generating refraction light from the illuminated person (col.10, l.55-col.11, l.34).

Claim Rejections - 35 USC § 103

4. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the

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time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 8 and 9 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Barney (6,301,549).

Regarding claims 5, 8 and 9, Genest discloses the invention substantially as claimed, but fail to explicitly disclose illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third and fourth array, and positioning the plurality of light sources symmetrically about the center light of the first, second, third and fourth imaging arrays.

However, Barney teaches in the same medical field of endeavor, illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other, and positioning the plurality of light sources symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source

located between the third and fourth imaging arrays and symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array (fig.1; col.3, ll.29-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging devices and light sources of Genest with the specific configuration of Barney as it would provide optimized and increased image data collection.

Response to Arguments

6. Applicant's arguments filed December 20th, 2016 have been fully considered but they are not persuasive. Regarding claim 1, Applicant states the prior art fail to disclose "a plurality of imaging device that are both vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other, where each imaging device is located a predetermined distance relative to the specified imaging position and defines respective coordinates and said respective predetermined distance relative to the specified imaging position."

7. Regarding claim 10, Applicant states the prior art fail to disclose "enclosing the person or portion thereof with panels throughout a radius of 360 degrees about a vertical axis and/or 360 degrees about a horizontal axis.

8. Regarding claim 22, Applicant states the prior art fail to disclose "that at a later time, the steps (a)-(d) recited in claim 1 are performed, generating a second measurement of the imaged feature(s). The second measurement is compared to the

first measurement, and any change over time from the first to second measurements is determined.”

9. Regarding claims 23 and 24, Applicant states the prior art does not disclose the newly presented claims. Applicant states claims 23 and 24 are patentable at least for being dependent on patentable claim 1. Regarding claim 24, Applicant states the claim is patentable for similar reasons as to why claim 10 is patentable.

10. Examiner maintains the position previously set forth in the Non-Final Office Action dated June 20th, 2016. Regarding claim 1, Examiner's position is Genest does disclose positioning a person or portion thereof at a specified imaging position and spaced a predetermined distance away from and relative to each of a plurality of imaging devices. Specifically, the disclosure of Genest requires the two feet be disposed on a double patterned floor plane with cameras capturing the feet as seen in figure 3. The foot measurement system is configured prior to placing the feet into the system and therefore the imaging position is specified and the feet are spaced a predetermined distance away from and relative to each of a plurality of imaging devices, as the feet must be placed on the floor plane (fig.3; col.5, ll.11-13). The claim as written does not require a specific predetermined distance and does not require the predetermined distance be a known quantitative amount.

11. Regarding claim 10, Examiner's position is the claim as written only requires panels throughout a radius 360 degrees about a vertical axis or a horizontal axis. The claim as written does not require the panels be directly connected without any gaps, so as to provide a continuous set of panels. It is sufficient to have panels along the 360

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degree radius. Genest discloses this feature in the form of a floor plane and back planes as shown in figure 3. Examiner suggests amending the claims to disclose the panels are continuous and each panel is directly connected to each subsequent panel. Further, the claim only requires one of 360 degrees about a vertical axis and 360 degrees about a horizontal axis, therefore, it is not required for the enclosure to have a front, rear and top.

12. Regarding claim 22, Examiner's position is Genest discloses repeating steps (a) through (d) at a later point in time (col.11, ll.22-34). Examiner's position is Applicant has not provided "a later point in time." Examiner's position is Genest discloses cameras which acquire imaging information and then the platform is rotated to acquire additional image information using the plurality of imaging devices at a later point in time.

13. Regarding claims 23 and 24, Examiner's position is the prior art does disclose the newly presented claims. Examiner's position is claims 23 and 24 are not patentable at least for being dependent on patentable claim 1. Regarding claim 24, Examiner's position is the claim is not patentable for similar reasons as to why claim 10 is not patentable.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE TURCHEN whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE TURCHEN/
Primary Examiner, Art Unit 3777

Notice of References Cited	Application/Control No. 12/102,810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-5,692,511 A	12-1997	Grable; Richard J.	A61B5/4312	250/330
	B	US-				
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE D TURCHEN	Art Unit 3777

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	2/18/14	RDR
Updated EAST Search	3/2/15	RDT
Updated EAST Search	9/21/15	RDT
Updated EAST Search	6/17/16	RDT
Updated EAST Search	1/26/17	RDT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
A61B	5/0064	6/17/16	RDT

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"6546356".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 09:39
L2	2	"6301549".pn. "6289107".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 09:50
L4	184122	simultaneous\$2 with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L5	37486	plurality with (camera light adj source) and light with source and reflect\$4 with image	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L6	8826	L4 and L5	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L7	1302	L6 and reflectance near15 (light imag\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L8	140	L7 and @ad<"20000726"	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L9	20	L8 and (maladies abnormality cancer tissue)	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L10	10119	plurality with (camera) and light with source and reflect\$4 with image	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L11	1111	L10 and reflectance with light	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L12	207	L11 and (distance position) with focal near5 length	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L13	27	L12 and @ad<"20000726"	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L14	8	L13 and reflectance with imag\$3	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L15	4358	600/473,476.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24
L16	21	L15 and imag\$3 near10 skin near10 surface and adjust\$4 with depth	US-PGPUB; USPAT; USOCR	OR	ON	2017/01/26 10:24

EAST Search History (Interference)

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<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE TURCHEN	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47				
CLAIM		DATE								
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012	07/24/2013	02/18/2014	03/02/2015	09/21/2015	06/17/2016
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓
	15	✓	✓	✓	✓	✓	✓	✓	✓	✓
	16			✓	✓	✓	✓	✓	✓	✓
	17				✓	✓	✓	✓	-	-
	18				✓	✓	✓	✓	✓	✓
	19				✓	✓	✓	✓	-	-
	20				✓	-	-	-	-	-
	21							✓	✓	✓
	22							✓	✓	✓

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL **(Submitted Only via EFS-Web)**

Application Number	12/102,810	Filing Date	2008-04-14	Docket Number (if applicable)	100504.00008	Art Unit	3777
First Named Inventor	Rhett Drugge			Examiner Name	Rochelle D. Reardon		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☒ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 503569

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

Signature of Registered U.S. Patent Practitioner			
Signature	Kevin L. Reiner/	Date (YYYY-MM-DD)	2017-08-01
Name	Kevin L. Reiner/	Registration Number	43040

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 100504.00008
Application Number 12/102,810	Filed April 14, 2008	
For Method for Total Immersion Photography		
Art Unit 3777	Examiner Rochelle D. Turchen	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ _____
☒ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ <u>700</u>
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.☐ A check in the amount of the fee is enclosed.☐ Payment by credit card. Form PTO-2038 is attached.☐ The Director has already been authorized to charge fees in this application to a Deposit Account.☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3569.☐ Payment made via EFS-Web.**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

I am the

☐ applicant.☒ attorney or agent of record. Registration number 43,040.☐ attorney or agent acting under 37 CFR 1.34. Registration number _____./Kevin L. Reiner/

Signature

August 1, 2017

Date

Kevin L. Reiner

Typed or printed name

860-275-6756

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Electronic Patent Application Fee Transmittal

Application Number:	12102810			
Filing Date:	14-Apr-2008			
Title of Invention:	Method for Total Immersion Photography			
First Named Inventor/Applicant Name:	Rhett Drugge			
Filer:	Kevin L. Reiner			
Attorney Docket Number:	100504.00008			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	3	40	120
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	850	850
Total in USD (\$)				1670

Electronic Acknowledgement Receipt

EFS ID:	29955332
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Kevin L. Reiner
Filer Authorized By:	
Attorney Docket Number:	100504.00008
Receipt Date:	01-AUG-2017
Filing Date:	14-APR-2008
Time Stamp:	23:14:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1670
RAM confirmation Number	080217INTEFSW00007303503569
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		100504-00008_Response_to_Office_Action.PDF	60037	yes	12
			f958c9fdb900d7c8b1ee41b178dc1b4f7360deb3		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	6	
	Applicant Arguments/Remarks Made in an Amendment		7	12	
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	100504-00008_RCE.PDF	832017	no	3
			43882d5726fab13a155147e0a8a8991790fed265		
Warnings:					
Information:					
3	Extension of Time	100504-00008_EOT.PDF	122649	no	1
			192ba1319e5dfd305583aa75c6a2e12149529917		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	33885	no	2
			02f509edac7ccb1e5ddcc7da54edb7c433492dd2		
Warnings:					
Information:					
Total Files Size (in bytes):			1048588		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	) Examiner: Rochelle D. Turchen
	)
Serial No.: 12/102,810	) Confirmation No.: 1863
	)
Filing Date: April 14, 2008	) Group Art Unit: 3777
	)
For: Method for Total Immersion Photography	) Docket No.: 100504.00008

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICIAL ACTION

Dear Sir:

Pursuant to 37 C.F.R. § 1.114, this submission accompanies the Request for Continued Examination filed herewith.

Amendments to the Claims may be found on page 2.

Remarks may be found on page 7.

Amendments to the Claims:

In accordance with 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for identifying maladies that affect human tissue, the method comprising the following steps:

(a) positioning a person or portion thereof at a specified imaging position within an enclosure and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other, wherein each of said imaging devices is located a predetermined distance relative to the specified imaging position and defines respective coordinates and said respective predetermined distance relative to the specified imaging position, and defines a respective focal length and resolution information;

(b) illuminating an external surface of the person or portion thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging devices, and generating reflectance light off of the illuminated external surface;

(c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person or portion thereof located at the specified imaging position using said reflectance light off of the illuminated external surface; and

(d) measuring one or more imaged features of the person or portion thereof located at the specified imaging position, and ~~thereby~~ generating at least one first measurement of said one or more imaged features at a first point in time, based on the plurality of images.

2. (Canceled).

3. (Previously Presented) A method as defined in claim 1, further comprising generating an image of the illuminated external surface with a plurality of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices

that are laterally spaced relative to each other imaging devices located on opposite sides of a centerline of the specified imaging position relative to each other.

4. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with a plurality of light sources located amongst the plurality of imaging devices.

5. (Previously Presented) A method as defined in claim 4, further comprising illuminating the external surface with at least two light sources located lateral to at least two imaging devices.

6. (Previously Presented) A method as defined in claim 1, further comprising illuminating the external surface with the at least two light sources positioned symmetrically relative to a center line of the specified imaging position.

7. (Previously Presented) A method as defined in claim 1, further comprising the steps of:

providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and

providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other.

8. (Previously Presented) A method as defined in claim 7, further comprising the steps of:

providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array, wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and

providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other.

9. (Previously Presented) A method as defined in claim 8, further comprising the steps of positioning the plurality of light sources symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array.

10. (Previously Presented) A method as defined in claim 1, further comprising the step of enclosing the person or portion thereof with panels throughout a radius selected from one or more of: 360 degrees about a vertical axis or 360 degrees about a horizontal axis.

11. (Currently Amended) A method as defined in claim 10, wherein the panels include at least one ~~means for imaging or~~ of said imaging devices.

12. (Previously Presented) A method as defined in claim 1, further comprising the steps of capturing with all of the plurality of imaging devices one or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; or (vi) temperature emissions.

13. (Previously Presented) A method as defined in claim 1, further comprising the steps of producing with the plurality of light sources an amount of illumination for the plurality of imaging devices to function in one or more of: (i) light in the humanly perceivable light spectrum; (ii) infrared emissions; (iii) electrical emissions; (iv) magnetic emissions; (v) chemical emissions; or (vi) temperature emissions.

14. (Previously Presented) A method as defined in claim 10, wherein the panels include a material capable of allowing an amount of illumination to pass through the panels to illuminate the external surface of the person or portion thereof.

15. (Previously Presented) A method as defined in claim 1, further comprising the steps of scanning the illuminated external surface synchronously and asynchronously from a physically dispersed matrix of cameras and multiply angled lighting sources.

16. (Previously Presented) A method as defined in claim 1, wherein the external surface of the person or portion thereof is a surface of the person's skin.

17. (Canceled).

18. (Previously Presented) A method as defined in claim 1, wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of the imaging devices.

19. (Canceled).

20. (Canceled).

21. (Previously Presented) A method as defined in claim 1, further comprising repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position.

22. (Currently Amended) A method as defined in claim 1, further comprising repeating steps (a) through (d) at a later point in time, ~~thereby~~ generating at least one second measurement of said one or more imaged features at said later point in time, comparing said at least one first measurement and said at least one second measurement, and determining any change ~~over of~~ said one or more imaged features between the first point in time and the later point in time from based on said at least one first measurement of said one or more imaged features at said first point in time and ~~[[to]]~~ said at least one second measurement of said one or more imaged features at said later point in time.

23. (Previously Presented) A method as defined in claim 1, wherein step (c) includes generating refraction light from the illuminated person.

24. (Previously Presented) A method as defined in claim 1, wherein the enclosure encloses the person throughout a radius selected from one or more of: 360 degrees about a vertical axis or 360 degrees about a horizontal axis.

25. (New) A method as defined in claim 1, wherein the one or more imaged features includes one or more maladies of the skin.

26. (New) A method as defined in claim 25, wherein the one or more maladies of the skin is one or more of a mole, a beauty mark, skin cancer, skin disease or a wound.

27. (New) A method as defined in claim 22, wherein the one or more imaged features includes one or more maladies of the skin.

28. (New) A method as defined in claim 27, wherein the one or more maladies of the skin is one or more of a mole, a beauty mark, skin cancer, skin disease or a wound.

REMARKS

This submission is in response to the pending Official Action and accompanies the Request for Continued Examination filed herewith. Claims 1, 3-16, 18 and 21-24 are pending and stand rejected. Claims 25-28 have been added herein. Thus, claims 1, 3-16, 18 and 21-28 are currently pending. Reconsideration of the application under 37 C.F.R. § 1.114 is respectfully requested.

The Examiner rejects claims 1, 3, 4, 6, 7, 10-16, 18 and 21-24 under 35 U.S.C. § 102 as anticipated by U.S. Patent No. 6,546,356 to Genest. Claims 5, 8, 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Genest in view of U.S. Patent No. 6,301,549 to Barney. Applicant respectfully traverses.

Applicant reiterates and incorporates by reference its previous arguments for patentability, and for brevity do not repeat them here. Applicant does make the following additional comments.

As a first matter, the Examiner takes the position in the Office Action that the word “thereby” in the claims is not entitled to patentable weight.¹ Applicant has removed the word “thereby” from the claims to avoid any misunderstanding by the Examiner.

On the merits, the Examiner continues to grossly misread Genest. First, the Examiner contends that Genest discloses a method of identifying maladies that affect human tissue. Office Action ¶ 3. Genest does no such thing, and the Examiner provides no citation identifying where Genest allegedly does so. Rather, as previously explained to the Examiner, Genest is directed to measuring a body part, such as a foot, in order to determine which shoe manufacturer and shoe size is most appropriate for the particular person. *E.g.*, Genest, col. 3, lines 54-57; col. 4, lines

¹ The Examiner contends similarly with respect to the word “whereby,” but such term does not appear in the claims.

