Doc Code: TRACK1.REQ
Document Description: TrackOne Request

PTO/AIA/424 (04-14)

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)

First Named Inventor:	Douglas G. Bayerlein	Nonprovisional Application Number (if known):	Not yet assigned
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently $0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.

2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.

3. The applicable box is checked below:

I. ☑ **Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)**

i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, or the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ **Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)**

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /R.J. McKenna/	Date 04-20-2018
Name (Print/Typed) Richard J. McKenna	Practitioner Registration Number 35,610

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.**

☑ *Total of 1 forms are submitted.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Douglas	G.	Bayerlein	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Oconomowoc	WI	US

Mailing Address of Inventor:

Address 1	34675 Bartlett Road
Address 2	

City	State/Province	Postal Code	Country
Oconomowoc	WI	53066	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Vance	E.	Emons	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Hartland	WI	US

Mailing Address of Inventor:

Address 1	N79 W28251 Tourmaline Court
Address 2	

City	State/Province	Postal Code	Country
Hartland	WI	53029	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Nicholas	A.	Oblamski	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

City	Waukesha	State/Province	WI	Country of Residence	US

Mailing Address of Inventor:

Address 1	W271N525 Jills Dr.		
Address 2			
City	Waukesha	State/Province	WI
Postal Code	53188	Country	US

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Scott	D.	Hoerig	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Brookfield	State/Province	WI	Country of Residence	US

Mailing Address of Inventor:

Address 1	15755 Sky Cliff Drive		
Address 2			
City	Brookfield	State/Province	WI
Postal Code	53005	Country	US

Inventor 5 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Matthew	J.	Zank	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Milwaukee	State/Province	WI	Country of Residence	US

Mailing Address of Inventor:

Address 1	4677 N. 41st Street		
Address 2			
City	Milwaukee	State/Province	WI
Postal Code	53209	Country	US

Inventor 6 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Robert	L.	Zimpel	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Menomonee Falls	State/Province	WI	Country of Residence	US

LIFECORE Ex. 1026, p. 3

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

Mailing Address of Inventor:

Address 1	N55 W21289 Logan Dr.		
Address 2			
City	Menomonee Falls	**State/Province**	WI
Postal Code	53051	**Country** i	US

Inventor 7 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Joel	W.	Richards	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Wauwatosa	**State/Province**	WI	**Country of Residence** i	US

Mailing Address of Inventor:

Address 1	2145 N. 65th St.		
Address 2			
City	Wauwatosa	**State/Province**	WI
Postal Code	53213	**Country** i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	26371		
Email Address	IPDocketing@foley.com	Add Email	Remove Email

Application Information:

Title of the Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME		
Attorney Docket Number	097208-0226	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	20	**Suggested Figure for Publication (if any)**	1

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Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	26371		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	14/832708	2015-08-21

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14/832708	Continuation of	14/076912	2013-11-11	9114276	2015-08-25
Prior Application Status	Abandoned				Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
14/076912	Continuation of	13/235065	2011-09-16		
Prior Application Status	Expired				Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
13/235065	Continuation in part of	PCT/US10/27543	2010-03-16		
Prior Application Status	Expired				Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
PCT/US10/27543	Claims benefit of provisional	61/161027	2009-03-17		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.					Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

			Remove
Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[j] (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.			Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 — Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

● Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	Woodway USA, Inc.		
Mailing Address Information For Applicant:			
Address 1	W229 N591 Foster Court		
Address 2			
City	Waukesha	**State/Province**	WI
Country	US	Postal Code	53186
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	Woodway USA, Inc.

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	W229 N591 Foster Court		
Address 2			
City	Waukesha	**State/Province**	WI
Country i	US	Postal Code	53186
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/R.J. McKenna/			Date (YYYY-MM-DD)	2018-04-20
First Name	Richard J.	Last Name	McKenna	Registration Number	35610

Additional Signature may be generated within this form by selecting the Add button. Add

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	097208-0226
	Application Number	
Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

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 CooperationTreaty.

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.

MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

CROSS-REFERENCE TO RELATED PATENT APPLICATIONS

[0001] This application is a continuation of U.S. Patent Application No. 14/832,708, filed August 21, 2015, which is a continuation of U.S. Patent Applicant No. 14/076,912 now U.S. Pat. No. 9,114,276, filed November 11, 2013, which is a continuation of U.S. Patent Application No. 13/235,065, filed September 16, 2011, which is a continuation-in-part of prior international Application No. PCT/US10/27543, filed March 16, 2010, which claims priority to U.S. Provisional Application Serial No. 61/161,027, filed March 17, 2009, all of which are incorporated herein by reference in their entireties.

BACKGROUND

[0002] The present invention relates generally to the field of treadmills. More specifically, the present invention relates to manual treadmills. Treadmills enable a person to walk, jog, or run for a relatively long distance in a limited space. It should be noted that throughout this document, the term "run" and variations thereof (e.g., running, etc.) in any context is intended to include all substantially linear locomotion by a person. Examples of this linear locomotion include, but are not limited to, jogging, walking, skipping, scampering, sprinting, dashing, hopping, galloping, etc.

[0003] A person running generates force to propel themselves in a desired direction. To simplify this discussion, the desired direction will be designated as the forward direction. As the person's feet contact the ground (or other surface), their muscles contract and extend to apply a force to the ground that is directed generally rearward (i.e., has a vector direction substantially opposite the direction they desire to move). Keeping with Newton's third law of motion, the ground resists this rearwardly directed force from the person, resulting in the person moving forward relative to the ground at a speed related to the force they are creating.

[0004] To counteract the force created by the treadmill user so that the user stays in a relatively static fore and aft position on the treadmill, most treadmills utilize a belt that is

driven by a motor. The motor operatively applies a rotational force to the belt, causing that portion of the belt on which the user is standing to move generally rearward. This force must be sufficient to overcome all sources of friction, such as the friction between the belt and other treadmill components in contact therewith and kinetic friction, to ultimately rotate the belt at a desired speed. The desired net effect is that, when the user is positioned on a running surface of the belt, the forwardly directed velocity achieved by the user is substantially negated or balanced by the rearwardly directed velocity of the belt. Stated differently, the belt moves at substantially the same speed as the user, but in the opposite direction. In this way, the user remains at substantially the same relative position along the treadmill while running. It should be noted that the belts of conventional, motor-driven treadmills must overcome multiple, significant sources of friction because of the presence of the motor and configurations of the treadmills themselves.

[0005] Similar to a treadmill powered by a motor, a manual treadmill must also incorporate some system or means to absorb or counteract the forward velocity generated by a user so that the user may generally maintain a substantially static position on the running surface of the treadmill. The counteracting force driving the belt of a manual treadmill is desirably sufficient to move the belt at substantially the same speed as the user so that the user stays in roughly the same static position on the running surface. Unlike motor-driven treadmills, however, this force is not generated by a motor.

SUMMARY

[0006] One embodiment of the disclosure relates to a manually operated treadmill comprising a treadmill frame having a front end and a rear end opposite the front end, a front shaft rotatably coupled to the treadmill frame at the front end, a rear shaft rotatably coupled to the treadmill frame at the rear end, and a running belt including a curved running surface upon which a user of the treadmill may run. The running belt is disposed about the front and rear shafts such that force generated by the user causes rotation of the front shaft and the rear shaft and also causes the running surface of the running belt to move from the front shaft toward the rear shaft. The treadmill is configured to control the speed of the running belt to facilitate the maintenance of the contour of the curved running surface.

[0007] Another embodiment of the disclosure relates to a manually operated treadmill comprising a treadmill frame, a front support member rotatably coupled to the treadmill frame, a rear support member rotatably coupled to the treadmill frame, a running belt including a curved running surface upon which a user of the treadmill may run, wherein the running belt is supported by the front support member and the rear support member, and a synchronizing system configured to cause the front support member and the rear support member to rotate at substantially the same speeds. The force generated by the user causes rotation of the front support member and the rear support member and also causes the running belt to rotate relative to the treadmill frame.

