

2019-1927
In The
United States Court of Appeals
For The Federal Circuit

CANFIELD SCIENTIFIC, INC.,

Appellant,

vs.

MELANOSCAN, LLC,

Appellee.

Appeal From United States Patent and Trademark Office,
Patent Trial and Appeal Board in Proceeding No.: IPR2017-02125

CORRECTED BRIEF OF APPELLANT
CANFIELD SCIENTIFIC, INC.

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D. Description of Relevant Prior Art Combinations

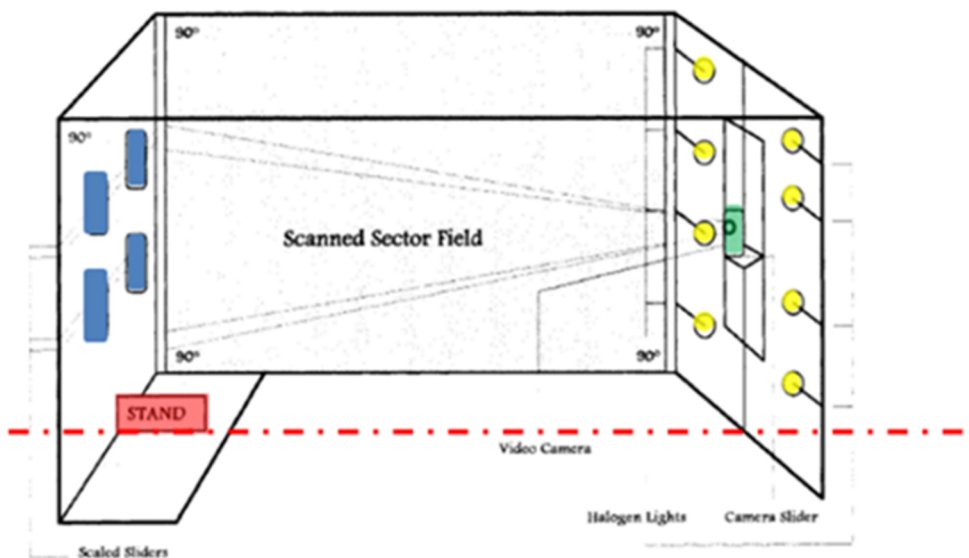
The Board conducted its review based on five prior art references, each of which the parties agree constitutes prior art. The relevant combinations addressed in the Board's decision are described below.

1. Ground 1 - Voigt and Hurley

Voigt discloses a technique it calls "topodermatography" that uses images of the torso, front and back, to make quantitative measurements of skin lesions.

Appx1040, Appx572. Voigt employs an enclosure it refers to as a "framework." Appx1040-1041, Appx573. Voigt's open framework consists of four rectangular frames joined at 90 degrees. Appx573, Appx1072, *see also* Appx1049 (describing similar Hurley frame as an erector set).

As shown in the following annotated figure from Voigt, the person is positioned on a stand (red) in front of an adjustable camera (green) and between sliders (blue). Appx1041, Appx573. The camera, located a predetermined distance from the specified imaging position, had a known focal length and resolution. To illuminate the patient, Voigt's enclosure included multiple light sources (yellow). Both the sliders and the light sources are connected to the corner uprights of the Voigt frame, as depicted by horizontal lines showing this attachment. Appx573, Appx869. Voigt's camera arrangement allowed precise measurements of imaged features of the person's skin. Appx1042-1045.



Appx1056.

Melanoscan conceded that Voigt includes a centerline defined by the specified imaging position, shown in red above. Appx1668. The Board employed this construction of centerline in its Final Written Decision. Appx27-28.

The parties and the Board all agree that the only limitation of claim 1 (the premise of the Final Written Decision) not disclosed by Voigt is the plurality of cameras spaced vertically, laterally, and on opposite sides of the centerline. Appx27-28, Appx1667 (Voigt measures skin lesions), Appx1668 (patient positioned within framework, camera at a recorded position at centerline, resulting image used to measure a lesion), Appx1675 (uses white light).

Hurley, however, discloses vertically and laterally spaced cameras whose locations, if employed with Voigt's camera would result in cameras spaced on opposite sides of the centerline as required. Hurley discloses a body measurement

Canfield reiterated these independent motivations, and the design changes they prompted, in its Reply Brief. Appx1939 (“to cover the entire body, to increase the life cycle of the scanner, to provide high resolution, optimized to cover the maximum amount of the surface area of a person, to capture the body in a single pose, increase total image information, to accommodate for different heights” and “to address ‘the coverage requirement imposed by the shape of the human body’”). Replying to Melanoscan, Canfield confirmed the straightforward duplication of Voigt’s CCD camera and light sources in multiple fixed locations, and the retention of Voigt’s framework and specified imaging position. Appx1935-1936, Appx1938.