47-55 (“[A] customer can be provided with the best fitting footwear size produced by the footwear manufacture”); col. 5, lines 49-52. Neither the term malady nor any similar word appears anywhere in Genest. If the Examiner continues to maintain her positions with respect to Genest, she should identify the specific location in Genest where her contended teachings can be found.

Second, the Examiner contends that the “placing the feet into the [Genest] system” and “on the floor plane” means that there is a “specified imaging position” as claimed. Office Action ¶ 10. The Examiner’s contention is effectively that, as long as the foot is anywhere in the Genest device, and does not defy gravity by floating in the air, it is at a specified imaging position as claimed. This is unreasonable, even under the broadest reasonable interpretation standard used by the Office. Applicant also notes that nothing in Genest states that the foot must be on the floor plane, and that the person cannot lift the foot off the floor. Again, the Examiner’s position that the foot located anywhere in the device, on or off the floor plane, meets the claim is unreasonable and incorrect.

The Examiner’s reading of claim 10 is also unreasonable and incorrect. The Examiner contends that the Genest device, which has floor plane, left back plane, and right back plane, but no front, back or top, constitute enclosing the foot with panels throughout a radius of 360 degrees about a vertical axis and/or 360 degrees about a horizontal axis. Such is plainly unreasonable, even under the broadest reasonable interpretation standard used by the Office. Under the Examiner’s reasoning, any panel that extends more than zero degrees (out of 360 degrees) would meet the claims. That simply cannot be the case. The Examiner’s rejection of claim 24 is incorrect for the same reasons.

Turning to claim 22, the Examiner appears to misunderstand, or overlook, Applicant's argument, and/or misunderstands the claim. The Examiner appears to contend² that Applicant argued that Genest does not teach imaging the foot at a later point in time. *See* Office Action ¶ 12. Without conceding whether Genest teaches imaging the foot at a later point in time, what Applicant said was the following:

The second measurement is compared to the first measurement (generated by performing the acts in claim 1), and any change over time from the first to second measurements is determined.

The Examiner does not address Applicant's argument. Regardless, nothing in Genest teaches or suggests that the measurements taken after rotation are compared to the measurements taken before rotation, and any differences that occurred over time are determined. The passage cited by the Examiner (col. 11, lines 22-34) merely states that the images taken with the foot rotated at different positions are used to "produce a full body 3-D image with accurate dimensions." This has nothing to do with determining changes over time as claimed. Such would make no sense with respect to Genest, because no measurements change, or would be expected to change, over the course of the few seconds or at most minutes that the foot, while in the Genest device, is rotated and imaged. The claimed step is simply not performed in Genest, or suggested by Genest. Nonetheless, Applicant has amended claim 22 to avoid any misunderstanding by the Examiner that the claim is directed to changes of the one or more imaged features between the first point in time and the second point in time.

² The Examiner states, "Examiner's position is Applicant has not provided 'a later point in time.'" Applicant does not understand this contention, and responds to the Examiner the best it can.

For at least the reasons above, and those previously presented to the Examiner, Applicant submits that the claims are patentable over the cited art, the rejections should be withdrawn, and the claims allowed.

New Claims

Claims 25-28 have been added herein and recite, *inter alia*, that the one or more imaged features are maladies of the skin, such as moles, beauty marks, skin cancer, skin disease and/or wounds. No new matter has been added, as the claimed subject matter is clearly found in the application as filed. *E.g.*, page 1, line 14 – page 3, line 6; p. 5, lines 3-22; page 18, lines 15-27; page 9, lines 9-17; page 11, lines 25-26; page 13, line 13; page 19, line 8; page 22, lines 28-29; page 23, lines 2-6, 24-25; page 24, lines 3-4; page 25, lines 14-16.

Claims 25-28 are patentable at least for being dependent on patentable claims. *See* MPEP § 2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (claims depending from a patentable claim are also patentable over the prior art). However, Applicant submits that these dependent claims are independently patentable. As discussed above, Genest does not teach or suggest imaging and measuring maladies of the skin, such as moles, beauty marks, skin cancer, skin disease and/or wounds. Rather, as discussed above, Genest determines the periphery of the foot, so that a well-fitting shoe may be located. *E.g.*, col. 2, lines 14-28; col. 3, lines 61-62 (“The important parts of a foot to be measured are the periphery of the foot”); col. 5, lines 38-40 (“The computer processes the plurality of captured 2D images into a 3D image of the outermost periphery of the foot resulting in outermost 3D dimensions of the human foot”); col. 8, lines 58-60 (“the computer processes can indirectly determines [sic] the periphery of the imaged human foot”); Abstract (“imaged foot dimensions can be cross-referenced to manufactured shoe sizes for accurate ordering of correctly sized footwear”); col. 4, lines 52-56

("the imaged foot dimensions [] are in turn cross referenced to the correct footwear size so that a customer can be provided with the best fitting footwear size produced by the footwear manufacturer"). Genest is utterly unconcerned with maladies of the skin. In addition, Genest certainly does not compare such maladies at different points in time, and determine any change in a subject malady as claimed in claim 22.

For at least the above reasons, claims 25-28 should be allowed.

Conclusion

It is respectfully submitted that all issues raised by the Examiner have been addressed, and the application is in condition for allowance. A timely allowance is earnestly solicited.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicant believes that no additional fee is required (other than those submitted herewith). However, if an additional fee or extension is required, please consider this to be a petition therefore, and Applicant's attorney hereby authorizes that any such fees be charged to Deposit Account No. 50-3569.

Respectfully submitted,

By: /Kevin L. Reiner/
Mark D. Giarratana (Reg. No. 32,615)
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ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

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	Total (37 CFR 1.16(i))	* 24	Minus	** 21	= 3	x \$40 =	120
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	x \$210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	120

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
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	Attorney Docket Number	100504.00008	

1	Hurley, J., Demers, M., Wulpern, R., Grindon, J., "Body Measurement System using White Light Projected Patterns for Made-to-Measure Apparel," Proc. SPIE 3131, Optical Scanning Systems: Design and Applications, July 7, 1997, pages 212-223.

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**INFORMATION DISCLOSURE
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(Not for submission under 37 CFR 1.99)

Application Number	12102810
Filing Date	2008-04-14
First Named Inventor	Rhett Drugge
Art Unit	3777
Examiner Name	Rochelle Deanna Turchen
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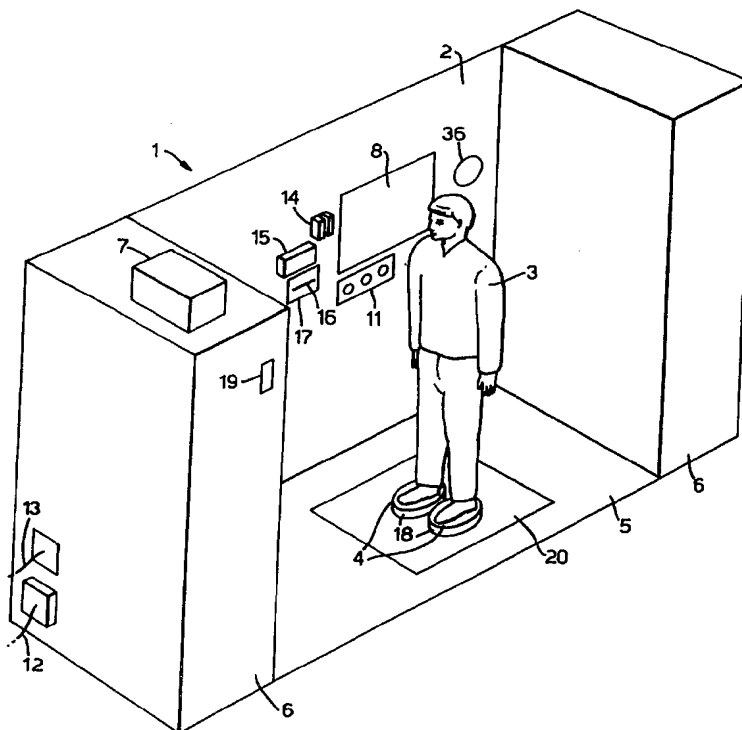


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/GB97/03515 (22) International Filing Date: 22 December 1997 (22.12.97) (30) Priority Data: 9626825.5 24 December 1996 (24.12.96) GB (71)(72) Applicant and Inventor: CRAMPTON, Stephen, James [GB/GB]; 9 Broadfields, Goffs Oak, Waltham Cross, Herts EN7 5JU (GB).		(81) Designated States: AT, AU, BG, BR, CA, CH, CN, CU, CZ, DE, DK, ES, FI, GB, HU, IL, JP, KP, KR, MX, NO, NZ, PL, PT, RU, SE, SG, TR, UA, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: AVATAR KIOSK**(57) Abstract**

The device (100) is rugged, self-contained and compact with an internal area (102) for a person (103) to stand in. Markings (104) for foot positioning are provided on the floor (105) of the internal area. Sensing equipment (106) enclosed in the kiosk is situated at one end. The sensing equipment is connected to a computer (107). A display monitor (108) is connected to the computer. The computer is connected to the operator panel (111). The computer is connected to a telecommunications line (112). The device (100) is connected to mains electricity (113). A credit card swipe reader (114) is connected to the computer. A colour printer (115) connected to the computer outputs a colour image of the Avatar (116) into a tray (117) where the person can recover it. Electronic weighing scales (118) are situated under the floor (105) and are connected to the computer. A microphone (119) is connected to the computer. A loudspeaker (120) is connected to the computer. Internal lighting (121) is connected to the electricity supply. The exterior of the kiosk comprises backlit advertising panels (122).



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AVATAR KIOSK

This invention relates to a kiosk apparatus and method for capturing data on the surface of a person and creating an Avatar of that person.

Several person scanning machines have been built to scan the surface of a person. Some person scanning machines are limited in scope to parts of a person such as the head or hand.

The amount of time to scan a person varies in different machines. Some person scanning machines capture all the data quickly enough to freeze any movement. Other machines take several seconds.

Since parts of the human body obscure other parts of the body, it is necessary to either have multiple sensors or relative movement between the sensor and the person. The main methods of movement that have been used in person scanning machines are cylindrical rotation of the person or linear translation of several sensors.

All machines allow the person to adopt any posture during scanning. However most person scanning machines have a restricted data capture volume and any parts of the body outside that volume are missed.

All person scanning machines capture a representation of the 3D shape of the body. Some machines capture other information such as colour as well.

Most of these person scanning machines are very large in size and often occupy a dedicated room. None of these machines are self-contained in a small kiosk.

Passport photo kiosks are common in public places. They are usually self-contained with an access for a person to enter.

All of these person scanning machines have been designed for a research or laboratory environment. They are usually unrobust and not designed for dirty environments in which they can be knocked and subject to high degrees of wear and tear.

Since most person scanning machines use sensors that are a long distance away from the subject and allow the subject to adopt any posture, it is usual for data in many areas to be obscured.

All existing person scanning machines require highly trained personnel to operate them. None are intended for use by a passer-by in the same way that a passport photo kiosk is operated.

None of the systems include electronic weighing means. Weight cannot be accurately estimated from the known 3D shape of a person, because different people have different amount of fat, bone and tissue, each of which have different densities.

The raw output of all these person scanning machines is a large number of 3D points and texture information in different forms. Special software is then used to convert the raw data into the required forms. Such special software needs a skilled operator to use it.

3D Scanners Ltd in the UK developed a whole body scanner called PERSONA in 1993. The person being scanned stood on a rotating table. Two sensors projected laser stripes through the axis of rotation of the table. As the person was turned, the shape of the body was captured using the principal of laser stripe triangulation. Considerable amounts of surface are obscured using this design.

Cyberware Labs Inc in the USA developed a whole body scanner in 1994. The person remained stationary whilst four sensors which projected horizontal laser stripes descended down gantries. The colour of the person was also recorded. The process takes around 17 seconds. This is a long time for a person to maintain the same position. Also, data is not captured for instance the top of the head and the tops of the shoulders are missed.

3D Scanners Ltd in the UK developed a scanner called ModelMaker in 1996. ModelMaker captures 3D information using a laser stripe sensor and captures texture information using a colour camera. The ModelMaker software can automatically create a 3D polygonal model from the data and texture it with the colour images. The automatic algorithm pipeline for doing that first creates triangular meshes from each sweep of the laser stripe sensor. Then it forms an implicit surface from the triangular meshes. Then it generates a single polygonal mesh from the implicit surface. Holes in the mesh are automatically filled. The mesh is smoothed and polygon reduced. The colour images are mapped onto the mesh to produce texture maps.

Thomas Gentils and Adrian Hilton at Surrey University in Guildford produced a report placed in the public domain in November 1997 on automatically generating an Avatar from four colour images of a person and a standard 3D polygonal model. Their method does not use any 3D measurement. There is a single colour camera. The person makes a similar pose in each of four

orthogonal orientations for four images. The background behind the person is a blue screen. They use standard image processing algorithms for extracting silhouettes and landmarks from the images based on knowledge of the background being blue. They extract silhouettes and similar landmarks from a standard Avatar 3D model. They use standard image processing algorithms for 2D to 2D mapping the silhouettes and landmarks of the standard Avatar 3D model to the silhouettes and landmarks from the images. They use standard image processing algorithms for using the mapped silhouettes and landmarks to deform the standard Avatar 3D model into an untextured Avatar 3D model of the user. They also use standard image processing algorithms and the mapped silhouettes and landmarks to map the image textures onto the untextured Avatar 3D model of the user to produce a textured Avatar 3D model of the user. This works well unless the person is wearing blue clothing such as blue jeans. If blue clothing is worn the silhouette is indistinguishable from the clothing and a faulty Avatar is generated.

Several companies have developed 3D cameras which take a large number of measurements in a short period of time and have used several 3D cameras at the same time to scan a person. 3D cameras have never found commercial success, mainly due to technical limitations.

There are several systems for capturing facial expressions. They mostly use ordinary cameras and landmarks stuck on key points on a person's face for use in real-time in which a virtual actor driven by a powerful computer mimics the person whose facial expressions are being recorded.

Avatars, also known as virtual humans, are used to represent a person in a virtual environment. Many different 'anthropomorphic' software models of Avatars have been developed.

There are three main types of Avatar representations: sprites, polygons and high-level surfaces. Sprites are a pseudo-3D representation in which an Avatar consists of several 2D images taken from different angles. The nearest image to the direction of observation is used to represent an Avatar in a virtual environment. A human sprite Avatar can be created from a number of photos of that person. Sprites are mainly used in games where there is no close-up of the character being represented. Most virtual environments are 3D and have close-up navigation. The sprite representation in a virtual environment is very poor when the viewpoint into the environment is close to the position of the sprite image. Polygons are commonly used and can include texture maps. High-level surface representations are not used very often.

An international standard for an Avatar model has been drafted by the VRML Consortium's 'Humanoid Animation Working Group'. This draft "Specification for a Standard VRML Humanoid, Version 1.0" was published in September 1997 and works under current VRML 2.0 compliant browsers.

It is very difficult to manually create polygon and high-level surface Avatars similar to real people. Using photos and a mouse, it can take many days of skilled work to create a poor representation of that person.