[0008] Another embodiment of the disclosure relates to a manually operated treadmill comprising a treadmill frame, a front shaft rotatably coupled to the treadmill frame, a rear shaft rotatably coupled to the treadmill frame, a running belt including a contoured running surface upon which a user of the treadmill may run, wherein the running belt is disposed about the front and rear shafts such that force generated by the user causes rotation of the front shaft and the rear shaft and also causes the running belt to rotate about the front shaft and the rear shaft without the rotation of the running belt being generated by a motor, and a one-way bearing assembly configured to prevent rotation of the running surface of the running belt in one direction.

[0009] Another embodiment of the disclosure relates to manually operated treadmill comprising a treadmill frame, a running belt including a running surface upon which a user of the treadmill may run, a front support member rotatably coupled to the treadmill frame, the front support member comprising the forwardmost support for the running belt, a rear support member rotatably coupled to the treadmill frame, the rear support member comprising the rearwardmost support for the running belt. The running surface comprises at least in part a complex curve located intermediate the front support member and the rear support member and incorporating a minimum of two geometric configurations.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a perspective view of an exemplary embodiment of a manual treadmill having a non-planar running surface.

[0011] FIG. 2 is a left-hand partially exploded perspective view of a portion of the manual treadmill according to the exemplary embodiment shown in FIG. 1.

[0012] FIG. 3 is a right-hand partially exploded perspective view of a portion of the manual treadmill according to the exemplary embodiment shown in FIG. 1.

[0013] FIG. 4 is a perspective view of the right-hand side of the manual treadmill of FIG. 1 with a portion of the rear of the treadmill cut-away to show a portion of the arrangement of elements.

[0014] FIG. 5 is a cross-sectional view of a portion of the manual treadmill taken along line 5-5 of FIG. 1.

[0015] FIG. 6 is an exploded view of a portion of the manual treadmill of FIG. 1 having the side panels and handrail removed.

[0016] FIG. 7a is a side schematic view of the profile of the running surface of the manual treadmill according to an exemplary embodiment.

[0017] FIGS. 7b-7j are sides schematic views of alternative profiles of the running surfaces of manual treadmills according to alternative exemplary embodiments.

[0018] FIG. 8 is a partially exploded, perspective view of a bearing rail for the manual treadmill according to the exemplary embodiment shown in FIG. 1.

[0019] FIG. 9 is a side elevation view of the bearing rail of FIG. 6.

[0020] FIG. 10 is a top elevation view of a front shaft assembly for the manual treadmill according to the exemplary embodiment shown in FIG. 1.

[0021] FIG. 11 is a top elevation view of a rear shaft assembly for the manual treadmill according to the exemplary embodiment shown in FIG. 1.

[0022] FIG. 12 is a partial, cross-sectional view of the manual treadmill taken along line 12-12 of FIG. 1.

[0023] FIG. 13 is an alternative exemplary embodiment of the partial, cross-sectional view of the manual treadmill similar to FIG. 12.

[0024] FIG. 14 is a perspective view of an alternative embodiment of a synchronizing system integrated into a manual treadmill.

[0025] FIG. 15 is a partial, cross-sectional view of a manual treadmill including an exemplary embodiment of a braking system taken along line 15-15 of FIG. 4.

[0026] FIG. 16 is a partial, cross-sectional view of a manual treadmill including another exemplary embodiment of a braking system taken along line 16-16 of FIG. 4.

[0027] FIG. 17 is a perspective side view of a portion of the manual treadmill according to the exemplary embodiment shown in FIG. 1 including a plurality of rollers used in place of bearing rails.

[0028] FIG. 18 is a side perspective view of a track system for use with the exemplary embodiment of a manual treadmill shown in FIG. 1 and configured to help induce and maintain a running belt in a desired non-planar shape to define a running surface.

[0029] FIG. 19 is a detail view of the track system of FIG. 18 taken along line 19-19.

[0030] FIG. 20 is a partial cross-sectional view of the track system of FIG. 18 taken along line 20-20.

[0031] FIG. 21 is a detail view of the track system of FIG. 20 taken along line 21-21.

[0032] FIG. 22 is a side perspective view of another exemplary embodiment of a track system for use with the exemplary embodiment of a manual treadmill shown in FIG. 1 and configured

to help induce and maintain a running belt in a desired non-planar shape to define a running surface.

[0033] FIG. 23 is a detail view of the track system of FIG. 22 taken along line 23-23.

[0034] FIG. 24 is a partial cross-sectional view of the track system of FIG. 18 taken along line 24-24.

[0035] FIG. 25 is a side perspective view of another exemplary embodiment of a track system for use with the exemplary embodiment of a manual treadmill shown in FIG. 1 and configured to help induce and maintain a running belt in a desired non-planar shape to define a running surface.

[0036] FIG. 26 is a detail view of the track system of FIG. 25 taken along a line 26-26.

[0037] FIG. 27 is a partial cross-sectional view of the track system of FIG. 25 taken along line 27-27.

[0038] FIG. 28 is a detail view of the track system of FIG. 27 taken along line 28-28.

[0039] FIG. 29 is a partially exploded, right-hand perspective view of a track system for use with the exemplary embodiment of a manual treadmill shown in FIG. 1 and configured to help induce and maintain a running belt in a desired non-planar shape to define a running surface.

[0040] FIG. 30 is a detail view of the track system of FIG. 29 taken along line 30-30.

[0041] FIG. 31 is a side perspective view of another exemplary embodiment of a track system for use with the exemplary embodiment of a manual treadmill shown in FIG. 1 and configured to help induce and maintain a running belt in a desired non-planar shape to define a running surface.

[0042] FIG. 32 is a detail view of the track system of FIG. 31 taken along a line 32-32.

[0043] FIG. 33 is a partial cross-sectional view of the track system of FIG. 31 taken along a line 33-33.

[0044] FIG. 34 is a detail view of the track system of FIG. 32 taken along a line 34-34.

[0045] FIG. 35 is a perspective view of an exemplary embodiment of a manual treadmill according to another embodiment having a substantially planar running surface.

[0046] FIG. 36 is a perspective view of a one-way bearing for the manual treadmill according to the exemplary embodiment shown in FIG. 1.

[0047] FIG. 37 is a left-hand partially exploded perspective view of a portion of the manual treadmill according to the exemplary embodiment shown in FIG. 1 including an incline adjustment system.

[0048] FIG. 38 is a perspective view of a one-way bearing for the manual treadmill shown in FIG. 1, according to another embodiment.

DETAILED DESCRIPTION

[0049] Referring to FIG. 1, a manual treadmill 10 generally comprises a base 12 and a handrail 14 mounted to the base 12 as shown according to an exemplary embodiment. The base 12 includes a running belt 16 that extends substantially longitudinally along a longitudinal axis 18. The longitudinal axis 18 extends generally between a front end 20 and a rear end 22 of the treadmill 10; more specifically, the longitudinal axis 18 extends generally between the centerlines of a front shaft and a rear shaft, which will be discussed in more detail below.

[0050] A pair of side panels 24 and 26 (e.g., covers, shrouds, etc.) are preferably provided on the right and left sides of the base 12 to effectively shield the user from the components or moving parts of the treadmill 10. The base 12 is supported by multiple support feet 28, which will be described in greater detail below. A rearwardly extending handle 30 is provided on the rear end of the base 12 and a pair of wheels 32 are provided at the front of the base 12, however, the wheels 32 are mounted so that they are generally not in contact with the ground when the treadmill is in an operating position. The user can easily move and relocate the treadmill 10 by lifting the rear of the treadmill base 12 a sufficient amount so that the multiple support feet 28 are no longer in contact with the ground, instead the wheels 32 contact the

ground, thereby permitting the user to easily roll the entire treadmill 10. It should be noted that the left and right-hand sides of the treadmill and various components thereof are defined from the perspective of a forward-facing user standing on the running surface of the treadmill 10.

[0051] Referring to FIGS. 2–6, the base 12 is shown further including a frame 40, a front shaft assembly 44 positioned near a front end 48 of the frame 40, and a rear shaft assembly 46 positioned near the rear end 50 of frame 40, generally opposite the front end 48. Specifically, the front shaft assembly 44 is coupled to the frame 40 at the front end 48, and the rear shaft assembly 46 is coupled to the frame 40 at the rear end 50 so that the frame supports these two shaft assemblies.