F. Modifications to Voigt

Canfield’s Petition argued these various motivations would have prompted a POSA to modify Voigt to add vertically spaced cameras “in front and to the sides of the person to be imaged” (*e.g.* angled forward cameras such as depicted in Hurley and Crampton positioned on opposite sides of the centerline as construed by Melanoscan and the Board). Appx1060. Additionally, other of these motivations would have prompted the addition of cameras “behind” the person being imaged, in the manner shown in Hurley and in Daanen, satisfying claim limitations that call for more than simply two arrays of vertically spaced cameras on opposite sides of a centerline. Appx1058-1060. Canfield’s Petition then

described how Voigt's arrangement of halogen lights would be reproduced to provide lighting and prevent "artificial shadowing." Appx1061-1062.

As the Petition explained, a POSA would be capable of easily replicating this camera configuration in Voigt's open framework. Appx1072-1073, Appx1060. The prior art demonstrates a wide variety of methods for mounting all elements of the necessary system, including lights, cameras, monitors, controls, and positioning features. *See, e.g.*, Appx571-579, Appx580-591, Appx592-601, Appx602-637. Under the Board's definition of a POSA, such changes were well within his/her grasp. Appx1661 (credited POSA with understanding principles of obtaining images, knowledge of usable imaging devices, lighting and light schemes by which a subject can be illuminated and their limitations). Appx1661.

The Petition explained Voigt would maintain its stand and adjustable sliders. Appx1056. The Petition asserted, citing the testimony of Dr. Muller, that a POSA could also have altered the means for attaching the sliders, if necessary. Appx1060 citing Appx877(¶125) (noting that rear of Voigt's framework was open, but offering in the event Melanoscan argued a wall was present, that a POSA would understand that, following its removal, the sliders could nevertheless retain their connection to the outer framework as depicted , or alternatively be connected to the stand, such changes being routine for a POSA).

rear wall, as suggested, would not have been possible without the elimination of Voigt's sliders. Melanoscan disputed disclosures in Voigt highlighted by Dr. Muller, depicting the sliders as attached to Voigt's outer framework. Appx1687 (disputing that Voigt even disclosed an outer framework to which the sliders were attached). Melanoscan argued that alternatively attaching the sliders to the stand would "block parts of the body" and cause shadowing and shading. Melanoscan did not dispute that either removal of a purported wall or the attachment of sliders to the stand would be beyond the technical skill of POSA. Melanoscan's primary argument was that retention of the sliders, by whatever means, would obscure those limited portions of the body actually in contact with the sliders. Appx1686-1687.

In Canfield's first opportunity to reply to Melanoscan's arguments concerning a "wall," Canfield explained the proposed duplication of Voigt's lighting would avoid any concerns about shadowing. *See, e.g.*, Appx1971, Appx2017-2018(¶48). Canfield explained Voigt's sliders would continue to specify the imaging position and would continue to provide repeatable image registration. Appx1971-1972, Appx2014(¶¶44-48). Canfield disputed Melanoscan's assertions that the proposed combination must image every inch of the subject's body or that Canfield had ever so argued—noting that its proposed combination contemplated retention of Voigt's sliders. Appx1973, Appx1984,