Most Avatars in use in virtual worlds today bear no resemblance to the person they represent. The Avatars in use that look closest to the people they represent are sprites made from photos and standard polygonal models on which a bit-mapped image of the person's face is wrapped.

In the real world, a person's identity is guaranteed by a card or passport which usually bears a photo of the person. Photos have been mandatory in passports in some European countries for over 80 years. Financial guarantees are often given in the form of credit cards with encoded information on them which are checked for validity against central records. On the Internet, a high-security encryption system is offered by many software vendors to secure information transmissions.

According to the present invention, there is provided a novel kiosk in which the Avatar of a person is automatically generated. The kiosk [1] is free-standing and has a central area [2] for a person [3] to stand in. Foot positioning guidance means [4] are provided on the floor [5] of the central area. Sensing equipment [6] is situated in front of and behind the person. The sensing equipment is connected to computing means [7]. A display [8] is connected to the computing means [9]. The computing means [9] is connected to an operator input means [11]. The computing means [9] is connected to a telecommunications means [12]. The kiosk [1] is connected to a source of power [13]. A means for reading encoded information [14] is connected to the computing means [9]. A printer [15] may be connected to the computing means [9] which outputs a printed document [16] into a tray [17]. Electronic weight measurement means [18] may be positioned under the foot guidance means [4] and be connected to the computing means [9]. A sound recording and digitising means [19] may be connected to the computing means [9]. A rolling walkway [20] could be installed in the floor [5] of the central area.

The person stands in a specified posture [21] with his feet [22] positioned using the foot positioning guidance means [4] so that the person faces in the specified direction with his feet in the specified places. The specified posture may require that the arms [23] are held away from the body to either side such that the arms

and the main body [24] are roughly in the same, approximately vertical plane P. The hands [25] may be specified to have the fingers [26] spread and the palms facing backwards (thumbs [27] pointing down) such that the hands and fingers are roughly in the same plane P. The legs [33] and the back [34] may be specified as being straight. A head positioning guidance means [28] may be used to locate the head [29] such that it is roughly vertical and not too far forward or back.

An example of the foot positioning guidance means [4] is two footmark graphics on the floor [5] of the kiosk [1]. Such graphics give both position and direction in a clearly recognisable form. A second example is two, slightly raised foot-shaped areas. Such areas raise the feet slightly and enable them to be better scanned.

An example of such head positioning guidance means is a beam of light [30] projected vertically downwards such that in the optimum posture, the person will see the incidence of the beam of light [31] with the tip of his nose [32] in a mirror [37].

An example illustration of the specified posture [21] which may comprise written words or graphics or both may be provided as an aid to the person to help him attain the specified posture. Alternatively or additionally, a sound projection means [36] may be connected to the computing means [9] to issue posture instructions which may either be pre-recorded or issued in a computer-generated voice.

The user input means [11] may for example be a touch screen surface on the display [8] or a keyboard or a panel with a number of buttons or any combination of these or other user interface means. It is used to select any options the kiosk offers. The user may enter the electronic mail address to which the Avatar dataset should be sent or a password for identifying a retrieval from a central server. More extensive identity information such as personal and financial information may be entered.

The telecommunications means [12] is used to deliver the Avatar. It or other means is used to carry out the credit card transaction. It can also automatically notify a central service computer of any malfunction; similarly any lack of response to an 'are you there kiosk' enquiry from the central service computer can be checked by means of a visit.

Alternatively, an Avatar may be delivered to the user on a computer readable medium such as a diskette or writable CD-ROM through a slot into a tray. Users may want to take away the Avatar on a computer readable medium rather than have it delivered on a network.

The means for reading encoded information [14] may be a credit card 'swipe' reader. The use of credit cards has the advantage of enabling high amounts to be charged for Avatar creation without making the kiosk [1] an attractive target for thieves which would be the case if coins or banknotes were inserted. A second advantage of credit cards is that the kiosk would not require regular visits to empty it of money. If electronic money becomes generally accepted then the kiosk would support that and other forms of credit card or cash would not be used.

The display [8] may be a computer monitor. It may be a large LCD flatscreen or any other form of pixel display technology. It is used for a variety of functions including:

- offering options for the user to select
- acknowledging selections / payments
- echoing user input
- confirming user electronic mail address availability
- issuing instructions
- displaying the resulting Avatar
- displaying an address/password where the Avatar dataset may be downloaded from
- advertising what the kiosk does pre-sale
- advertising other products post-sale

A printer [15] may provide the user with a take-away image of his Avatar dataset or a password and address for downloading his Avatar from a central server.

The electronic weight measurement means [18] can measure the weight of the person and his clothes.

Sound recording and digitising means [19] may be used to capture the voice of the person as he makes sounds. A combination of speaking specified words and making known sounds such as laughing might enable the main characteristics of a person's voice to be determined such that he can be more accurately represented to others in virtual environments ie his Avatar sounds like him.

The rolling walkway [20] could be used to capture motion such as walking. The walkway could be motor driven or inactive. It could be uni-directional or bi-directional. A bi-directional walkway would enable more complex motions such as turning to be captured. The sensing equipment [6] would need to be able to identify and follow the motion of the person. Kiosks with motion capture capabilities would be larger than those without. If the kiosk cannot capture motion, then using the user input means [11], the person can specify the characteristic way

in which he moves by answering questions and selecting a walk similar to his from a small library of electronic video displayed on the display [8]. It is difficult to know your own walk, so the presence of a friend may help. The question-answering and video selection process may be interactive with dynamic animations of the person's Avatar being shown after each question is answered.

The sensing equipment [6] can capture the person's shape and colour over a period of time. It can also capture the person's face with several different expressions such as happy, sad, angry and laughing in several sequential sessions. Capturing expressions provides more information such that the reality of the person's Avatar may be enhanced. Application software can use the Avatar datasets including the person's expressions to visually recreate moods.

The person may be offered the opportunity to view an Avatar that has been generated of that person on the display and accept it or to have new data captured and a new Avatar generated. This opportunity may be repeated one or more times.

The sensing equipment [6] can be of many different types. It can consist of a number of static 3D cameras. The 3D cameras could use fringe or other types of structured light. It could consist of a number of laser stripe sensors translated on two linear axes. Colour cameras and flashlights could be used to capture the colours of the person.

The sensing equipment [6] needs to be registered so that the data from all the sensors can automatically be registered in one coordinate system. This would be done by means of a simple alignment procedure after installation. The best method is probably the capturing of a known artifact. It assumes that all the sensors are calibrated and in two known frames. One such artifact [40] consists of 8 spheres [41] in a known relation to each other. The 8 spheres are connected by four horizontal tubes [42] and a series of vertical wires [43]. A weight [44] on rubber string [45] rests on the floor to stop the artifact swinging. This artifact [40] can be hung from the top of the kiosk [46] and also has the capability of being stored in a relatively small travelling case.

One embodiment of the sensing equipment [6] is two linear axes [50a, 50b] on either side of the person. The main data capture method is laser stripe. Laser stripe is low-cost, relatively fast and does not give ambiguous results. The sensing equipment mounted on a linear axis travels just over a quarter of the person's height. There are eight sensors [57] on each axis. On each axis, sensors may be mounted in pairs to give better all round coverage, reduce stripe length and reduce occlusion. In this way the capture time is quartered, the time between scans for the sensing equipment to retract is quartered and a capture time of less than 5

seconds is achievable. This leads to a total of 16 sensors. Each sensor has one stripe [51] pointing at a small angle (5 to 10 degrees) upwards and a second stripe [52] pointing at a small angle (5 to 10 degrees) downwards. The stripes are switched so only one stripe is illuminated at a time thus removing the chance of ambiguous data. Some sensors have two cameras [53, 54], other sensors have one camera [either 53 or 54]. Each stripe may be generated by a laser diode collimator [55] with a visible red 670 nm laser diode and a fixed cylindrical optic [58]. Each laser diode may be Class II which is eye-safe. The specification of a known, compact posture enables the sensing equipment to be made much smaller.

In this embodiment, 16 colour cameras are used with 16 flash lights to record the colour of the person. The colour images are taken at three points: at the top of the travel, in the middle and at the bottom. At each point, the eight colour cameras and flashes on one side operate synchronously and shortly afterwards the eight colour cameras and flashes on the other side operate synchronously. This avoids cameras on one side being blinded by the flashes on the other side. The 16 colour cameras [58] and flashes [59] may be mounted on the 16 sensors [57].

In this embodiment, the two axes are motor driven by either servo or stepper motors. The ballscrew or other drive mechanism need only be just over a quarter of a person's height. A single linear bearing is used on each axis to maintain alignment, straightness and reduce cost.

The large quantity of 3D points resulting from the scan and the colour data must be automatically converted into an Avatar. Most sensors also provide some estimate of surface normal for most 3D data points.

A closed, texture mapped, 3D polygonal mesh Avatar can be automatically constructed from the data. One automatic algorithm pipeline that can be used is this:

- for each sensor create a 2.5D triangular sub-mesh from the data for that sensor (these sub-meshes will often have holes in them)
- populate a multi-resolution, volumetric data structure with the 2.5D triangular sub-meshes to form an implicit surface
- use the implicit surface to generate a single polygonal mesh
- fill any holes in the mesh
- decimate (polygon reduce) the polygonal mesh to reduce the quantity of data to the desired amount
- smooth the mesh using a median smoothing algorithm to maintain features
- reverse render the colour images onto the mesh to produce texture maps

This polygon Avatar is automatically generated and may be used at different levels of detail in a variety of virtual environments. The random nature of the polygons make it difficult to use the Avatar for animation of body and face.

To animate an Avatar's body, the identification of joints and the construction of a jointed model is required. One automatic algorithm pipeline that can be used to achieve an animatable Avatar is this:

- find landmarks from 3D feature detection using heuristic rules based on the known posture. Landmarks might include head, nose, ears, feet, hands, fingers
- fit a 'standard' human jointed model between the landmarks
- optimise the jointed model to the polygon model using a least energy approach

An Avatar's face can be animated based on a standard model or if several expressions of the person have been captured a special model can be generated. The identification of facial features is required. One automatic algorithm pipeline that can be used to achieve facial animation is this:

- find landmarks on face using colour textures eg eyebrow ends, mouth corners, nose, eyes, chin
- work out their position relative to each other in the different expressions
- normalise the different expressions in space ie register them together

In another embodiment of this invention, a number of cameras [63] are used to capture images of a person [3]. To capture the person in one pose, a large kiosk [60] is required. This is because the cameras must be placed on at least 4 sides of the person. Such a large kiosk [60] has high manufacture, transport, installation and space rental costs as well as a lower degree of reliability. A kiosk [61] has cameras on 2 sides and requires only 2 poses; it is much smaller. A kiosk [62] has cameras on 1 side only and requires 4 poses; it has the lowest manufacture, transport, installation and space rental costs as well as a higher degree of reliability.

To further reduce the size of the kiosk, the optical path [64] of a camera [63] may be folded through an angle by means of a mirror [65].

A further reduction in size of the kiosk is achieved by using a set of cameras on each side arranged in a grid. There is an additional benefit in that this increases the total image information if cameras of the same resolution are used. However any quality benefits may be reduced by the increases in cost and reliability. It is possible that for a given required amount of image data from each side that using

one, expensive high resolution camera may be better than several, cheaper low resolution cameras. The camera to person distance $d[\text{number of cameras}]$ is reduced with an increasing number of cameras [63] producing images [66] such that $d[1] > d[2] > d[4]$. The cameras may be individually calibrated and the set of cameras aligned to each other using techniques known to those skilled in the art. Such a set of calibrated and aligned cameras significantly aid the process of combining the neighbouring and overlapping images of one side of the person such that there is higher quality of silhouette extraction and texture mapping in the Avatar generation process. This invention is not limited to these three arrangements of cameras and is applicable to any arrangements of cameras. If several sides are used, then several sets of cameras will be required.

It is also a purpose of this invention to overcome the problem of the wearing of blue clothes in front of a blue background. A background [72] is used with retroreflective material. This background material [72] may be manufactured by densely sewing or weaving retroreflectors onto cloth. The lens [69] of the camera [63] is surrounded by light generators such as light emitting diodes (LEDs) of two significantly different wavelengths [70,71]. An image of the person [3] is taken with camera [63] and background [72] with LEDs [70] illuminated and LEDs [71] not illuminated. A short time later such that the person will not have been able to move significantly, a second image is taken with the same camera but with LEDs [71] illuminated and LEDs [70] not illuminated. For both images there is also normal white lighting [73] to properly illuminate the person. In the first image, the retroreflective background appears to be the colour of the LEDs [70] and in the second image, the retroreflective background appears to be the colour of the LEDs [71]. The two images of the person are very similar. Simple image processing algorithms can be used to combine the silhouettes reliably using thresholding of the characteristic colour unless an item of clothing has both LED colour characteristics. The scope of this invention is not limited to this single method of overcoming the blue background problem and this invention is applicable to any other method of overcoming this problem such as by taking 3 images with 3 different sets of LEDs and combining them using algorithms that blend rather than threshold.

At present each software application that uses avatars has its own format. Some formats are static, some animatable, some include expressions, some personal and financial information.

An Avatar Kiosk can output all its Avatars in a standard format of its own specification: 'AVSTAN'. The AVSTAN format may use any or all of the following defined data structures and any number of data instances for the structures:

- static shape topology

- texture maps registered to the shape topology
- landmarks indexed to the shape topology
- standard joint topology
- positions of joints relative to the shape topology
- expression shape deformations of static shape topology eg angry, happy
- characteristic motions eg walking
- contact information eg e-mail address, geographical locations, telecomms numbers
- financial information, spending habits
- personal information such as weight, age, likes, habits, family
- medical, health information
- curriculum vitae (resume)
- community record eg fines, imprisonments
- relationship information eg psychological profile, attraction profile

By fully defining the AVSTAN format and having it include a wide range of data, different software packages can then quickly generate a representation of a person entering their virtual environment in that software's format from the person's AVSTAN dataset and knowledge of the standard AVSTAN format. The advantage of a standard is that it is recognised in all environments worldwide.

What a person wears is relevant. Bulky clothes obscure a person's true shape. If an Avatar is generated of someone wearing bulky clothes, then it will not be possible to use the Avatar data for sizing in teleshopping or for many health and beauty applications. It will also be technically difficult for the Avatar to change into other virtual clothes. One solution is for a person to have a different Avatar made with each new clothes outfit and hairstyle. The alternative of few clothes requires the removal of most clothing. It is likely that an Avatar Kiosk for applications requiring the output of accurate body shape would need to be situated where people are happy to remove their clothes such as in the changing area of a clothes shop or a sports centre.