[0052] The frame 40 comprises longitudinally-extending, opposing side members, shown as a left-hand side member 52 and a right-hand side member 54, and one or more lateral or cross-members 56 extending between and structurally connecting the side members 52 and 54 according to an exemplary embodiment. Each side member 52, 54 includes an inner surface 58 and an outer surface 60. The inner surface 58 of the left-hand side member 52 is opposite to and faces the inner surface 58 of the right-hand side member 54. According to other exemplary embodiments, the frame may have substantially any configuration suitable for providing structure and support for the manual treadmill.

[0053] Similar to most motor-driven treadmills, the front shaft assembly 44 includes a pair of front running belt pulleys 62 interconnected with, and preferably directly mounted to, a shaft 64, and the rear shaft assembly 46 includes a pair of rear running belt pulleys 66 interconnected with, and preferably directly mounted to, a shaft 68. The front and rear running belt pulleys 62, 66 are configured to facilitate movement of the running belt 16. The running belt 16 is disposed about the front and rear running belt pulleys 62, 66, which will be discussed in more detail below. As the front and rear running belt pulleys 62, 66 are preferably fixed relative to shafts 64 and 68, respectively, rotation of the front and rear running belt pulleys 62, 66 causes the shafts 64, 68 to rotate in the same direction. The front and rear running belt pulleys 62, 66 are formed of a material sufficiently rigid and durable to maintain shape under load. Preferably, the material is of a relatively light weight so as to reduce the inertia of the pulleys 62, 66. The pulleys 62, 66 may be formed of any material having one or more of these

characteristics (e.g., metal, ceramic, composite, plastic, etc.). According to the exemplary embodiment shown, the front and rear running belt pulleys 62, 66 are formed of cast aluminum. According to another embodiment, the front and rear running belt pulleys 62, 66 are formed of a glass-filled nylon, for example, Grivory® GV-5H Black 9915 Nylon Copolymer available from EMS-GRIVORY of Sumter, SC 29151, which may save cost and reduce the weight of the pulleys 62, 66 relative to metal pulleys. To prevent a static charge due to operation of the treadmill 10 from building on a pulley 62, 66 formed of electrically insulative materials (e.g., plastic, composite, etc.), an antistatic additive, for example Antistat 10124 from Nexus Resin Group of Mystic, CT 06355, maybe may be blended with the GV-5H material.

[0054] As noted above, the manual treadmill disclosed herein includes a force translation system that incorporates a variety of innovations to translate the forward force created by the user into rotation of the running belt and permit the user to maintain a substantially static fore and aft position on the running belt while running. One of the ways to translate this force is to configure the running belt 16 to be more responsive to the force generated by the user. For example, by minimizing the friction between the running belt 16 and the other relevant components of the treadmill 10, more of the force the user applies to the running belt 16 to propel themselves forward can be utilized to rotate the running belt 16.

[0055] Another way to counteract the user-generated force and convert or translate it into rotational motion of the running belt 16 is to integrate a non-planar running surface, such as non-planar running surface 70. Depending on the configuration, non-planar running surfaces can provide a number of advantages. First, the shape of the non-planar running surface may be such that, when a user is on the running surface, the force of gravity acting upon the weight of the user's body helps rotate the running belt. Second, the shapes may be such that it creates a physical barrier to restrict or prevent the user from propelling themselves off the front end 20 of the treadmill 10 (e.g., acting essentially as a stop when the user positions their foot thereagainst, etc.). Third, the shapes of some of the non-planar running surfaces can be such that it facilitates the movement of the running belt 16 there along (e.g., because of the curvature, etc). Accordingly, the force the user applies to the running belt is more readily able to be translated into rotation of the running belt 16.

[0056] As seen in FIGS 1 and 4-5, the running surface 70 is generally non-planar and shown shaped as a substantially complex curve according to an exemplary embodiment. The running surface can be generally divided up into three general regions each having a particular geometric configuration, the front portion 72, which is adjacent to the front shaft assembly 44, the rear portion 74, which is adjacent to the rear shaft assembly 46, and the central portion 76, which is intermediate the front portion 72 and the rear portion 74. In the exemplary embodiment seen in FIGS 1 and 4, the running surface 70 includes a substantially concave curve 80 and a substantially convex curve 82. At the front portion 72 of the running surface 70, the relative height or distance of the running surface 70 relative to the ground is generally increasing moving forward along the longitudinal axis 18 from the central portion 76 toward the front shaft assembly 44. This increasing height configuration provides one structure to translate the forward running force generated by the user into rotation of the running belt 16. To initiate the rotation of the running belt 16, the user places her first foot at some point along the upwardly-inclined front portion 72 of the running surface 70. As the weight of the user is transferred to this first foot, gravity exerts a downward force on the user's foot and causes the running belt 16 to move (e.g., rotate, revolve, advance, etc.) in a generally clockwise direction as seen in FIGS 1 (or counterclockwise as seen in FIG. 4). As the running belt 16 rotates, the user's first foot will eventually reach the lowest point in the non-planar running surface 70 found in the central portion 76, and, at that point, gravity is substantially no longer available as a counteracting source to the user's forward running force. Assuming a typical gait, at this point the user will place her second foot at some point along the upwardly-inclined front portion 72 of the running belt 16 and begin to transfer weight to this foot. Once again, as weight shifts to this second foot, gravity acts on the user's foot to continue the rotation of the running belt 16 in the clockwise direction as seen in FIG. 1. This process merely repeats itself each and every time the user places her weight-bearing foot on the running belt 16 at any position vertically above the lowest point of central portion 76 of the running surface 70 of the of the running belt 16. The upwardly-inclined front portion 72 of the running belt 16 also acts substantially as a physical stop, reducing the chance the user can inadvertently step off the front end 20 of the treadmill 10.

[0057] A user can generally utilize the force translation system of the treadmill 10 to control the speed of the treadmill 10 by the relative placement of her weight-bearing foot along the

running belt 16 of the base 12. Generally, the rotational speed of the running belt 16 increases as greater force is applied thereto in the rearward direction. The generally upward-inclined shape of the front portion 72 thus provides an opportunity to increase the force applied to the running belt 16, and, consequently, to increase the speed of the running belt 16. For example, by increasing her stride and/or positioning her weight-bearing foot vertically higher on the front portion 72 relative to the lowest portion of the running belt 16, gravity will exert a greater and greater amount of force on the running belt 16 to drive it rearwardly. In the configuration of the running belt 16 seen in FIG 1, this corresponds to the user positioning her foot closer to the front end 20 of the treadmill 10 along the longitudinal axis 18. This results in the user applying more force to the running belt 16 because gravity is pulling her mass downward along a greater distance when her feet are in contact with the front portion 72 of the running surface 70. As a result, the relative rotational speed of the running belt 16 and the relative running speed the user experiences is increased. Accordingly, the force translation system is adapted to convert a variable level of force generated by the user into a variable speed of rotation of the belt.

[0058] FIG. 5 illustrates a number of possible locations where a user may position her feet. A-C indicate locations along the front portion 72 of the running surface 70 where a user may place their weight bearing foot. When the user positions her weight bearing foot at location A, she will be running with greater speed than if her weight bearing foot was positioned at locations B or C based upon the fact that the force of gravity is able to have a greater effect as the user's weight bearing foot moves from location A towards the rear of the non-planar running surface 70 as the running belt 16 rotates. At location A, gravity is able to have the greatest impact on the user so that the greatest amount of force is translated into rotation of the running belt 16. A user can decrease her relative running speed by positioning her weight bearing foot at locations B or C. As location B is relatively higher along the front portion 72 than C, gravity is able to exert a greater force on the user and the running belt 16 than if the user's weight bearing foot was positioned at location C.

[0059] Another factor which will increase the speed the user experiences on the treadmill 10 is the relative cadence the user assumes. As the user increases her cadence and places her weight-bearing foot more frequently on the upwardly extending front portion 72, more gravitational force is available to counteract the user-generated force, which translates into

greater running speed for the user on the running belt 16. It is important to note that speed changes in this embodiment are substantially fluid, substantially instantaneous, and do not require a user to operate electromechanical speed controls. The speed controls in this embodiment are generally the user's cadence and relative position of her weight-bearing foot on the running surface. In addition, the user's speed is not limited by speed settings as with a driven treadmill.