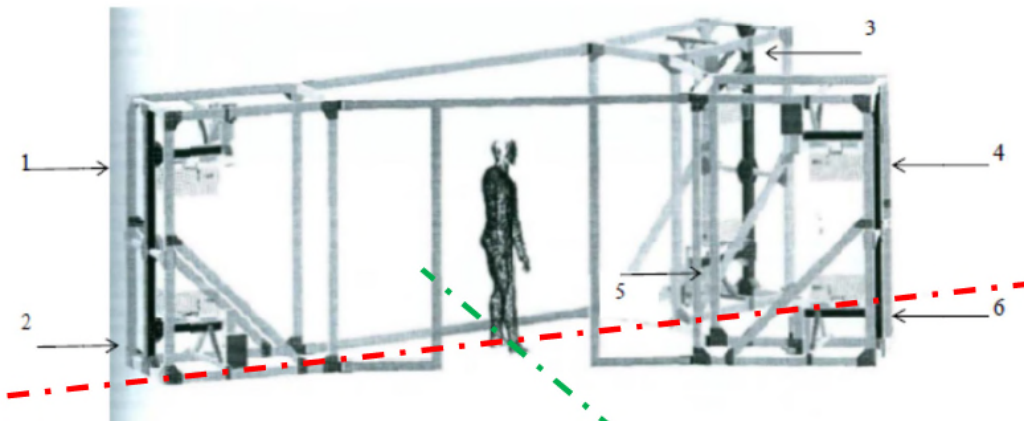
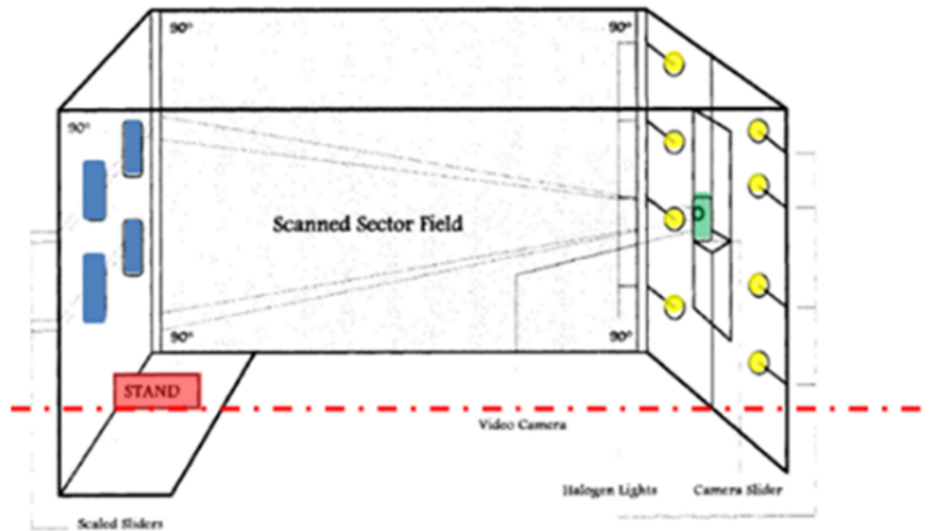
Canfield's Petition, however, articulated a litany of independent reasons a POSA would multiply Voigt's cameras in various positions. Canfield presented evidence of reasons that a POSA would place multiple fixed cameras at various locations spaced laterally, vertically, and on opposite sides of a centerline:

1. Increase resolution/quantity and quality of image data.
2. Capture the entire height.
3. Permit accurate imaging of curved surfaces of the body.
4. More efficient use of space.
5. Capture greater detail.
6. Avoid artificial shadowing.
7. Avoid maintenance issues.
8. Increased safety.
9. Time-savings.

Appx1059-1060, Appx850(¶¶69), Appx874-878(¶¶116-126), Appx881-889(¶¶132-147), Appx918(¶¶214-229), Appx974-978)(¶¶334-345).

Each of these reasons were tied to specific modifications to Voigt. Thus, multiple cameras allowed for increased resolution. Spacing cameras vertically permitted imaging of the entire height without losing resolution, and reduced size of the enclosure. Spacing cameras both vertically and laterally permitted more accurate imaging of body surfaces, particularly the curved surfaces of human

anatomy. Implementing these changes would have resulted in a modified Voigt containing at least two obliquely angled, forward vertical arrays of cameras and lights similar in arrangement to the front towers of Hurley (see below). Appx1058. As discussed in the following Section, this arrangement alone would have been sufficient to satisfy the limitations of Claim 1.



evaluating the reasonable expectation of success . . . constitutes a legal error that [is] review[ed] without deference.” *Allergan, Inc. v. Apotex, Inc.*, 754 F.3d 952, 966 (Fed. Cir. 2014).

Claim 1 of the ’748 patent requires no more than two cameras disposed horizontally on opposite sides of a centerline from one another, with at least two cameras also being spaced vertically. Claim 1 does not require that cameras be placed in front and in back of the subject. As discussed above, borrowing the camera arrangements shown in Hurley’s front towers or in Crampton’s forward camera arrays and adding them to Voigt would meet the limitations of Claim 1.

Under similar facts, the Federal Circuit reversed a district court finding of non-obviousness where the district court relied on a finding that one of skill in the art would not have had a reasonable expectation of success in developing an unclaimed drug formulation. *Allergan*, 726 F.3d at 1292-93 (finding that the claims, properly construed, were not limited to that particular drug formulation, the Federal Circuit reversed). To show obviousness of Claim 1, Canfield does not have to show that a POSA would have had a reasonable expectation of success in incorporating cameras in Voigt behind the subject. To meet the limitations of Claim 1, Canfield only had to show a POSA had a reasonable expectation that reconfiguring Voigt’s cameras in a forward configuration similar to those Hurley and Crampton described could be successfully achieved.