It is also a part of this invention to circumvent the reluctance of people to take their clothes off when using a kiosk by means of a novel apparatus and method. Weight measurement provides a measurement of the weight of the person and his clothes. An estimate may be made for the person's actual weight by using a measured metric obtained from clothing retailers for the percentage of weight of clothes that a person wears relative to his body weight in different temperatures. A measured metric of the average density of a person may be obtained from published anthropometric data for different height to weight ratios. The user's 3D Avatar is an enclosed volume that is easily calculated by someone skilled in the art. The volume that it should be for the adjusted weight can be calculated using

the average density for the height to weight ratio. The Avatar can then be deformed to this volume to produce an estimated naked Avatar using standard deformable algorithms which are well known to those skilled in the art. The textures of the estimated naked Avatar can be generated using facial textures to estimate the person's skin colour. This estimated naked Avatar can be used for clothes fit applications. It overcomes the problem of people's reluctance to take their clothes off in a public place. People wanting accurate, estimated naked avatars should use the kiosk whilst wearing minimal and very tight fitting clothing. This extension of the invention makes kiosks for clothes fit viable.

The user can specify whether and how much of his Avatar identity be published in a directory similar to a telephone directory. The user can also specify whether his Avatar identity be made available for direct marketing purposes. If the value of the data is high to direct marketing companies then the cost for using the Avatar Kiosk may be reduced. As the entrypoint to Cyberspace, the Avatar Kiosk is likely to be of high strategic value to many types of company.

The high quality of the Avatars produced in the kiosk will improve the reality of virtual environments and is likely to enhance their uptake by the public in different applications. Like passport photo kiosks the cost is low. Unlike passport photo kiosks a polaroid Avatar cannot be taken at home - the specialised equipment in the Avatar kiosk is not available in homes and offices. It is likely that the Avatar kiosk will have high margins and a high market-share of all those people requiring Avatars.

According to the invention there is also provided a method for generating an Avatar of a person in the kiosk.

The invention will now be described, by way of example only, with reference to the accompanying Figures:

Figure 12 is an outline of the system. The device [100] is rugged, self-contained and compact with an internal area [102] for a person [103] to stand in. The device for purposes of clarity is shown in Figure 12 with the ceiling, entry and one side removed. The entry may be a simple entry gap in one side wall with a curtain across it. Markings [104] for foot positioning are provided on the floor [105] of the internal area. Sensing equipment [106] enclosed in the kiosk is situated at one end. The sensing equipment is connected to a means for programmable processing (a computer) [107]. A display monitor [108] is connected to the computer. The computer is connected to the operator panel [111]. The computer is connected to a telecommunications line [112]. The device [100] is connected to mains electricity [113]. A credit card swipe reader [114] is

connected to the computer. A colour printer [115] connected to the computer outputs a colour image of the Avatar [116] into a tray [117] where the person can recover it. Electronic weighing scales [118] are situated under the floor [105] and are connected to the computer. A microphone [119] is connected to the computer. A loudspeaker [120] is connected to the computer. Internal lighting [121] is connected to the electricity supply. The exterior of the kiosk comprises backlit advertising panels [122].

Figure 2 is an outline of a preferred posture. The person [3] stands on the markings [4] with his back [34] straight. His feet [22] face forward and his legs [33] are straight. His arms [23] are stretched out to either side with his hands [25] with palms facing backwards, thumbs [27] pointing downwards and fingers separated. His head [29] is located with a beam of light [30] from a projector [28] makes a spot of light [31] on his nose [32]. The same posture is used for each of the four images.

Figure 7 shows plan views of 3 possible kiosk layouts. Kiosk [62] is the preferred layout requiring cameras [63] on one side and four postures of the person [3].

Figure 8 is a preferred optical path [64] between the camera [63] and the person [3] which is folded using a mirror [65].

Figure 9 shows views of several camera combinations. The preferred number of cameras would be determined by the estimated cost of the components at the time of manufacture.

Figure 10 shows a ring of LEDs [70,71] around the lens [69] of a camera [63]. The LEDs [70] and LEDs [71] have significantly different wavelengths.

Figure 11 shows a camera [63] with LEDs [70,71] imaging a person [3] with the floor, back and roof of the kiosk covered in a retroreflective background material [72].

Figure 1 is an outline of a system. The device [1] is self-contained with a central area [2] for a person [3] to stand in. Two raised footstands [4] are provided on the floor [5] of the central area. Sensing equipment [6] enclosed in the device [1] is situated in front of and behind the person. The sensing equipment [6] is connected to a computer [7]. A display monitor [8] is connected to the computer. The computer is connected to the operator panel [11]. The computer [7] is connected to a telephone line [12]. The device [1] is connected to mains electricity [13]. A credit card swipe reader [14] is connected to the computer. A colour printer [15] connected to the computer outputs a colour image of the Avatar [16] into a tray [17] where the person can recover it. Electronic scales [18] are situated

under each footstand [4] and are connected to the computer. A microphone [19] is connected to the computer.

Figure 3 is an illustration of the registration artifact [40]. Eight spheres [41] are hung in an accurately known orientation relative to each other from the top [46] of the central area. Four horizontal tubes [42] connect the spheres [41] in pairs. The tubes [42] are connected together by vertical wires [43]. A weight [44] on a rubber string rests on the floor [5] to help stop the artifact swinging.

Figure 4 is an illustration of the two linear axes [50a,50b] with 16 sensors [57] in four groups of four sensors.

Figure 5 is an illustration of a sensor [57]. Each sensor [57] has one stripe [51] pointing at a small angle (5 to 10 degrees) upwards and a second stripe [52] pointing at a small angle (5 to 10 degrees) downwards. The stripes are switched so only one stripe is illuminated at a time thus removing the chance of ambiguous data. All sensors have two cameras [53, 54]. Each stripe is generated by a laser diode collimator [55] with a visible red 670 nm laser diode and a fixed cylindrical optic [58]. Each laser diode is Class II which is eye-safe. A colour camera [58] and a flash light [59] are mounted on the sensor [57].

Figure 6 is a plan view of the device [1] with the person [3] standing in the recommended posture such that his body, head, arms, hands and legs are approximately aligned with a near-vertical plane P. The sensors [57] are rigidly attached to one of the two axes [50a,50b]. The positions of the four sets of sensors [57] in Figure 6 can be optimised to recover the maximum amount of the surface area of the person.

A configuration for the Avatar Kiosk is shown in Figure 12. This configuration is only one of many modes for carrying out the invention.

The invention can be applied in the form of kiosks. Such kiosks can be placed in accessible positions such as airports, amusement centres, shops and health centres throughout the world. The kiosks will be connected to a telecommunications network to assure the transfer of the financial transaction and the Avatar dataset. People can use a credit card or electronic money to pay for the transaction. The whole process will take a few minutes.

Applications of the resulting Avatar datasets include: the 'passport' or person's identity in cyberspace or virtual environments, health and beauty treatment;

teleshopping, virtual meetings, lonely hearts, games, clothing size specifications, medical treatments and guaranteeing financial transactions.

It is likely that people will wish to repeat the process at different times in life or in wearing different clothes or with different hairstyles and makeup.

CLAIMS

1. A kiosk apparatus for capturing data on the surface of a person to provide an Avatar thereof, the apparatus comprising:

means for programmable processing;
means for capturing data on the surface of a person;
means for generating an Avatar that has a resemblance of the person from the captured data;
means for transmitting the Avatar.

2. A kiosk apparatus according to claim 1, characterised in that the data capture means comprises means for illuminating the person and means for capturing one or more images of the person.

3. A kiosk apparatus according to claim 2, characterised in that the means for capturing one or more images of the person is one or more cameras.

4. A kiosk apparatus according to claim 3, characterised in that one camera is positioned such that the visible surface of one side of a person whose dimensions are the largest dimensions for which the kiosk is designed is captured on a single image.

5. A kiosk apparatus according to claim 3, characterised in that two or more cameras are arranged in a grid such that the cameras view the same side of a person such that the visible surface of that side of a person whose dimensions are the largest dimensions for which the kiosk is designed is captured such that each part of the visible surface of that side of the person is present in one or more of the images which are neighbouring and partially overlapped.

6. A kiosk apparatus according to claim 3, characterised in that two cameras are positioned such that the first camera covers one side of the person and that the second camera is at approximately 90 degrees to the first camera so as to cover an orthogonal side of the person such that for each camera the visible surface of one side of a person whose dimensions are the largest dimensions for which the kiosk is designed is captured on a single image.

7. A kiosk apparatus according to claim 3, characterised in that two sets of two or more cameras are positioned such that the first set of cameras covers one side of the person and that the second set of cameras is at approximately 90 degrees to the first set of cameras so as to cover an orthogonal side of the person such that each set of cameras view the same side of a person such that the visible surface of that side of a person whose dimensions are the largest dimensions for

which the kiosk is designed is captured such that each part of the visible surface of that side of the person is present in one or more of the images from that set of cameras which are neighbouring and partially overlapped.

8. A kiosk apparatus according to any one of claims 2 to 8, characterised in that the illumination is white light.

9. A kiosk apparatus according to any one of claims 2 to 8, characterised in that the illumination is structured light.

10. A kiosk apparatus according to claim 9, characterised in that the structured light is laser stripe.

11. A kiosk apparatus according to any one of claims 2 to 10, characterised in that the illumination is illuminated and each camera takes an image approximately synchronously.

12. A kiosk apparatus according to any one of claims 2 to 11, characterised in that the background as seen by any camera is monochromatic.

13. A kiosk apparatus according to any one of claims 2 to 11, characterised in that the background as seen by any camera is made of a material that is seen by the camera as having a dominant component of a single wavelength when illuminated directly by an illuminating means of the same wavelength.

14. A kiosk apparatus according to claim 13, characterised in that the background material has a retroreflective component.

15. A kiosk apparatus according to any one of claims 13 to 14, characterised in that the illumination means comprises at least two sets of lights each set of lights comprising one or more lights of the same wavelength and each set of lights having a significantly different characteristic wavelength from all the other sets of lights.

16. A kiosk apparatus according to any one of claims 2 to 15, further comprising another camera and position changing means for the camera such that the position of the camera may be changed by the user to frame the user's face when the user is in the correct pose.

17. A kiosk apparatus according to any one of claims 2 to 16, characterised in that the data capture means includes means for laser stripe 3D scanning the person.

18. A kiosk apparatus according to any one of claims 2 to 17, further comprising a display means.

19. A kiosk apparatus according to any one of claims 2 to 18, characterised in that the kiosk is self-contained.

20. A kiosk apparatus according to any one of claims 2 to 19, characterised in that the kiosk is of rugged construction.

21. A kiosk apparatus according to any one of claims 2 to 20, characterised in that the kiosk is of compact design.

22. A kiosk apparatus according to any one of claims 2 to 21, further comprising a weighing means.

23. A kiosk apparatus according to any one of claims 2 to 22, further comprising a network communication means.

24. A kiosk apparatus according to claim 23, characterised in that the kiosk is connected to the internet.

25. A kiosk apparatus according to claim 24, characterised in that there is a server on the internet to which the kiosk transmits the Avatar.

26. A kiosk apparatus according to any one of claims 2 to 25, further comprising:

a means of recording the Avatar onto a computer readable medium;

a means of presenting the computer readable medium to the user.

27. A kiosk apparatus according to any one of claims 2 to 26, further comprising: means for accepting payment.

28. A kiosk apparatus according to claim 27, characterised in that the means for accepting payment is a credit card reading means and a telecommunication connection to a credit card verification means.

29. A kiosk apparatus according to claim 27, characterised in that the means for accepting payment is a means for accepting coins or banknotes.

30. A kiosk apparatus according to any one of claims 2 to 29, further comprising a manual data input means.

31. A kiosk apparatus according to any one of claims 2 to 30, further comprising a sound projection means.

32. A kiosk apparatus according to any one of claims 2 to 31, further comprising graphical guidance means to guide the user in adopting the correct pose or series of poses.

33. A kiosk apparatus according to any one of claims 2 to 32, further comprising advertising means.

34. A kiosk apparatus according to any one of claims 2 to 33, further comprising printing means.

35. A kiosk apparatus according to any one of claims 2 to 34, further comprising sound recording means.

36. A kiosk apparatus according to any one of claims 17 to 35, characterised in that the captured data comprises 3D laser stripe scanned data and images and that the means for generating the Avatar from the captured data comprises an implicit surface avatar generating means.

37. A kiosk apparatus according to claim 36, characterised in that the implicit surface avatar generating means comprises:

triangular sub-mesh creating means;

implicit surface generation means;

hole filling means;

polygon reduction means;

mesh smoothing means;

texture mapping means.

38. A kiosk apparatus according to any one of claims 2 to 35, characterised in that the captured data is images and the means for generating the Avatar from the captured data comprises a silhouette avatar generating means.

39. A kiosk apparatus according to claim 36, characterised in that the silhouette avatar generating means comprises:

a means for extracting silhouettes and landmarks from the images;

a standard Avatar 3D model;

silhouettes and landmarks of the standard Avatar 3D model;

a means for 2D to 2D mapping the silhouettes and landmarks of the standard Avatar 3D model to the silhouettes and landmarks from the captured data;

a means of using the mapped silhouettes and landmarks to deform the standard Avatar 3D model into an untextured Avatar 3D model of the user;

a means of using the mapped silhouettes and landmarks to map the image textures onto the untextured Avatar 3D model of the user to produce a textured Avatar 3D model of the user.

40. A kiosk apparatus according to any one of claims 2 to 39, characterised in that the Avatar is transmitted in a standard format.

41. A kiosk apparatus according to claim 40, characterised in that the standard format is proprietary.

42. A kiosk apparatus according to any one of claims 2 to 41, further comprising means for generating an estimated naked, textured 3D Avatar of the person from data captured in which the person is wearing clothes.

43. A method for generating an Avatar of a person in a kiosk containing a programmable processing apparatus, comprising the following steps:

capturing data on the surface of a person situated inside the kiosk;
processing the data to generate an Avatar;
transmitting the Avatar to the user.

44. A method according to claim 43, characterised in that the kiosk is situated in a public place.

45. A method according to claims 43 and 44, characterised in that one or more Avatars may be generated and one or more Avatars may be transmitted to the user.

46. A method according to any one of claims 43 to 45, characterised in that the Avatar is transmitted to the user by means of supplying the Avatar on a computer readable medium.
47. A method according to claim 46, characterised in that the computer readable medium is a diskette.
48. A method according to claim 46, characterised in that the computer readable medium is a CD-ROM.
49. A method according to any one of claims 43 to 45, characterised in that the Avatar is transmitted to the user by means of transmitting the Avatar to a processing apparatus designated by a user over a network.
50. A method according to claim 49, characterised in that the network is the Internet.
51. A method according to any one of claims 43 to 45, characterised in that the Avatar is transmitted to the user by means of transmitting the Avatar to a server from which the user can thereafter retrieve it over a network.
52. A method according to any one of claims 43 to 51, characterised in that the data on the surface of a person is captured by one or more cameras.
53. A method according to claim 52, characterised in that the person is illuminated whilst the data is captured.
54. A method according to claim 53, characterised in that the illumination is white light.
55. A method according to claim 53, characterised in that the illumination is structured light.
56. A method according to any one of claims 43 to 55, characterised in that the data on the surface of a person is captured with the person standing in one designated pose.
57. A method according to any one of claims 43 to 55, characterised in that the person stands in a series of two or more designated poses and that data on the surface of the person is captured for each pose.
58. A method according to claim 57, characterised in that the person stands in a series of four designated poses.