[0060] In the embodiment shown in FIGS. 1-6, gravity is also utilized as a means for slowing the rotational speed of the running belt. At a rear portion 74 of the running surface 70, the distance of the running surface 70 relative to the ground generally increases moving rearward along the longitudinal axis 18 from the lowest point in the non-planar running surface 70. As each of the user's feet move rearward during her stride, the rear portion 74 acts substantially as a physical stop to discourage the user from moving too close to the rear end of the running surface. To this point, the user's foot has been gathering rearward momentum while moving from the front portion 72, into the central portion 76, and toward the rear portion 74 of the running surface 70. Accordingly, the user's foot is exerting a significant rearwardly-directed force on the running belt 16. Under Newton's first law of motion, the user's foot would like to continue in the generally rearward direction. The upwardly-inclined rear portion 74, interferes with this momentum and provides a force to counter the rearwardly-directed force of the user's foot by providing a physical barrier. As the user's non-leading foot moves up the incline (see position D in FIG. 5), the running surface 70 provides a force that counters the force of the user's foot, absorbing some of the rearwardly-directed force from the user and preventing it from being translated into increasing speed of the running belt 16. Also, gravity acts on the user's weight bearing foot as it moves upward, exerting a downwardly-directed force on the user's foot that the user must counter to lift their foot and bring it forward to continue running. In addition to acting as a stop, the rear portion 74 provides a convenient surface for the user to push off of when propelling themselves forward, the force applied by the user to the rear portion 74 being countered by the force the rear portion 74 applies to the user's foot.

[0061] One benefit of the manual treadmill according to the innovations described herein is positive environmental impact. A manual treadmill such as that disclosed herein does not utilize electrical power to operate the treadmill or generate the rotational force on the running

belt. Therefore, such a treadmill can be utilized in areas distant from an electrical power source, conserve electrical power for other uses or applications, or otherwise reduce the "carbon footprint" associated with the operation of the treadmill 10.

[0062] A manual treadmill according to the innovations disclosed herein can incorporate one of a variety of shapes and complex contours in order to translate the user's forward force into rotation of the running belt or to provide some other beneficial feature or element. FIG. 7a generally depicts the curve defined by the running surface 70 of the exemplary embodiment shown in FIG 1, specifically, substantially a portion of a curve defined by a third-order polynomial. The front portion 72 and the central portion 76 define a concave curve and the rear portion 74 of the running surface 70 defines a convex curve. As the central portion 76 of the running surface 70 transitions to the rear portion 74, the concave curve transitions to the convex curve. In the embodiment shown, the curvature of the front portion 72 and the central portion 76 is substantially the same; however, according to other exemplary embodiments, the curvature of the front portion 72 and the central portion 76 may differ. Please note, the description of the running surfaces as concave and convex provided herein is related to the relative curve which the user's foot would experience on the running surface 70.

[0063] FIGS. 7b-7h illustrate the side profiles of some exemplary non-planar, contoured running surfaces according to the innovations disclosed herein, each including a front portion, a central portion, and a rear portion. Each portion has a particular geometric configuration that is concave, convex, or linear; collectively, the portions define the non-planar running surface. For example, FIG. 7b shows an exemplary embodiment of the profile of a non-planar surface including a concave front portion 100, a concave central portion 102, and a concave rear portion 104 according to an exemplary embodiment. In this embodiment, the front portion 100, central portion 102, and rear portion 104 each have different curvatures. According to other exemplary embodiments, one or more of the front, central, and rear portions may have the same curvature.

[0064] FIG. 7c shows an exemplary embodiment of the profile of a non-planar surface including a convex front portion 110, a concave central portion 112, and a concave rear portion

114 according to an exemplary embodiment. Once again, this embodiment incorporates a smooth transition between the different curvatures of the front, central, and rear portions.

[0065] FIG. 7d shows an exemplary embodiment of the profile of a non-planar surface including a convex front portion 120, a concave central portion 122, and a convex rear portion 124 according to an exemplary embodiment. In this embodiment, the front portion 120 and the rear portion 122 have different curvatures, but these curvatures may be the same according to other exemplary embodiments.

[0066] FIG. 7e shows an exemplary embodiment of the profile of a non-planar surface including a convex front portion 130, a convex central portion 132, and a convex rear portion 134 according to an exemplary embodiment. In this embodiment, the front portion 130, the central portion 132, and the rear portion 134 each have the same convex curvature, but the curvature of one of more of the front portion 130, the central portion 132, and the rear portion 134 may differ according to other exemplary embodiments.

[0067] FIG. 7f shows an exemplary embodiment of the profile of a non-planar surface including a concave front portion 140, a convex central portion 142, and a convex rear portion 144 according to an exemplary embodiment. In this embodiment, the central portion 142 and the rear portion 144 having the same curvatures, but these curvatures may differ from each other according to other exemplary embodiments.

[0068] FIG. 7g shows an exemplary embodiment of the profile of a non-planar surface including a convex front portion 150, a convex central portion 152, and a concave rear portion 154 according to an exemplary embodiment. In this embodiment, the front portion 150 and the central portion 152 having the same curvatures, but these curvatures may differ from each other according to other exemplary embodiments.

[0069] FIG. 7h shows an exemplary embodiment of the profile of a non-planar surface including a concave front portion 160, a convex central portion 162, and a concave rear portion 164 according to an exemplary embodiment. In this embodiment, the front portion 160 and the rear portion 164 have different curvatures, but these curvatures may be the same according to other exemplary embodiments.

[0070] According to one exemplary embodiment, the non-planar running surface of the manual treadmill 10 is substantially curved, but that curve integrates one or more linear portions (e.g., that replace a "curved portion" or the curve or that are added/inserted into the curve). The linear portions may be substantially parallel to the longitudinal axis 18 or disposed at an angle relative thereto. FIG. 7i illustrates the profile of a non-planar surface wherein a substantially linear portion 170 has been integrated with a concave curve having a first concave portion 174 to one side of the linear portion 170 and a second concave portion 176 to the opposite side of the linear portion 170 according to an exemplary embodiment. In addition to the linear portion 170, the first concave portion 174 and the second concave portion 176, the profile further includes a fourth portion shown as a convex portion 178. According to an another exemplary embodiment, a linear portion may replace all or a portion of the curve. Alternatively, multiple linear portions may be included in a profile of a non-planar surface.

[0071] FIG. 7j illustrates a linear portion 180 provided at the front of the running surface which transitions into a concave curve 182 which then transitions into a convex curve 184.

[0072] According to an exemplary embodiment, the non-planar running surface of the manual treadmill 10 may include (or be so defined as to include) more or less than three portions. For example, FIG. 7g could be interpreted as defined two portions, the first portion including the front portion and the central portion, which comprise a convex curve having the same curvature throughout the front portion 150 and the central portion 152, and the second portion including the rear portion 154 which generally comprises a concave curve. According to some exemplary embodiments, some non-planar running surfaces include at least three or more portions.

[0073] According to an exemplary embodiment, the profile defined by the non-planar running surface is substantially a portion of a curve defined by any suitable second-order polynomial, but, as clearly demonstrated in FIGS. 7a-j, the profile defined by the non-planar running surface can be a portion of a curve that is a third-order polynomial or a fourth-order polynomial. According to yet another exemplary embodiment, the running surface profile can be substantially defined by a first-order polynomial, in other words, the running surface is

substantially planar. An exemplary embodiment of a manual treadmill including a planar running surface will be discussed in more detail below (see e.g., FIG. 35).

[0074] According to an exemplary embodiment, the relative length of each portion of the running surface may vary. In the exemplary embodiment shown, the central portion is the longest. In other exemplary embodiments, the rear portion may be the longest, the front portion may be shorter than the intermediate portion, or the front portion may be longer than the rear portion, etc. It should be noted that the relative length may be evaluated based on the distance the portion extends along the longitudinal axis or as measured along the surface of the running belt itself. One of the benefits of integrating one or more of the various curves or contours into the running surface is that the contour of the running surface can be used to enhance or encourage a particular running style. For example, a curve integrated into the front portion of the running surface can encourage the runner to run on the balls of her feet rather than a having the heel strike the running belt 16 first. Similarly, the contour of the running surface can be configured to improve a user's running biomechanics and to address common running induced injuries (e.g., plantar fasciitis, shin splints, knee pain, etc.). For example, integrating a curved contour on the front portion of the running surface can help to stretch the tendons and ligaments of the foot and avoid the onset of plantar fasciitis.

[0075] One of the difficulties associated with using a running surface that has a non-planar shape is inducing the running belt 16 to assume the non-planar shape and then maintaining the running belt 16 in that non-planar shape when the treadmill is being operated. In addition to discussing this difficultly in more detail below, a number of running belt retention systems providing ways to induce and maintain a belt in a desired non-planar shape to define the running surface are discussed below. Generally, these running belt retention systems are adapted to control the relative contour of the running belt so that the running belt substantially follows the contour of the running surface

[0076] One embodiment of a running belt retention system used to induce the running belt 16 to take-on the non-planar shape and then maintaining that shape, as shown in FIG. 5, is discussed in reference to FIGS. 5-6 and 8–11 in which base 12 is shown further including a pair of opposed bearing rails 200 to support the running belt 16 along with a front synchronizing

belt pulley 202, a rear synchronizing belt pulley 204, and a synchronizing belt 206 all of which are interconnected to the running belt 16. The front rear synchronizing belt pulleys 202, 204 may be formed of the same or different materials as the front and rear running belt pulleys 62, 66.

[0077] Referring to FIGS. 6 and 8-9, in particular, the bearing rails 200 are shown including a plurality of bearings 208 and an upper or top profile 210, shown shaped as a complex curve, according to an exemplary embodiment. The bearing rails 200 shown are supported by and preferably mounted to the frame 40 substantially between the front shaft assembly 44 and the rear shaft assembly 46, the support members or elements about which the running belt 16 is disposed. One bearing rail 200 is coupled to one or more of the cross-members 56 proximate to the inner surface 58 of the left-hand side member 52 and the other bearing rail 200 is coupled to one of more of the cross-members 56 proximate to the inner surface 58 of the right-hand side member 54 thereby fixing the position of the bearing rails 200 relative to the frame 40.

[0078] The bearing rails 200 are preferably configured to facilitate movement of the running belt 16. In the exemplary embodiment seen in FIGS. 8–9, the running belt 16 moves substantially along the top profile 210 of the bearing rails 200. The running belt 16 contacts and is supported in part by the bearings 208 of the bearing rails and bearing 208 are configured to rotate, thereby decreasing the friction experienced by the running belt 16 as the belt moves along the top profile 210. The bearing rails 200 are configured to help achieve the desired shape of the running surface. The shape of the top profile 210 of the bearing rails 200 at least partially corresponds to the desired shape for the running surface 70. The at least somewhat flexible running belt 16 substantially assumes the shape of top profile 210 of the bearing rails 200 by being maintained substantially thereagainst, as will be discussed in more detail later. Accordingly, the running surface 70 has a shape that substantially corresponds to the shape of the top profile 210 of the bearing rails 200. It should be noted that the front and/or rear running belt pulleys may also help define a portion of the shape of the running surface. Also, other suitable shape-providing components may be used in combination with the bearing rails.

[0079] FIG. 9 provides a side view of one of the bearing rails 200 to more clearly show the top profile 210 according to an exemplary embodiment. Similar to the running surface 70,

discussed above, the top profile 210 of the bearing rails 200 can be generally divided up into three general regions, the front portion 212 which is adjacent to the front shaft assembly 44 (see e.g., FIG. 5), the rear portion 214 which is adjacent to the rear shaft assembly 46 (see e.g., FIG. 5), and the central portion 216, intermediate the front portion 212 and the rear portions 214. The central portion 216 is shown as a concave curve 218 that has a radius of curvature R1. The front portion 212 is further shown as a continuation of the concave curve 218 of the central portion 216, and, thus, also has a radius of curvature of R1. The rear portion 214 is shown as a convex curve 220 that has a radius of curvature R2. The front portion 212 is shown disposed substantially tangential to the central portion 216, providing a smooth transition therebetween, and helping provide a smooth shape for the running surface 70. The shape of the rear portion 214 also helps provide a smooth transition for the running belt 16 from the bearing rails 200 onto the rear running belt pulleys 66, which helps ensure as much contact as possible between the running belt 16 and the rear running belt pulleys 66. As the shape of the running surface substantially corresponds to the shape of top profile the bearing rails, the shape of the top profile of the bearing rails can necessarily be any of the shapes and/or have any of the variations (e.g., in length of portions, etc.) discussed above in FIGS. 7a through 7j with reference to possible shapes of the running surface.

[0080] According to an exemplary embodiment, each portion of the top profile is disposed substantially tangential to the portions adjacent thereto. According to other exemplary embodiments, less than all of the adjacent portions are disposed substantially tangential to the portions adjacent thereto, meaning the profile does not have an entirely smooth contour.

[0081] According to an exemplary embodiment shown in FIG. 9, R1 is approximately 7.26 feet. However, it is understood that a radius anywhere from 5 feet to 100-plus feet can be used. The size of the radius which can be used is typically a function of the length of the treadmill which can be accommodated. The range of possible radiuses for a convex bearing rail depends on the shaft-to-shaft distance of the treadmill (see e.g., measurement "x" in FIG. 5, discussed in more detail below). Assuming that the radius of curvature of the curve is R_C, the radius of the front running belt pulley is R_f, and the radius of the rear running belt pulley is R_r, the range of possible radiuses is approximately: $\infty > R_C > (x - R_f - R_r)/2$. For most commercial-available treadmills, x is approximately between 14 inches and 10 feet but the treadmill can certainly be

as great as 25 feet in length. According to the exemplary embodiment shown in FIG. 5, x is approximately 57.8 inches in length. According to another exemplary embodiment, x is approximately 77.2 inches in length, with a radius R1 of approximately 8.67 feet, wherein the greater length x and radius R1 may facilitate use of the treadmill 10 by users with a longer running gait. The limiting factors in the length are the available space to accommodate the treadmill and the relative cost of constructing such a large treadmill.

[0082] When the treadmill 10 is being operated, the running belt 16 is driven rearwardly and the goal is to ensure that the running belt 16 follows the profile defined by a portion of the circumference of the front running pulleys 62, the contoured profile defined by the bearings 208 supported on the bearing rails 200 and finally by a portion of the circumference of the rear running belt pulleys 66. The particular contour which the running belt 16 assumes on the bottom of the base 12 between the rear running belt pulleys 66 and front running belt pulleys 62 is not terribly critical provided that the running belt continues to move with minimal friction and is not subject to excessive wear or obstruction.

[0083] Following the shape of the bearing rails 200 is not the natural tendency of the running belt for the particular contour seen in FIG. 5. Rather, without more, the running belt 16 tends to be pulled upward, away from the curved bearing rails and across the central portion 76 of the treadmill 10. Under the force of gravity, the weight of the running belt 16 coupled with the relative spacing between the front and rear running belt pulleys 62 and 66, respectively, would likely result in the top surface of the running belt 16 assuming a position of the shortest distance between the two pulleys, namely, a substantially straight line between the two pulleys with any excess length of the running belt 16 collecting on the bottom of the treadmill and hanging below the front and rear running belt pulleys 62 and 66, respectively. Therefore, a system of some sort needs to be integrated into a non-planar running surface treadmill to ensure that the running belt 16 follows the desired contour over the running surface.

[0084] Further referring to FIGS. 5–6 and 8–11, one way to ensure that the running belt 16 follows the contour of the bearing rails 200 and the front and rear running belt pulleys 62, 66 is to utilize the weight of the running belt 16 itself in addition to adjusting the relative size of the

front and rear running belt pulleys 62, 66; and/or providing a synchronizing system 222 according to an exemplary embodiment.

[0085] As discussed above, the running belt 16 is disposed about the front and rear running belt pulleys 62, 66 which in turn are disposed about front and rear shafts 64, 68, respectively. Measured along the longitudinal axis 18 between the centerlines of the front and rear shafts 64, 68, the front and rear shafts 64, 68 are spaced a distance x from each other, as shown in FIG. 5. Accordingly, when positioning the running belt 16 about the front and rear running belt pulleys 62, 66, the length of the running belt 16 provided therebetween must be at least x (e.g., the straight-line distance therebetween). It follows that, when the profile of the running surface 70 is non-planar, the length of the running belt provided between the front and rear shafts 64, 68 will be greater than x.