59. A method according to any one of claims 56 to 58, characterised in that for each pose the person is illuminated sequentially by sets of lights of different characteristic wavelengths and data is captured for each set of lights.

60. A method according to any one of claims 43 to 59, characterised in that the method includes a further step in which the user makes a payment at any time prior to receiving the Avatar.

61. A method according to any one of claims 43 to 60, characterised in that the kiosk is operable by the person whose avatar is to be generated without assistance from any other person.

62. A method according to any one of claims 43 to 61, characterised in that a further step in the method generates an accurately estimated naked Avatar.

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Fig.1.

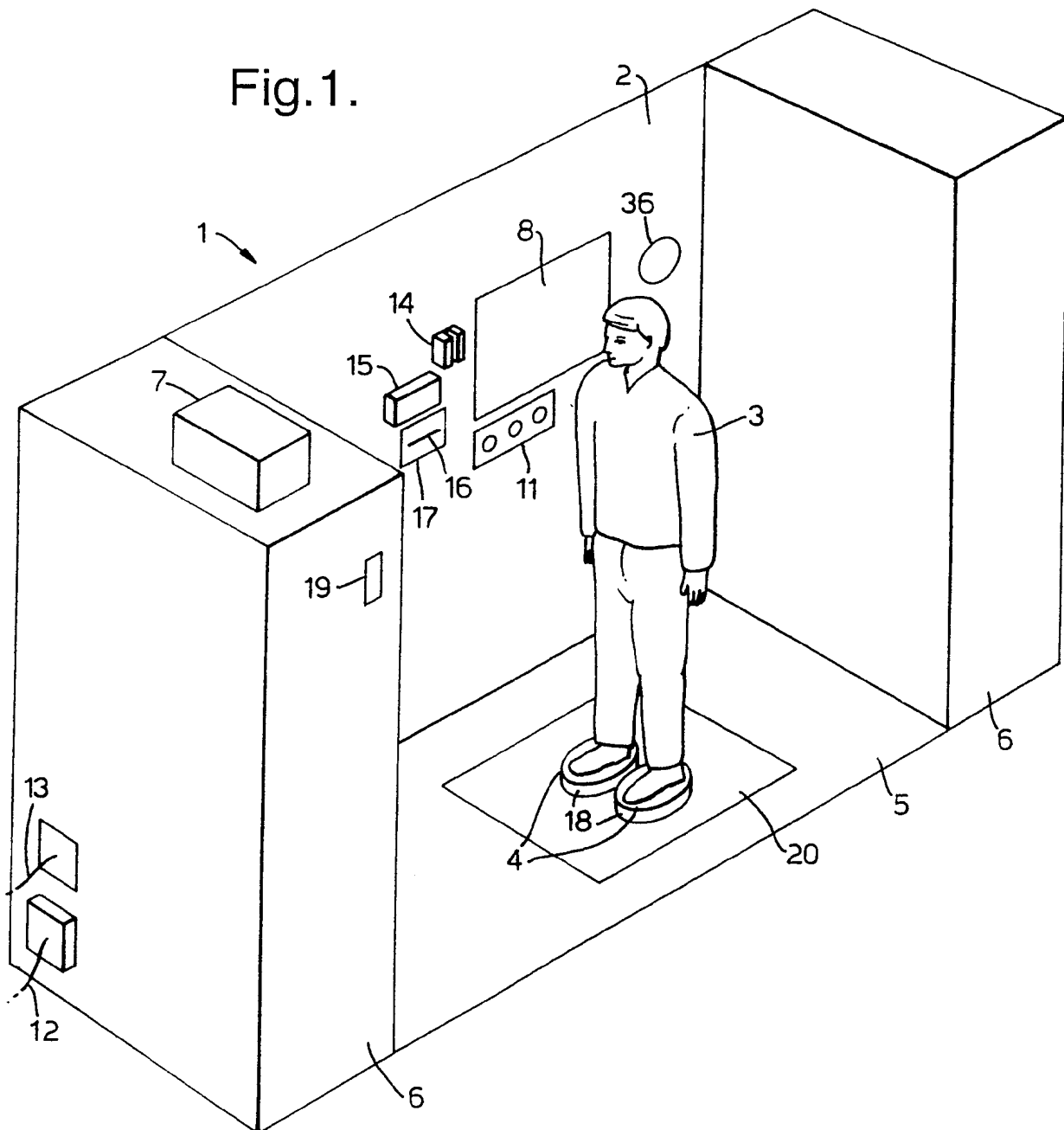
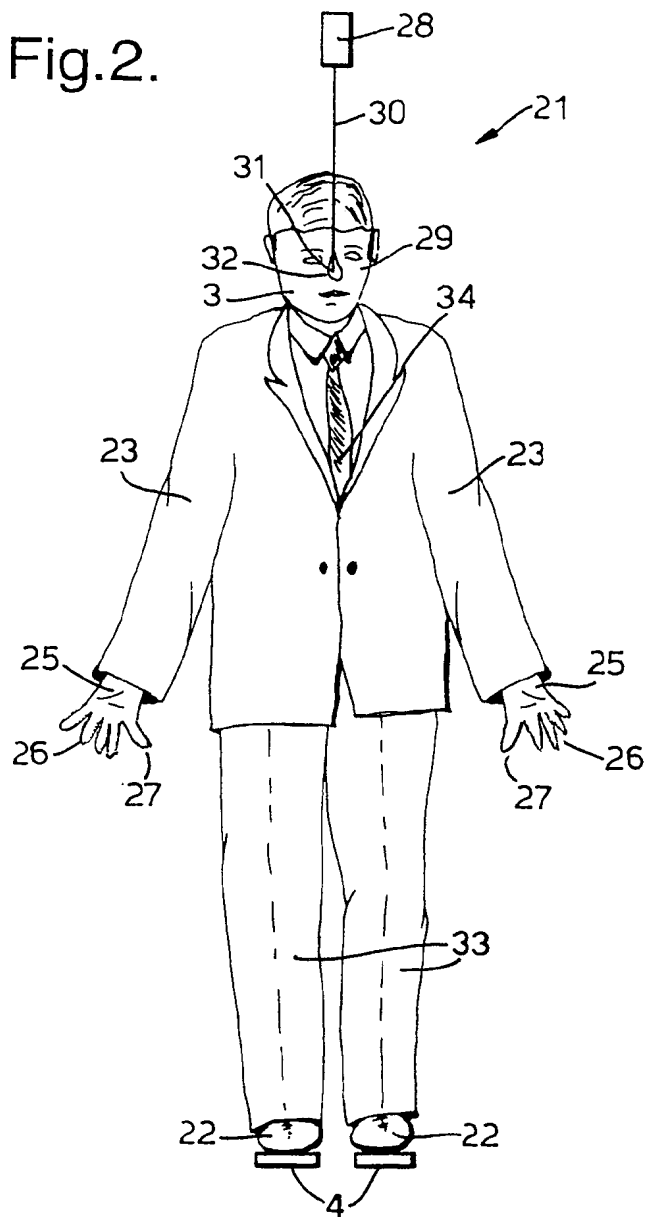
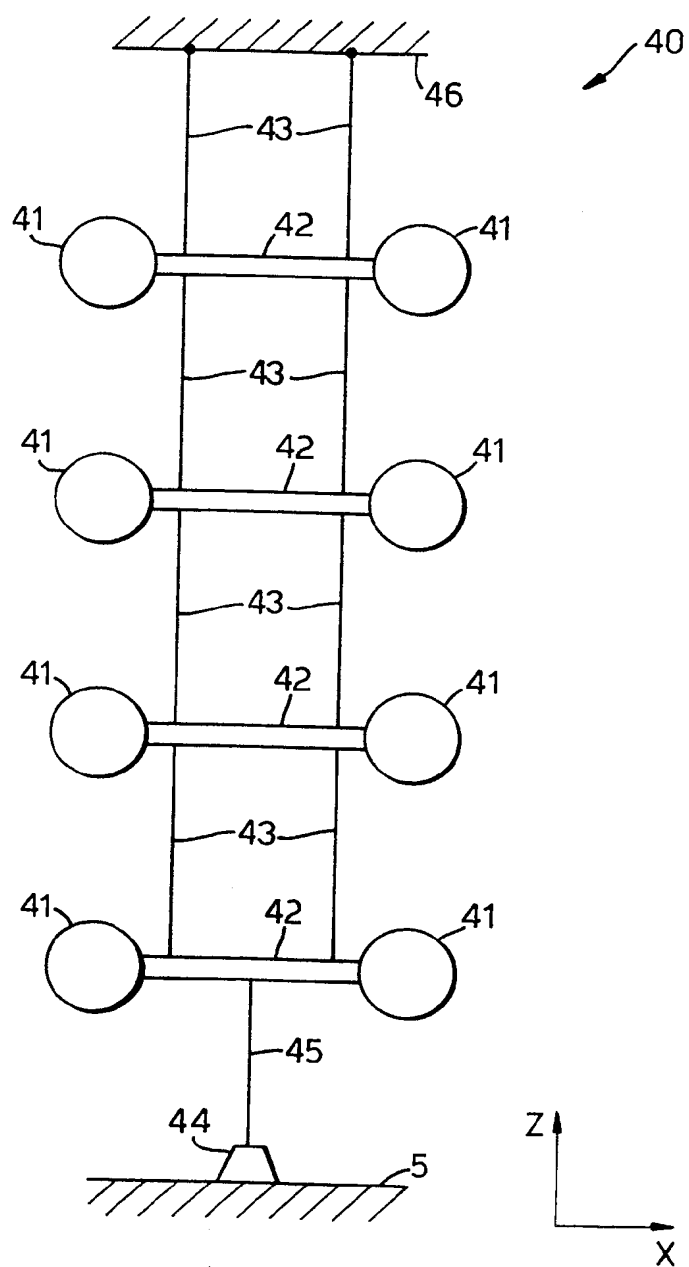


Fig.2.



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Fig.3.



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Fig.4.

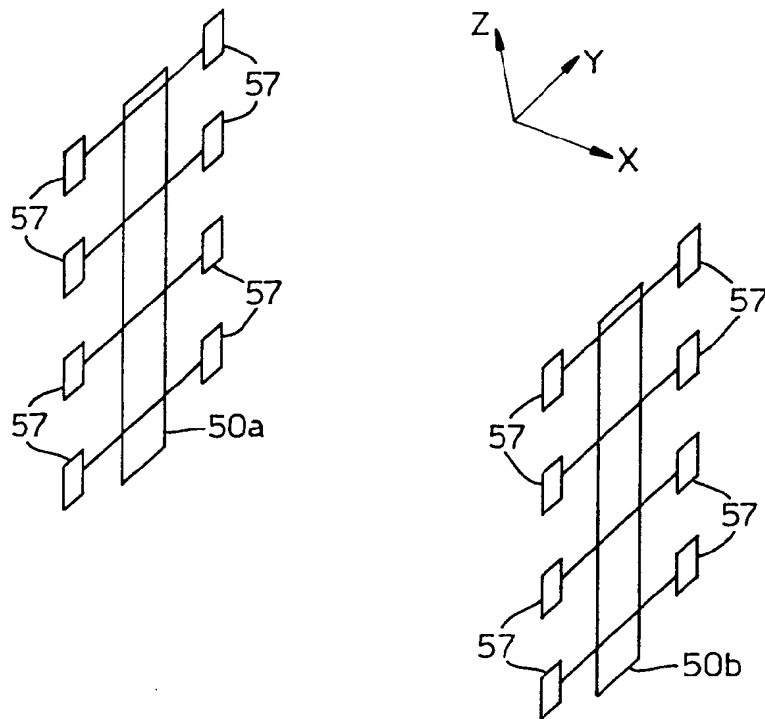
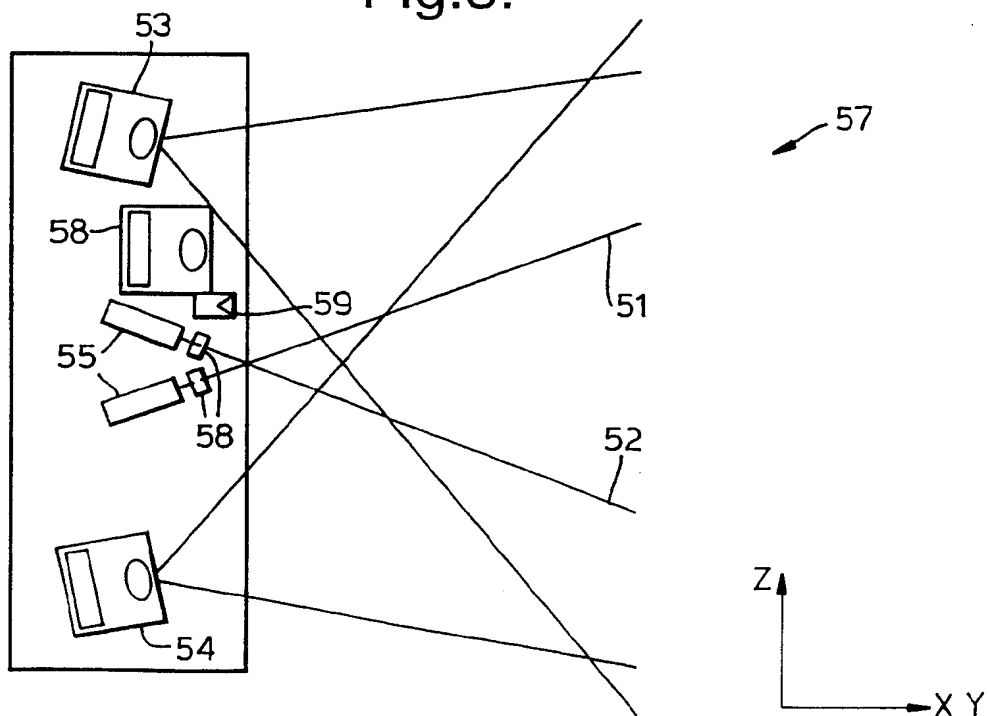


Fig.5.



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Fig.6.