[0086] In the exemplary embodiment shown in FIG. 5, when positioning the running belt 16 about the front and rear running belt pulleys 62, 66, a length of the running belt 16 sufficient to permit the running belt 16 to correspond to (e.g., follow, be positioned against or above, etc.) the desired contours of the bearing rails 200 and the front and rear running belt pulleys 62, 66 is generally disposed between the front and rear shafts 64, 68. At each location between the front and rear shafts 64, 68, the force of gravity pulls downward on the running belt 16. Generally, this force will help pull the running belt 16 downward and against the desired components of base 12. However, gravity can also cause slippage (e.g., over the front running belt pulley 62, over the rear running belt pulley 66, down along curves of the bearing rail 200, etc.) in an amount that is undesirable and the magnitude of these slippage-problems tends to increase when the treadmill 10 is being operated. Accordingly, the solution typically relies on more than the weight of the running belt alone.

[0087] Further referring to FIGS. 5–6 and 8–11, the preferred embodiment of the running belt 16 is shown including two reinforcing belts shown as endless belts 226 and a plurality of slats 228 according to an exemplary embodiment. The endless belts 226 are configured to provide support for the running belt 16 in order to support the weight of a user. The endless belts 226 are shown disposed on opposite sides of the running belt 16, generally interior to the outer, lateral edge of the slats 228. The endless belts 226 are themselves reinforced, and thus help

stabilize the sides of the running belt and help prevent stretching of the running belt 16. For example, the endless belts may be reinforced with metal wiring, which is surrounded by a molded plastic coating. According to some exemplary embodiments, more or less than two endless belts may be used. According to other exemplary embodiments, other suitable support elements may be used to provide support for the running belt. Further details regarding the structure of the running belt and endless belt structure are seen in US Pat. No. 5,470,293, titled "Toothed-Belt, V-Belt, and Pulley Assembly, for Treadmills," which is incorporated by reference herein.

[0088] The endless belts 226 are further configured to interact with the front running belt pulleys 62 and the rear running belt pulleys 66. The location of each endless belt 226 laterally, along the width of the running belt 16, substantially corresponds to the location of a longitudinally aligned front running belt pulley 62 and rear running belt pulley 66. Each endless belt 226 includes a first or inner portion 230 and a second or outer portion 232 at an interior surface 236 according to an exemplary embodiment. The inner portion 230 is in contact with an exterior surface 234 of the corresponding running belt pulleys 62, 66. According to some exemplary embodiments, the outer portion 232 is also in contact with the exterior surface 234 of the corresponding running belt pulleys 62, 66.

[0089] FIG. 12 illustrates a running belt and running belt pulley combination wherein the exterior surfaces 234 of the front running belt pulleys 62 are substantially smooth and are in contact with the interior surface 236 of the endless belts 226, which is also substantially smooth according to an exemplary embodiment. The outer portion 232 is shown substantially not in contact with the exterior surfaces 234 of the front running belt pulleys 62. The outer portion 232 is further shown including a plurality of teeth 238 (e.g., being toothed); however, according to other exemplary embodiments, the outer portion may be smooth or have any suitable texture and/or configuration. In this embodiment, both of the running belt pulleys come in contact with the inner, substantially smooth portion of the endless belts, and a toothed portion of the endless belts is disposed to the outside of the running belt pulleys on both sides.

[0090] FIG. 13 illustrates an alternative running belt and running belt pulley combination according to an exemplary embodiment. In this exemplary embodiment, the front running belt

pulleys 62' include a first or inner portion 230' and a second or outer portion 232'. The inner portion 230' of the front running belt pulleys 62' is substantially smooth, while the outer portion 232' includes a plurality of teeth, to correspond to the inner and outer portions 230', 232', of the endless belts 226', respectively. In this embodiment, both of the running belt pulleys include an inner, smooth portion and an outer, toothed portion. These portions correspond to an inner, smooth portion of the endless belt and an outer, toothed portion of the endless belt. This endless belt/front running belt pulley configuration is discussed in more detail in U.S. Patent No. 5,470,293, titled "Toothed-Belt, V-Belt, and Pulley Assembly, for Treadmills," which is herein incorporated by reference in its entirety.

[0091] According to still another an exemplary embodiment, a combination of the endless belt/front running belt pulley configurations shown in FIGS. 12 and 13 is used. In this exemplary embodiment, the smooth belt and pulley configuration shown in FIG. 12 is used for the front running belt pulleys and the combination of smooth and toothed belt and pulley configuration shown in FIG. 13 is used for the rear running belt pulleys. In another exemplary embodiment, the configuration shown in FIG. 13 is used for the front running belt pulleys and the configuration shown in FIG. 12 is used for the rear running belt pulleys.

[0092] The slats 228 of the running belt 16 are configured to help support a user of the treadmill 10. The slats 228 may be made of substantially any suitably sturdy material (e.g., wood, plastic, metal, etc.) and extend generally laterally between the endless belts 226. Each slat 228 is coupled at its ends 252, 254 to the second portions 232 of the endless belts 226 using fasteners. According to other exemplary embodiments, the slats may be otherwise coupled to the endless belts (e.g., adhered, welded, etc.) in the manner disclosed in US Pat. No. 5,470,293, titled "Toothed-Belt, V-Belt, and Pulley Assembly, for Treadmills," which is incorporated herein by reference. Each slat is shown to include a portion 229 (e.g., stem, web, etc.) extending inwardly from an interior surface 256 of the slat 228.

[0093] According to an exemplary embodiment, the running belt may be substantially any suitable, continuous loop element, including, but not limited to, a continuous urethane (e.g., polyurethane) loop, a continuous loop made of plastics other than polyurethane, a plastic belt reinforced with reinforcing elements (e.g., metal wire, a relatively harder plastic, wood, etc.), a

continuous foam loop, a loop formed by a plurality of interconnected members (e.g., metallic members, wooden members, etc.) in a manner to provide at least some flexibility, etc.

[0094] Referring to FIGS. 6, 10 and 11, another aspect of the solution to ensuring the running belt 16 follows the desired contour involves the utilizing front running belt pulleys 62 that are slightly larger than the rear running belt pulleys 66. That is, the radius of the front running belt pulleys, R_f, is greater than the radius of the rear running belt pulleys, R_r. Assuming the front running belt pulleys 62 are rotating with the same rotational velocity (e.g., angular speed) as the rear running belt pulleys 66, the tangential velocity of the front running belt pulleys 62 is slightly greater than the tangential velocity of the rear running belt pulleys 66. Thus, as the running belt 16 is driven, the portion of the running belt 16 disposed proximate the front end 20 of the treadmill 10 will be moved over the front running belt pulleys 62 and rearward with slightly greater speed than the rear running belt pulleys 66 move the portion of the running belt 16 proximate thereto. Thus, the front running belt pulleys 62 essentially "push" the running belt 16 rearward, creating a slight amount of excess running belt 16 in the area between the front running belt pulleys 62 and the rear running belt pulleys 66, which helps to counter the force of gravity which would attempt to gather any excess length of running belt 16 on the bottom of the treadmill 10 thereby causing the top surface of the running belt 16 to assume a position of the shortest distance between the two pulleys, namely, a substantially straight line between the two pulleys. Obviously the system cannot tolerate too much excess length of running belt feeding off the front running belt pulley 62 so periodically, a portion of this excess running belt 16 will slip over the rear running belt pulley 66. By specifically balancing the excess running belt 16 coming off the front running belt pulley 62 against the slippage allowed on the rear running belt pulley 66, the running belt 16 will follow the desired concave, convex or linear (or combinations thereof) contours of the running surface.

[0095] If the difference between the radius of the front running belt pulleys 62 and the radius of the rear running belt pulleys 66 is too large, the running belt 16 will begin to bunch up atop the base 12 as too much excess is generated. Accordingly, there is a practical limit of differences between the radius of each of the front running belt pulleys 62 and the radius of each of the rear running belt pulleys 66. Generally, this range may be dependent on the length of the running surface, as measured along the running belt, and/or the shape of the running

surface. According to an exemplary embodiment, the size difference between the radii of the front and rear running belt pulleys, $R_f - R_r$, is within the range of approximately $0 < R_f - R_r, < 0.100$ inches. Preferably, the size difference between the radii of the front and rear running belt pulleys, $R_f - R_r$, is within the range of approximately $0.005 < R_f - R_r, < 0.035$ inches. In one embodiment, the radius of the front running belt pulleys is approximately 7.00" +/- 0.010" and the radius of the rear running belt pulleys is approximately 6.985" +/- 0.010. According to another exemplary embodiment, instead of using front and rear running belt pulleys having a radial size difference, the synchronizing belt pulleys may have a radial size difference. Similar to the differently sized front and rear running belt pulleys, the differently sized front and rear synchronizing pulleys would be used to essentially "push" the running belt rearward, creating a slight amount of excess running belt 16 in the area between the front running belt pulleys and the rear running belt pulleys.

[0096] Another means for ensuring that the running belt 16 follows the desired complex curve is to match the rotational velocity of the front running belt pulleys 62 to that of the rear running belt pulleys 66 utilizing a synchronizing system 222. Further referring to FIGS. 5-6 and 8-11, the synchronizing system 222 is shown generally to comprise the front synchronizing belt pulley 202, the rear synchronizing belt pulley 204, and the synchronizing belt 206 according to an exemplary embodiment.

[0097] The front synchronizing belt pulley 202 is rotatably mounted relative to the front shaft 64, similar to the front running belt pulleys 62. Preferably, the front synchronizing belt pulley 202 is securely mounted directly to the front shaft 64. Similarly, the rear synchronizing belt pulley 204 is fixed relative to the rear shaft 68 and preferably securely mounted to the rear shaft 68. Accordingly, the front synchronizing belt pulley 202 will move with substantially the same rotational speed as the front running belt pulleys 62, and the rear synchronizing belt pulley 204 will move with the same rotational speed as the rear running belt pulleys 66. When the front shaft assembly 44 and the rear shaft assembly 46 are coupled to the frame 40, the front and rear synchronizing belt pulleys 202, 204 are shown disposed exterior to the outer surface 60 of the left-hand side member 52. According to another exemplary embodiment, the front and rear synchronizing belt pulleys may be placed exterior to the outer surface of the right-hand side member of the frame. According to other exemplary embodiments, the synchronizing system

may be disposed substantially between the left-hand side member and the right-hand side member of the frame.

[0098] The synchronizing belt 206 is configured to provide a force that helps ensure that the front and rear shafts 64, 68 are rotating (e.g., moving, spinning, etc.) at the same rotational velocity. The synchronizing belt 206 is shown as an endless belt that is adapted to be supported in tension about the front synchronizing belt pulley 202 and the rear synchronizing belt pulley 204, as shown in FIGS. 4–5. As the running belt pulleys 62, 66 and the synchronizing belt pulleys 202, 204 are both substantially fixed relative to the front shaft 64 and the rear shaft 68, the rotation of the front shaft 64 and the rear shaft 68 causes the front synchronizing belt pulley 202 and the rear synchronizing belt pulley 204 to similarly rotate. In response to the motion of the front synchronizing belt pulley 202 and the rear synchronizing belt pulley 204, the synchronizing belt 206, which connects the front shaft assembly 44 and the rear shaft assembly 46, similarly rotates. Because of the tension in the synchronizing belt 206 and the fact that the synchronizing belt pulleys 202, 204 are the same size, the synchronizing belt 206 provides a counter force in response to any deviation in rotational velocity between the front shaft assembly 44 and the rear shaft assembly 46. For example, if the rear shaft assembly 46 was induced to start moving with greater rotational velocity than the front shaft assembly 44, the tension in the upper portion of the synchronizing belt (i.e., that portion of the synchronizing belt that extends generally between the tops of the synchronizing pulleys) would resist any differential rotation between the front and rear synchronizing belt pulleys 202, 204. Continuing with the example, any discrepancy between the rotational velocity of the front and rear shafts 64, 68 is similarly resisted by the engagement of the synchronizing belt 206. Thus, by constraining the relative motion of the front shaft assembly 44 and the rear shaft assembly 46, the synchronizing system 222 keeps their rotational velocity in sync, substantially preventing the front and rear running belt pulleys 62, 66 from becoming unsynchronized and moving at different rotational velocities.

[0099] So, in practice, the running belt 16 is initially installed on the front and rear running belt pulleys 62, 66 and the running belt 16 is manually positioned in the desired position so that a sufficient length of the running belt 16 is positioned along the top of the treadmill and the running belt 16 assumes the desired contour. While the running belt 16 is maintained in this

position, the synchronizing belt 206 is mounted to the synchronizing belt pulleys 202, 204 and once the synchronizing belt 206 is installed, it effectively resists differential rotation of the running belt pulleys 62, 66 which could result in loss of the desired contour of the running belt 16.

[0100] It should be noted that the tension in the synchronizing belt 206 also helps maintain the position of the synchronizing belt 206 relative to the synchronizing belt pulleys 202, 204. The tension helps enhance friction between an interior surface 244 of the synchronizing belt 206 and exterior surfaces 246 of the synchronizing belt pulleys 202, 204, making it less likely that the synchronizing belt 206 will slip relative to the synchronizing belt pulleys 202, 204.

[0101] One or more tensioning assemblies 248 may be provided to adjust the tension in the synchronizing belt 206 (see e.g., FIGS. 3 and 6 illustrating tensioning assemblies 248). Tensioning assemblies 248 are configured to move portions of the synchronizing belt 206 relative to one another, stretching the synchronizing belt 206 and maintaining this stretch so that the synchronizing belt 206 can provide the necessary resistance to differential rotation of the front and rear running belt pulleys 62, 66. Alternatively, the tensioning assemblies 248 can be adjusted to release some of the tension in the synchronizing belt 206. Releasing some of the tension may be desirable if the synchronizing belt 206 is too tight, causing excess friction between the synchronizing belt 206 that makes it too difficult to rotate the front and rear shaft assemblies 44, 46 (e.g., greater than desired by the user, too great to function, etc.). The tensioning assemblies 248 are also used when the synchronizing belt 206 is being installed and removed. According to another exemplary embodiment, a single tensioning assembly is used in conjunction with one or more stationary idlers. According to still another exemplary embodiments, any devices or elements suitable for maintaining and/or adjusting the tension in the synchronizing belt may be used.

[0102] Referring to FIG. 14, a synchronizing system 300 is shown according to another exemplary embodiment. The synchronizing system 300 would typically be used in lieu of the previously described synchronizing system 222. In this next exemplary embodiment, the synchronizing system 300 is shown comprising a synchronizing shaft 302 mechanically connected at a first end 304 to a front gear 306 and at a second end 308 to a rear gear 310. The

front gear 306 is interconnected with, and preferably directly mounted and fixed relative to, the front shaft 64, and the rear gear 310 is interconnected with, and preferably directly mounted and fixed relative to, the rear shaft 68. Accordingly, the front gear 306 will move with substantially the same rotational speed as the front running belt pulleys 62, and the rear gear 310 will move with the same rotational speed as the rear running belt pulleys 66. When the front shaft assembly 44 and the rear shaft assembly 46 are coupled to the frame 40, the front and rear gears 306, 310 are shown disposed exterior to the outer surface 60 of the right-hand side member 54. According to another exemplary embodiment, the front and rear gears 306, 310 may be placed exterior to the outer surface of the left-hand side member of the frame. According to other exemplary embodiments, the synchronizing system may be disposed substantially between the left-hand side member and the right-hand side member of the frame.

[0103] The synchronizing shaft 302 is configured to provide a force that helps ensure that the front and rear shafts 64, 68 are rotating (e.g., moving, spinning, etc.) at the same rotational velocity. The synchronizing shaft 302 is shown as an elongated, substantially cylindrical member that extends generally between the front shaft 64 and the rear shaft 68. A first threaded portion 312 including a plurality of threads 314 is shown located at the first end 304 of the synchronizing shaft 302 and is configured to mesh with a plurality of teeth 316 of the front gear 306 that is fixed relative to the front shaft 64. A second threaded portion 318 including a plurality of threads 320 is shown located at the second end 308 of the synchronizing shaft 302 and is configured to mesh with a plurality of teeth 322 of the rear gear 310 that is fixed relative to the rear shaft 68.