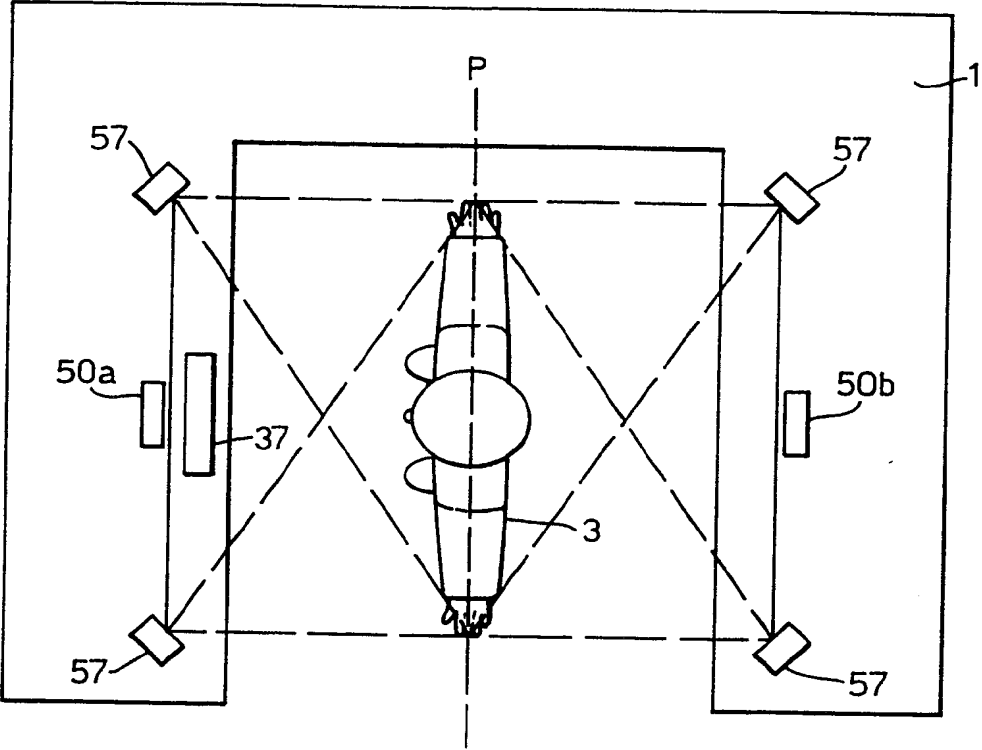
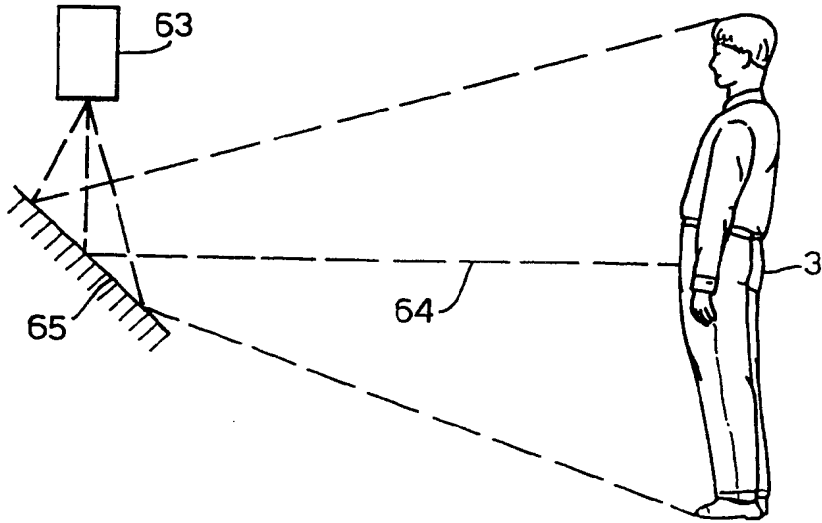
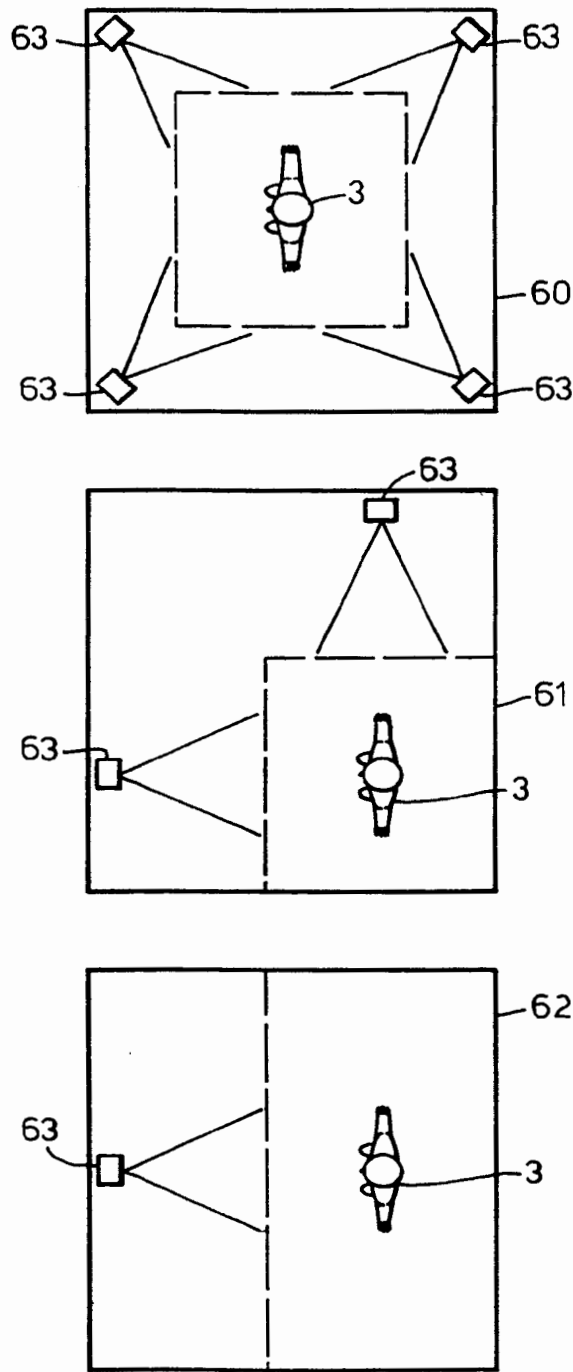


Fig.8.



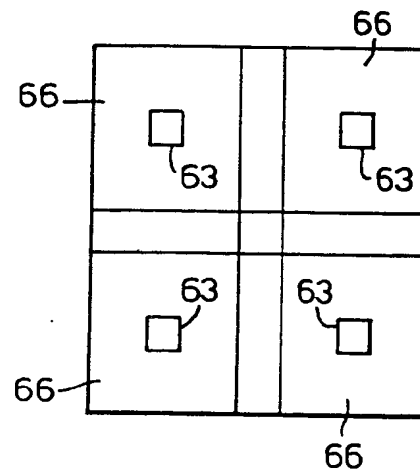
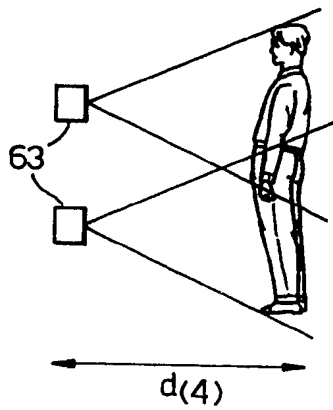
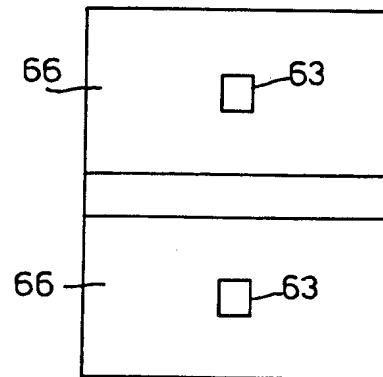
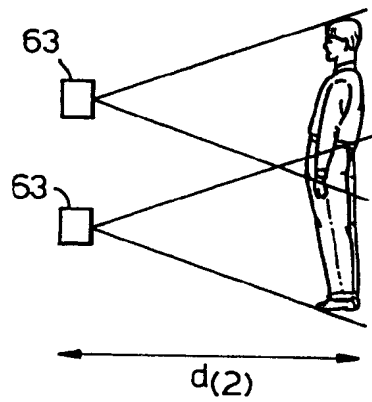
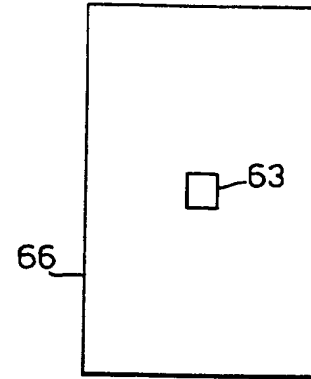
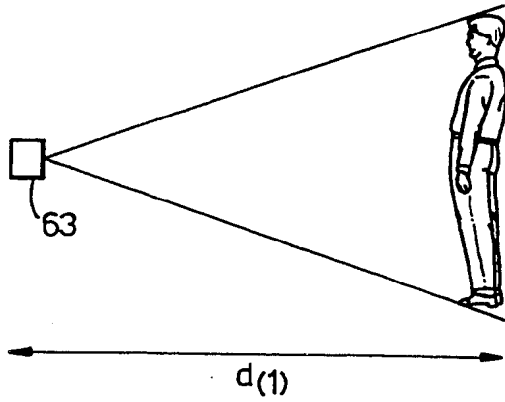
6/9

Fig.7.



7/9

Fig.9.



8/9

Fig.10.

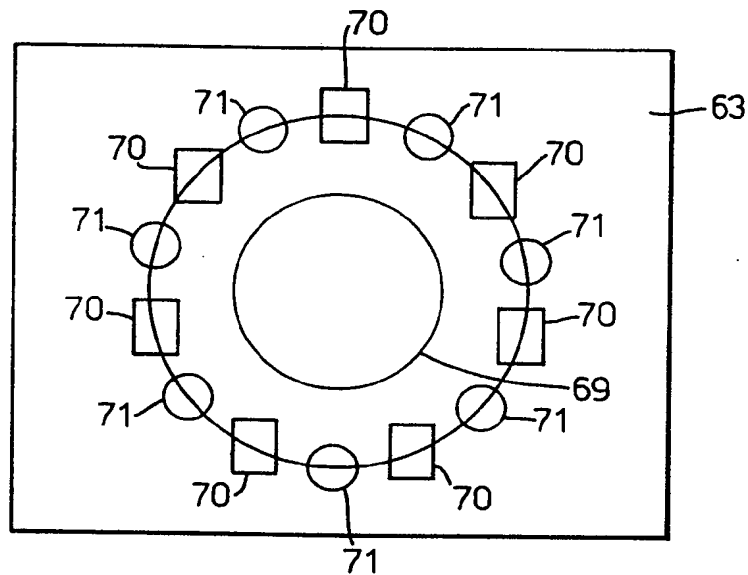
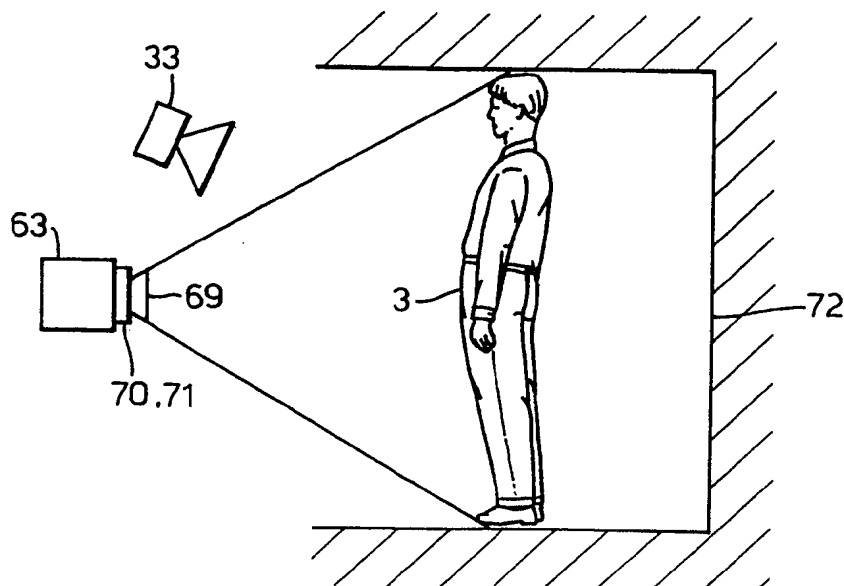
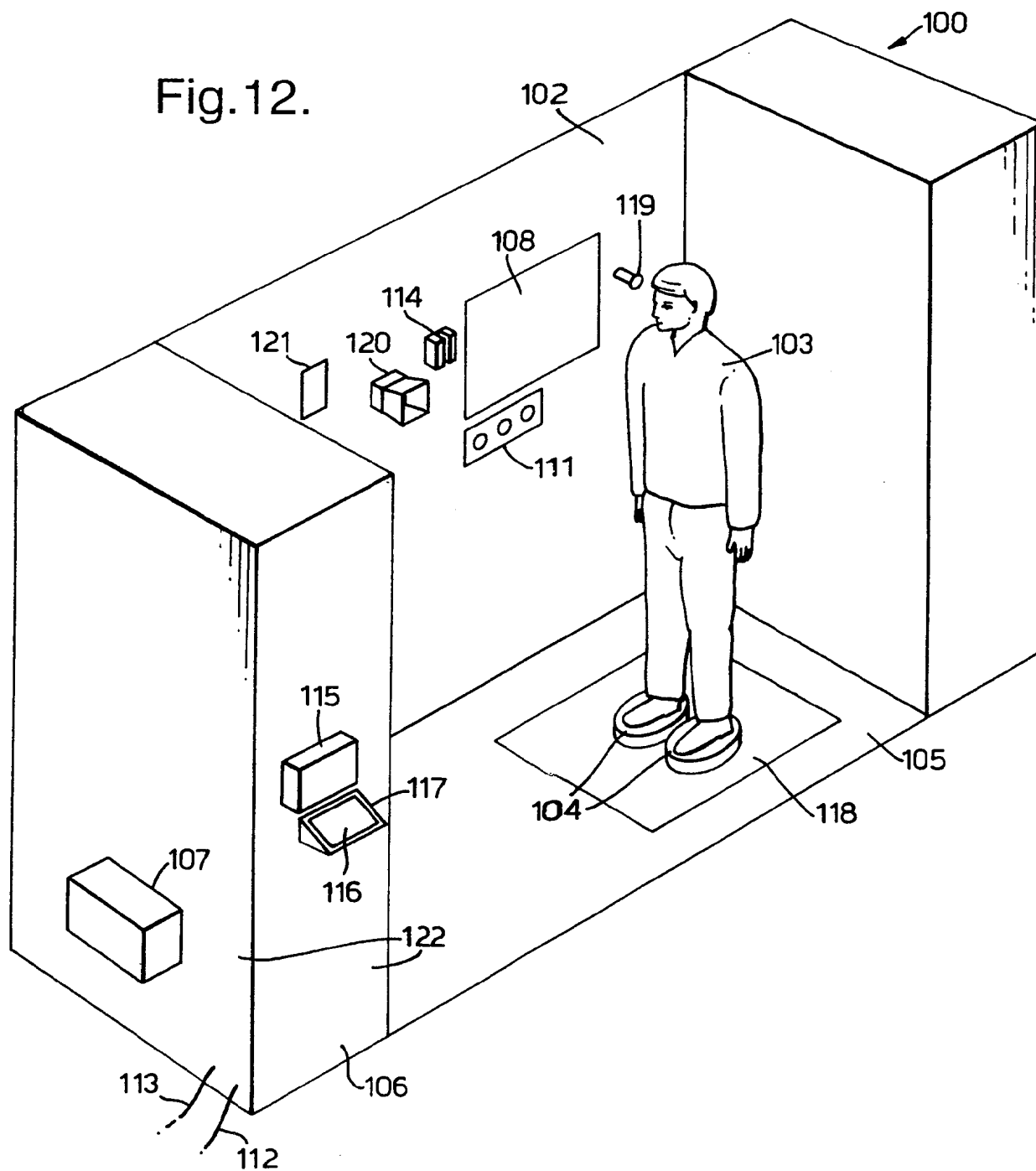


Fig.11.



9/9

Fig.12.



INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 97/03515

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 H04N1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.

X	FR 2 724 801 A (KIS) 22 March 1996 see page 11 - page 13 ---	1-4, 43-46, 49

X	"Aiming a camera to take a self portrait" IBM TECHNICAL DISCLOSURE BULLETIN VOL. 35, N°3, PAGES 75-77, US, vol. 35, no. 3, August 1992, pages 75-77, XP000326178 see the whole document ----- -/--	1-4, 43-46, 49

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

13 May 1998

Date of mailing of the international search report

27/05/1998

Name and mailing address of the ISA

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Authorized officer

Chateau, J-P

INTERNATIONAL SEARCH REPORT

Inter onal Application No

PCT/GB 97/03515

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	LEE Y ET AL: "Constructing physics-based facial models of individuals" PROCEEDINGS GRAPHICS INTERFACE '93, TORONTO, ONT., CANADA, 19-21 MAY 1993, ISBN 0-9695338-2-9, 1993, TORONTO, ONT., CANADA, CANADIAN INF. PROCESS. SOC, CANADA, pages 1-8, XP002064612 see figure 4 ----	37
A	J. ROSS STRENGTHSTROM ET AL.: "constructing object models from multiple images" INTERNATIONAL JOURNAL OF COMPUTER VISION., vol. 9, no. 3, 1992, NORWELL US, pages 185-212, XP000328501 see page 1, left-hand column, paragraph 1 - right-hand column, paragraph 1.1 -----	1

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/GB 97/03515

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2724801 A	22-03-96	NONE	

Electronic Acknowledgement Receipt

EFS ID:	30136627
Application Number:	12102810
International Application Number:	
Confirmation Number:	1863
Title of Invention:	Method for Total Immersion Photography
First Named Inventor/Applicant Name:	Rhett Drugge
Customer Number:	21832
Filer:	Kevin L. Reiner/Oscar Romero
Filer Authorized By:	Kevin L. Reiner
Attorney Docket Number:	100504.00008
Receipt Date:	21-AUG-2017
Filing Date:	14-APR-2008
Time Stamp:	15:38:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	100504-00008_IDS_Transmittal _8-21-17.PDF	17827	no	2
			a3b8cd4f50bd40b10aeff4e0625bc3c6ca3a19cf		

Warnings:

Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	100504-00008_IDS_8-21-17.PDF	1206386	no	4
			20c53b0c0d0ed6b4900cc59aa1fde85e2cd2b0cf		
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
3	Non Patent Literature	Hurley_et_al_Body_Measurement_System.PDF	729492	no	12
			296cba5c505ffa95a7cdc3de7b01b044aef98ca		
Warnings:					
Information:					
4	Foreign Reference	WO9828908A1.PDF	1314877	no	36
			e997fa63cd0bc359ad80b4c828cb40173456df2d		
Warnings:					
Information:					
Total Files Size (in bytes):			3268582		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rhett Drugge	)	Confirmation No.: 1863
	)	
Application No.: 12/102,810	)	Group Art Unit: 3777
	)	
Filing Date: April 14, 2008	)	Examiner: Rochelle Deanna Turchen
	)	
Title: Method for Total Immersion Photography	)	Attorney Docket No.: 100504.00008

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

INFORMATION DISCLOSURE STATEMENT

Dear Sirs:

In accordance with 37 C.F.R. § 1.56, the references listed on the attached form PTO/SB/08 are being brought to the attention of the Examiner for consideration in connection with the examination of the above-identified patent application. It is respectfully requested that the Examiner indicate consideration of the listed references by returning a copy of the attached PTO/SB/08 with initials or other appropriate remarks.

In accordance with 37 C.F.R. § 1.97, the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made; an admission that the listed references are, or are considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b); or an admission that the listed references are, or are considered to be, prior art.

This Information Disclosure Statement is being filed within the time period set forth in 37 C.F.R. § 1.97(b)(4). Accordingly, no fee is believed due upon entry with this paper. However, authorization is herewith given to charge Deposit Account No. 50-3569 for any fees that may be occasioned by the submission of this paper.

Respectfully submitted,

Date: August 21, 2017

By: /Kevin L. Reiner/
Mark D. Giarratana (Reg. No. 32,615)
Kevin L. Reiner (Reg. No. 43,040)
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,810	04/14/2008	Rhett Drugge	100504.00008	1863

21832 7590 08/29/2017
MCCARTER & ENGLISH, LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

TURCHEN, ROCHELLE DEANNA

ART UNIT	PAPER NUMBER

3777

NOTIFICATION DATE	DELIVERY MODE

08/29/2017

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hartforddocketing@mccarter.com

Office Action Summary	Application No. 12/102,810	Applicant(s) DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN	Art Unit 3777	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1 August 2017.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1,3-16 and 21-28 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1,3-16 and 21-28 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 1st, 2017 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 4, 6, 7, 10-16, 18, 21, 23 and 24 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Genest (6,546,356).

Regarding claims 1 and 4, Genest disclose a method for identifying maladies that affect human tissue, the method comprising the following steps: (a) positioning a portion of a person (foot or entire person) at a specified imaging position within an enclosure

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(foot measurement system placed in a room) and spaced a predetermined distance away from and relative to each of a plurality of imaging devices that are vertically spaced relative to each other, and spaced away from and relative to a plurality of imaging devices that are laterally spaced relative to each other, wherein each of said imaging devices is located a predetermined distance relative to the specified imaging position and defines respective coordinates and said respective predetermined distance relative to the specified imaging position, and defines a respective focal length and resolution information (fig.3; col.10, ll.55-57); (b) illuminating an external surface of the person thereof located at the specified imaging position with a plurality of light sources spaced relative to each other and peripheral to the plurality of imaging device, and generating reflectance light off of the illuminated external surface (digital cameras, fig.3; col.2, ll.34-39; col.4, ll.16-23); (c) simultaneously obtaining a plurality of images, by generating an individual image garnered from each of said plurality of imaging devices that are vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other, of the illuminated external surface of the person at the specified imaging position using said reflectance light off of the illuminated external surface (col.10, l.55-col.11, l.34); and (d) measuring one or more imaged features of the person thereof located at the specified imaging position, and generating at least one first measurement of said one or more features at a first point in time, based on the plurality of images (col.10, l.55-col.11, l.34)

Regarding claims 3 and 6, Genest discloses generating an image of the illuminated external surface with a plurality of said plurality of imaging devices that are

vertically spaced from each other and said plurality of imaging devices that are laterally spaced relative to each other imaging devices and light sources located on opposite sides of a centerline of the specified imaging position relative to each other (fig.3).

Regarding claim 7, Genest discloses providing a first imaging array spaced a predetermined distance away from and relative to the specified imaging position to a side of the enclosure, wherein the first imaging array includes a plurality of first imaging devices vertically spaced relative to each other; and providing a second imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced adjacent to the first imaging array on an opposite side of the centerline of the specified imaging position relative to the first imaging array, wherein the second imaging array includes a plurality of second imaging devices vertically spaced relative to each other (fig.3).

Regarding claims 10 and 24, Genest discloses enclosing the person or portion thereof with panels throughout a radius selected from at least one of: 360 degrees about a vertical axis and 360 degrees about a horizontal axis (figs. 3 and 4).

Regarding claim 11, Genest discloses wherein the panels include at least one of said imaging devices (camera, fig.3).

Regarding claims 12 and 13, Genest discloses producing with the plurality of light sources and capturing with all of the plurality of imaging devices light in the humanly perceivable light spectrum (digital camera, col.2, ll.34-39).

Regarding claim 14, Genest discloses wherein the panels include a material structurally capable of allowing an amount of illumination to pass through the panels to

illuminate the external surface of the person or portion thereof (the limitation “capable of” is directed to the intended use and therefore not given any patentable weight, col.3, ll.5-19).

Regarding claim 15, Genest discloses further comprising the sets of scanning the surface of synchronously and asynchronously from a physically dispersed matrix of cameras and multiple angled lighting sources (col.10, l.55-col.11, l.24).

Regarding claim 16, Genest discloses wherein the external surface of the person or portion thereof is a surface of the person’s skin (surface of foot, col.4, ll.16-23).

Regarding claim 18, Genest discloses wherein the step of generating an image includes photographing the illuminated external surface of the person or portion thereof with each of a plurality of imaging devices (cameras, col.4, ll.16-23; fig.3).

Regarding claim 21, Genest discloses repeating steps (a) through (d) with the person or portion thereof at a second specified imaging position (col.11, ll.22-34).

Regarding claim 23, Genest discloses wherein step (c) includes generating refraction light from the illuminated person (col.10, l.55-col.11, l.34).

Claim Rejections - 35 USC § 103

5. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 8 and 9 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Barney (6,301,549).

Regarding claims 5, 8 and 9, Genest discloses the invention substantially as claimed, but fail to explicitly disclose illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third and fourth array, and positioning the plurality of light sources symmetrically about the center light of the first, second, third and fourth imaging arrays.

However, Barney teaches in the same medical field of endeavor, illuminating the external surface with at least two light sources located lateral to at least two imaging devices, providing a third imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the first imaging array on an opposite side of the first imaging array relative to the second imaging array , wherein the third imaging array includes a plurality of third imaging devices vertically spaced relative to each other; and providing a fourth imaging array spaced a predetermined distance away from and relative to the specified imaging position, and laterally spaced relative to the second imaging array on an opposite side of the second imaging array relative to the first imaging array, wherein the fourth imaging array includes a plurality of fourth imaging devices vertically spaced relative to each other, and positioning the plurality of light sources symmetrically about the center line and providing a first light source located lateral to the first imaging array, a second light source located between the first and second imaging array, a third light source located between the third and fourth imaging arrays and symmetrically about the center line to the second light source, and a fourth light source located opposite the first light source and lateral to the fourth imaging array (fig.1 ; col.3, ll.29-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging devices and light sources of Genest with the specific configuration of Barney as it would provide optimized and increased image data collection.

7. Claim 22 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Skladnev et al (6,993,167).

Regarding claim 22, Genest discloses at a later point in time, thereby generating at least one second measurement of said one or more imaged features, comparing said at least one first measurement and said at least one second measurement, and determining any change over time from said at least one first measurement to said at least one second measurement (col.11, ll.22-34), but fail to explicitly disclose determining a change over time.

However, Skladnev et al teach in the same medical field of endeavor, generating at least one second measurement of said one or more imaged features at a later point in time, comparing said at least one first measurement and said at least one second measurement, and determining any change of said one or more imaged features between the first point in time and the later point in time based on said at least one first measurement of said one or more imaged features at said first point in time and said at least one second measurement of said one or more imaged features at said later point in time (col.7, ll.35-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging of the skin of Genest with comparing a region over time as it would provide a change in the one or more maladies over time.

8. Claims 25-28 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Genest (6,546,356) in view of Hoffman et al (6,907,138).

Regarding claims 25-28, Genest discloses the invention substantially as claimed, but fail to explicitly disclose one or more maladies of the skin is one or more of a mole, beauty mark, skin cancer, skin disease or a wound.

However, Hoffman et al disclose in the same medical field of endeavor, one or more maladies of the skin is one or more of a mole, beauty mark, skin cancer, skin disease or a wound (col.1, ll.12-15; col.4, ll.1-12).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the imaging of the skin of Genest with one or more maladies of the skin of Hoffman et al as it would provide determination of abnormalities on the skin.

Response to Arguments

9. Applicant's arguments with respect to claims 22-28 have been considered but are moot because the arguments do not apply to the current grounds of rejection.

10. Applicant's arguments filed August 1st, 2017 have been fully considered but they are not persuasive.

11. Applicant states Genest fails to disclose "a method of identifying maladies that affect human tissue."

12. In response to applicant's arguments, the recitation "a method of identifying maladies that affect human tissue" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

13. Applicant states that Genest does not disclose the "specified imaging position" of claim 1.

14. Regarding claim 1, Examiner maintains the position that Genest discloses positioning a person or portion thereof at a specified imaging position and spaced a predetermined distance away from and relative to each of a plurality of imaging devices. Specifically, the disclosure of Genest requires the two feet be disposed on a double patterned floor plane with cameras capturing the feet as seen in figure 3. The foot measurement system is configured prior to placing the feet into the system and therefore the imaging position is specified and the feet are spaced a predetermined distance away from and relative to each of a plurality of imaging devices, as the feet must be placed on the floor plane (fig.3; col.5, ll.11-13). The claim as written does not require a specific predetermined distance and does not require the predetermined distance be a known quantitative amount.

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15. Regarding claim 10, Applicant states the prior art fail to disclose “enclosing the person or portion thereof with panels throughout a radius of 360 degrees about a vertical axis and/or 360 degrees about a horizontal axis.

16. Regarding claim 10, Examiner maintains the position that the claim as written only requires panels throughout a radius 360 degrees about a vertical axis or a horizontal axis. The claim as written does not require the panels be directly connected without any gaps, so as to provide a continuous set of panels. It is sufficient to have panels along the 360 degree radius. Genest discloses this feature in the form of a floor plane and back planes as shown in figure 3. Examiner suggests amending the claims to disclose the panels are continuous and each panel is directly connected to each subsequent panel. Further, the claim only requires one of 360 degrees about a vertical axis and 360 degrees about a horizontal axis, therefore, it is not required for the enclosure to have a front, rear and top.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCHELLE TURCHEN whose telephone number is (571)270-7104. The examiner can normally be reached on Monday thru Friday, 9:00 A.M. to 5:00 P.M..

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

Art Unit: 3777

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROCHELLE TURCHEN/
Primary Examiner, Art Unit 3777

Notice of References Cited	Application/Control No. 12/102,810		Applicant(s)/Patent Under Reexamination DRUGGE, RHETT	
	Examiner ROCHELLE TURCHEN		Art Unit 3777	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-6,907,138 B1	06-2005	Hoffman; Peter Klaus	G01B11/30	382/154
*	B	US-6,993,167 B1	01-2006	Skladnev; Victor	A61B5/0059	382/128
	C	US-				
	D	US-				
	E	US-				
	F	US-				
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12102810
	Filing Date		2008-04-14
	First Named Inventor		Rhett Drugge
	Art Unit		3777
	Examiner Name		Rochelle Deanna Turchen
	Attorney Docket Number		100504.00008

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Art Unit	3777
Examiner Name	Rochelle Deanna Turchen
Attorney Docket Number	100504.00008

1	Hurley, J., Demers, M., Wulpern, R., Grindon, J., "Body Measurement System using White Light Projected Patterns for Made-to-Measure Apparel," Proc. SPIE 3131, Optical Scanning Systems: Design and Applications, July 7, 1997, pages 212-223.

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First Named Inventor	Rhett Drugge
Art Unit	3777
Examiner Name	Rochelle Deanna Turchen
Attorney Docket Number	100504.00008

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<i>Index of Claims</i> 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
	Examiner ROCHELLE TURCHEN	Art Unit 3777

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant
 ☐ CPA
 ☐ T.D.
 ☐ R.1.47

CLAIM		DATE								
Final	Original	12/09/2010	05/03/2011	11/23/2011	12/12/2012	07/24/2013	02/18/2014	03/02/2015	09/21/2015	06/17/2016
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓
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	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
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	21							✓	✓	✓
	22							✓	✓	✓

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	"12102810" and point with time	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:35
L2	0	"12102810" and (later repeat\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:46
L3	1	"12102810"	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:46
L4	1	"6546356".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:54
L5	2	"6546356".pn. "6301549".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:56
L6	0	l5 and (malady mole beauty adj mark skin cancer wound lesion maladies)	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:56
L7	13	("5261404" "5782762" "5797845" "5865829" "5879306" "6011986" "6083162" "6236875" "6339216" "6397091" "6556858" "6597941" "7092014").PN.	US-PGPUB; USPAT	OR	ON	2017/08/23 08:56
L8	3060	"l13" and (malady mole beauty adj mark skin cancer wound lesion maladies)	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:57
L9	11	l7 and (malady mole beauty adj mark skin cancer wound lesion maladies)	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:57
L10	212113	a61b 5/0064 and (malady mole beauty adj mark skin adj cancer wound lesion maladies)	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:58
L11	71	a61b5/0064 and (malady mole beauty adj mark skin adj cancer wound lesion maladies)	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:58
L12	0	l11 and @ad< "20000726"	US-PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:58

L13	1	l3 and (malady mole beauty adj mark skin adj cancer wound lesion maladies)	US- PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:59
L14	55029	imag\$3 and (malady mole beauty adj mark skin adj cancer wound lesion maladies) and @ad< "20000726"	US- PGPUB; USPAT; USOCR	OR	ON	2017/08/23 08:59
L15	672	imag\$3 with skin and (malady mole beauty adj mark skin adj cancer wound lesion maladies) and @ad< "20000726"	US- PGPUB; USPAT; USOCR	OR	ON	2017/08/23 09:00
L16	397	imag\$3 near5 skin and (malady mole beauty adj mark skin adj cancer wound lesion maladies) and @ad< "20000726"	US- PGPUB; USPAT; USOCR	OR	ON	2017/08/23 09:00
L17	11	imag\$3 near5 skin and (malady mole beauty adj mark skin adj cancer wound lesion maladies) and @ad< "20000726" and (compar\$4 track\$3) with (malady maladies mole beauty adj mark skin adj cancer wound lesion) with time	US- PGPUB; USPAT; USOCR	OR	ON	2017/08/23 09:26

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Search Notes 	Application/Control No. 12102810	Applicant(s)/Patent Under Reexamination DRUGGE, RHETT
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SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Search	2/18/14	RDR
Updated EAST Search	3/2/15	RDT
Updated EAST Search	9/21/15	RDT
Updated EAST Search	6/17/16	RDT
Updated EAST Search	1/26/17	RDT
Updated EAST Search	8/23/17	RDT

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	12102810
	Filing Date	2008-04-14
	First Named Inventor	Rhett Drugge
	Art Unit	3777
	Examiner Name	Rochelle Deanna Turchen
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First Named Inventor	Rhett Drugge
Art Unit	3777
Examiner Name	Rochelle Deanna Turchen
Attorney Docket Number	100504.00008

1	Voigt, H., Classen, R., "Topodermatographic Image Analysis for Melanoma Screening and the Quantitative Assessment of Tumor Dimension Parameters of the Skin," Cancer, Volume 75, No. 4, February 15, 1995, pages 981-988.
2	Daanen, H., van de Water, J., "Whole Body Scanners," Displays 19 (1998), March 2, 1998, pages 111-120.
3	Daanen, H., "3-D Surface Anthropometry: accurate determination of body dimensions", NATO Panel 8 RSG 24 Workshop on Emerging Technologies in Human Engineering and Testing & Evaluation, June 24-26, 1997, seven pages.
4	Newton, I. and Mitchell, H.L., "Medical Photogrammetry," Chapter 11 in "Close Range Photogrammetry and Machine Vision" (Atkinson, ed.), Whittles Publishing, 1996, pages 303-327.
5	Deacon, A.T., Anthony, A.G., Bhatia, S.N., & Muller J.-P., "Evaluation of a CCD-based Facial Measurement System," Medical Informatics, Volume 16, Number 2, 1991, pages 213-228.
6	Comer, R., et al., "Talking Digital", Photogrammetric Engineering & Remote Sensing, December 1998, pages 1139-1142.
7	Manual of Photogrammetry, published by the American Society of Photogrammetry, 4th Edition, 1980, pages 801-809.
8	"USB powers up for market thrust," Office World News, September 1, 1998, three pages.
9	"What's the big deal about USB," Info-Tech Advisor Newsletter, January 12, 1999, two pages.

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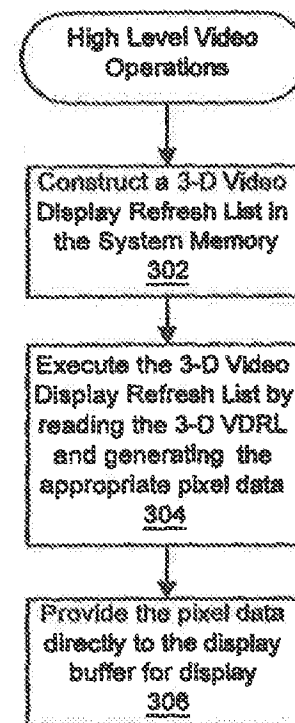
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(54) Title: GRAPHICS SYSTEM AND METHOD FOR RENDERING INDEPENDENT 2D AND 3D OBJECTS

(57) Abstract

A video/graphics controller (IMC) which includes a novel spanning based method for rendering and display of 3D graphical data on a display device. The IMC first operates to construct a 3-D Virtual display refresh list (3D-VDRL) in memory. The IMC constructs the 3-D VDRL by first parsing the geometry data, generating independent vertex-sorted geometric primitives (eg, triangles) and then performing setup on the geometric primitives. Setup includes assembling a list of parameters for each of the triangle vertices and determining slope values for the triangle edges. The IMC uses 3D vertex and slope information to compute horizontal segments that make up each triangle. The IMC then performs a Y sort of the triangles for each span line, and an X sort of triangles segments and vertices for each span line. For each span line, triangle segments are generated and X sorted based on starting X position of triangles for each segment. Span lines are horizontal line of pixels that run the entire length of the display device, and segments are portions of the span line that represent horizontal triangle start to stop segments. After the Y and X sorts, the IMC performs a Z rules determination for each span line to discard or reject those segments that are hidden, i.e., to reject the now one-dimensional triangle segments that are hidden by other triangle segments. After the Y and X sorts, and the Z rules determination, which determines the segments that are visible, the IMC then constructs the 3-D VDRL list for each span line comprising pointers which reference viewed triangle spans. During execution of the 3-D VDRL, the 3-D VDRL is read and interpreted for triangle parameter data, texture address, attributes and other control information to generate pixel data. The pixel data includes the viewed triangle spans and may include texture data or other data referenced by the VDRL.



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GRAPHICS SYSTEM AND METHOD FOR RENDERING INDEPENDENT 2D AND 3D OBJECTS

Field of the Invention

5 The present invention relates to computer system graphics architectures, and more particularly to a graphics controller which performs pointer-based display list video operations to build and manipulate two and three dimensional objects and transfer the objects video data from a memory to a display device.

Description of the Related Art

10 Since their introduction in 1981, the architecture of personal computer systems has remained substantially unchanged. The current state of the art in computer system architectures includes a central processing unit (CPU) which couples to a memory controller interface that in turn couples to system memory. The computer system also includes a separate graphical interface for coupling to the video display. In addition, the computer system includes input/output (I/O) control logic for various I/O devices, including a keyboard,
15 mouse, floppy drive, hard drive, etc.

 In general, the operation of a modern computer architecture is as follows. Programs and data are read from a respective I/O device such as a floppy disk or hard drive by the operating system, and the programs and data are temporarily stored in system memory. Once a user program has been transferred into the system memory, the CPU begins execution of the program by reading code and data from the system memory through
20 the memory controller. The application code and data are presumed to produce a specified result when manipulated by the system CPU. The code and data are processed by the CPU and data is provided to one or more of the various output devices. The computer system may include several output devices, including a video display, audio (speakers), printer, etc. In most systems, the video display is the primary output device.

 Graphical output data generated by the CPU is written to a graphical interface device for presentation on
25 the display monitor. The graphical interface device may simply be a video graphics array (VGA) card, or the system may include a dedicated video processor or video acceleration card including separate video RAM (VRAM). In a computer system including a separate, dedicated video processor, the video processor includes graphics capabilities to reduce the workload of the main CPU. Modern prior art personal computer systems typically include a local bus video system based on either the peripheral component interconnect (PCI) bus or the
30 VESA (Video Electronics Standards Association) VL bus, or perhaps a proprietary local bus standard. The video subsystem is generally positioned on a local bus near the CPU to provide increased performance.

 Therefore, in summary, program code and data are first read from the hard disk to the system memory. The program code and data are then read by the CPU from system memory, the data is processed by the CPU, and graphical data is written to the video RAM in the graphical interface device for presentation on the display
35 monitor. The CPU typically reads data from system memory across the system bus and then writes the processed data or graphical data back across the system bus to the I/O bus or local bus where the graphical interface device is situated. The graphical interface device in turn generates the appropriate video signals to drive the display monitor. It is noted that this operation requires data to make two passes across the system bus and/or the I/O

subsystem bus. In addition, the program that manipulates the data must also be transferred across the system bus from the main memory. Further, two separate memory subsystems are required, the system memory and the dedicated video memory, and video data is constantly being transferred from the system memory to the video memory frame buffer.

5 One recent trend in computer system architecture and design is referred to as a "shared" or "unified" memory, also referred to as a unified memory architecture (UMA). In this architecture, the main or system memory is used for operating system and applications software as well as for the video frame buffer. However, one problem with the "unified" or "shared" memory approach is the perceived need for additional bandwidth to perform video functions such as bit block transfers and video refresh, rasterization and display of three
10 dimensional objects, as well as CPU manipulation of programs and data within the same memory subsystem.

Current 3D display system use a method called the "immediate" mode to render 3D objects. This mode draws a single triangle at a time checking a Z-buffer and reading a texture map or other source data to cover each single triangle. This prior art requires increased memory bandwidth due to triangles that are completely drawn and new triangles that overlap or hide previously drawn triangles. UMA architectures that use immediate mode
15 3D will be slower and lower performance due to these limitations.

Computer systems are being called upon to perform larger and more complex tasks that require increased computing power. In addition, modern software applications require computer systems with increased graphics capabilities. Modern software applications typically include graphical user interfaces (GUIs) which place increased burdens on the graphics capabilities of the computer system. Further, the increased prevalence of
20 multimedia applications, such as digital video and 3D graphics, also demands computer systems with more powerful graphics capabilities. Therefore, a new computer system and method is desired which provides increased system performance while reducing system cost, in particular, increased video and 2D/3D graphics performance than that possible using prior art.

25 Summary of the Invention

The present invention comprises a video, 2D and 3D graphics controller, also referred to as the Integrated Memory Controller (IMC), which includes a novel spanning based system and method for rendering and display of 2D and 3D graphical data on a display device or video monitor, preferably using the main system memory in a unified or shared manner. The novel object based and spanning based display refresh list system for
30 display of 2D and 3D graphical data can also be used within a graphics adapter with it's own local memory system. The IMC performs pointer-based display list video operations for rendering of 2D and 3D video data. The graphics controller of the present invention minimizes data movement for 2D/3D and video data manipulation for video display updates and thus greatly increases system performance. The graphics system uses a list of object pointers to assemble the output display. The objects may reside in virtual locations such as
35 memory or across LAN or WAN communication links and be of any data type (i.e. graphics, video, audio, or control) or color format. In addition, objects use a virtual addressing system for the display output which allows unrestricted movement on the display surface without actual data movement required in prior art frame buffer systems. The IMC is capable of manipulating 3D graphical data similar to streaming video sources. This makes

the invention well suited for display and manipulation of environments where 3D graphics and streaming video formats are mixed. In the preferred embodiment, the IMC transfers data between the CPU local bus and system memory and also transfers data between the system memory and the video display output. The IMC may eliminate the need for one or more of a separate 2D/3D graphics, audio, video, and telephony and core logic subsystems.

The IMC uses techniques to improve overall system performance and user response time by use of the main system memory as a virtual graphical frame buffer and program/data storage. The IMC includes a unique system level architecture that reduces data bandwidth requirements for general media input/output functions. Because the host CPU is not required to move data between main memory and the graphics, audio and/or telephony subsystems as in conventional computers, data can reside virtually in the same subsystem as the main memory. Therefore, for media output data (audio, video, telephony) the host CPU or DMA master is not limited by external available proprietary bus bandwidth, thus improving overall system throughput.

The integrated memory controller (IMC) preferably includes an advanced memory controller, 2D/3D graphics, audio, video, and optionally telephony processing capabilities. The 3D graphics capabilities of the IMC include numerous significant advances that provide greatly increased performance over prior art systems. The memory controller (IMC) of the present invention may sit on the main CPU bus, (not limited to that bus) or a high-speed system peripheral bus such as the PCI or the accelerated graphics peripheral (AGP) bus. The IMC includes one or more symmetric memory ports for connecting to system memory. The IMC also includes video outputs, (where the term "video outputs" may be used to refer to display output to drive the output display device) preferably RGB (red, green, blue) outputs as well as NTSC, HDTV or PAL video plus horizontal and vertical synchronization signal outputs. These signals directly drive the video display monitor. The IMC may also include one or more video outputs, preferably (but not limited to) industry standard RGB, YUV, NTSC, PAL, HDTV and flat panel display interfaces. The IMC also may include numerous other interfaces for video, audio, Internet and/or telephony devices, among others.

The IMC includes a novel system and method for manipulating and rendering 3D graphics. The IMC first operates to construct a 3-D Virtual display refresh list (3D-VDRL) in system memory. The IMC then executes the 3-D VDRL by reading the VDRL and generating and/or accessing the appropriate pixel data from system memory to construct an image or display objects. For example, execution of the 3-D VDRL causes the generated pixel data to be stored in memory as an image.

After the IMC executes the 3-D VDRL, the IMC may then create a separate 2-D VDRL which references the pixel data, and then execute the 2-D VDRL to render the pixel data on the screen. In alternate embodiments the 2-D VDRL and or 3-D VDRL may be created outside the IMC by an external CPU or computing device. Alternatively, the IMC stores the pixel data generated by execution of the 3-D VDRL in a conventional frame buffer and performs a refresh of the frame buffer to render the pixel data on the screen. The IMC may also provide the pixel data directly to a rendering engine for real time display after executing the 3-D VDRL.

The IMC operates to construct the 3-D VDRL by first parsing the 3D object and generating independent vertex-sorted geometric primitives and then performing setup on the geometric primitives. Geometric primitives may comprise trapezoids, splines, triangles, lines or points, and are generically termed polygons or triangles