[0104] The synchronizing shaft 302 rotates in response to the motion of the front gear 306 and the rear gear 310. When the front shaft 64 and the rear shaft 68 rotate in response to the user driving the running belt 16, the front gear 306 and the rear gear 310, which are fixed relative to the front shaft 64 and the rear shaft 68, respectively, similarly rotate. The front gear 306 meshes with and imparts rotational motion to the first threaded portion 312, and, thereby, imparts rotational motion to the synchronizing shaft 302. The rear gear 310 meshes with and imparts rotational motion to the second threaded portion 318, and, thereby, imparts rotational motion to the synchronizing shaft 302.

[0105] Because the synchronizing shaft 302 is rigid and the front and rear gears 306, 310 are the same size, the synchronizing shaft 302 provides a counter force in response to any deviation in rotational velocity between the front shaft assembly 44 and the rear shaft assembly 46. For example, if the rear shaft assembly 46 was induced to start moving with greater rotational velocity than the front shaft assembly 44, the rear gear 310 would be prevented from moving with greater rotational velocity than the front gear 306 because of the synchronizing shaft 302. The second threaded portion 318 is meshed with the rear gear 310. The second threaded portion 318 is fixed relative to the first threaded portion 312. The first threaded portion 312 is meshed with the front gear 306, which is moving with less rotational velocity than the rear gear 310. The front gear 306, being fixed relative to the front shaft assembly 44 which is also traveling at the same rotational velocity, seeks to continue at this rotational velocity. Thus, the force transmitted to the front gear 306 from the rear gear 310 by the synchronizing shaft 302 is met with a counter force. Specifically, the teeth 322 of the front gear 306 counter the force applied thereto by the threads 314 of the first threaded portion 312 at the first end 304. This counter force substantially prevents the rotational velocity of the synchronizing shaft 302, which includes the second threaded portion 318, from increasing. Stated otherwise, the force applied is sufficient to prevent the second end 308 of the synchronizing shaft 302 from rotationally advancing ahead of the first end 304. As the second threaded portion 318 is prevented from experiencing an increase in rotational velocity, the second threaded portion 318 provides a counter force to the rear gear 310. Specifically, the threads 320 of the second threaded portion 318 counter the force applied thereto by the teeth 322 of the rear gear 310. Thus, the synchronizing shaft 302 constrains the relative motion of the front gear 306 and rear gear 310, and, thereby constrains the relative motion of the front shaft assembly 44 and the rear shaft assembly 46.

[0106] Another embodiment of a running belt retention system used to induce and maintain the running belt in a desired non-planar shape to define the running surface is seen in FIG. 15, specifically a braking system 400 configured to help induce and maintain the running belt in a desired non-planar shape to define the running surface is shown according to an exemplary embodiment. Please note, the section lines 15-15 shown in FIG. 4 do not necessarily suggest that the braking system 400 seen in FIG. 15 is integrated into the manual treadmill depicted in FIG. 4, rather, the section line 15-15 is included in FIG. 4 to show one potential location for the

integration of a braking system into a manual treadmill according to the various innovations disclosed herein. The braking system 400 is shown in cooperation with the rear shaft assembly 402 and the synchronizing system 222. The rear shaft assembly 402 differs from the above-discussed rear shaft assembly 46 in that the rear shaft assembly 402 includes a pair of rear running belt pulleys 404 that are substantially the same size as the front running belt pulleys (not shown).

[0107] The braking system 400 has substantially the same effect as the differently sized front and rear running belt pulleys discussed above. That is, the braking system 400 causes a slight amount of excess running belt 16 in the area between the front running belt pulleys and the rear running belt pulleys. More specifically, the braking system 400 causes the rotational velocity of the rear shaft assembly 402 to be slightly lower than the rotational velocity of the front shaft assembly by applying a frictional force to the rear synchronizing belt pulley 204. Thus, the braking system 400 acts on the synchronizing system 222 to force (e.g., urge, push, move, etc.) the rear shaft assembly 402 out of synch with the front shaft assembly.

[0108] The braking system 400 includes a generally elongated member 406 in cooperation with the synchronizing system 222. The elongated member 406 is coupled to the rear shaft assembly 402 by a bracket 408 having a first side 410 spaced a distance apart from an outer surface 250 of the rear synchronizing belt pulley 204. The elongated member 406 is disposed through an aperture 412 of the bracket 408 and includes a first end 414 disposed to the inside of the first side 410 and a second end 416 disposed to the outside of the first side 410. The first end 414 includes a surface 418 configured to contact the outer surface 250 of the rear synchronizing belt pulley 204. The second end 416 includes a knob 420 configured to be gripped by a person (e.g., a user, a trainer, etc.) and to have a rotational force imparted thereto. An exterior surface of the elongated member 406 is at least partially threaded to correspond to threading at an interior surface defining the aperture 412. Rotating the knob 420, and, thereby, the elongated member 406, in one direction, causes the surface 418 to be advanced toward the outer surface 250 of the rear synchronizing belt pulley 204, and rotating the knob 420 in the opposite direction causes the surface 418 to retreat or be moved away from the outer surface 250 of the rear synchronizing belt pulley 204.

[0109] During operation of the treadmill, the surface 418 of the elongated member 406 is substantially in contact with the outer surface 250 of the rear synchronizing belt pulley 204, creating friction therebetween. As the rear synchronizing belt pulley 204 of the synchronizing system 222 is fixed relative to the rear shaft assembly 402, some of the force directed to the rear shaft assembly 402 to impart rotation thereto must be used to overcome the frictional force between the surface 418 of the elongated member 406 and the outer surface of the rear synchronizing belt pulley 204. As the force needed to overcome the frictional force between the surface 418 of the elongated member 406 and the outer surface 250 of the rear synchronizing belt pulley 204 is no longer being directed into rotation of the rear shaft assembly 402, the rotational velocity of the rear shaft assembly 402 is less than the rotational velocity of the front shaft assembly. Thus, the front running belt pulleys of the front shaft assembly will "push" the running belt rearward, creating a slight amount of excess running belt 16 in the area between the front running belt pulleys and the rear running belt pulleys. This excess length of running belt 16 helps to counter the force of gravity, discussed in more detail above. It should be noted that, because the friction between the surface 418 of the elongated member 406 and the outer surface 250 of the rear synchronizing belt pulley 204 is substantially constant during operation, the rotational velocity will be substantially maintained at the lower rotational velocity.

[0110] The length of excess running belt "pushed" rearward by the front running belt pulleys can be varied by adjusting the position of the surface 418 relative to the outer surface 250 of the rear synchronizing belt pulley 204. If one moves the surface 418 laterally closer to the outer surface 250, the friction therebetween will increase, the differential between the rotational velocity of the rear shaft assembly and the front shaft assembly will increase, and the length of the excess will increase. If one moves the surface 418 away from the outer surface 250, the friction therebetween will decrease (or be removed if they are brought out of contact), the differential between the rotational velocity of the rear shaft assembly and the front shaft assembly will decrease, and the length of the excess will decrease.

[0111] According to another exemplary embodiment, the braking system 400 may be used with front and rear running belt pulleys that have a size differential. In such an embodiment,

the braking system 400 would be used to fine tune the length of excess running belt pushed rearward with each rotation of the front and rear running belt pulleys.

[0112] FIG. 16 illustrates another exemplary embodiment of a braking system, shown as braking system 500, configured to help induce and maintain the running belt in a desired non-planar shape to define the running surface. Please note, the section lines 16-16 shown in FIG. 4 do not necessarily suggest that the braking system 500 seen in FIG. 16 is integrated into the manual treadmill depicted in FIG. 4, rather, the section line 16-16 is included in FIG. 4 to show one potential location for the integration of a braking system into a manual treadmill according to the various innovations disclosed herein. The braking system 500 includes a pulley 502 mounted to a rear shaft assembly 504 generally opposite a front shaft assembly, both shaft assemblies having running belt pulleys that are substantially the same size. A belt 506 rotationally couples the pulley 502 to an idler pulley 508. The idler pulley 508 is configured to be adjustable so that it may be moved towards or away from the pulley 502 along an axis generally parallel to the longitudinal axis 18. Though, it should be noted that the idler pulley may be moved relative to the pulley 502 mounted to the rear shaft assembly along an axis other than one generally parallel to the longitudinal axis 18.

[0113] By adjusting the position of the idler pulley 508 relative to the pulley 502, one can adjust the friction between the belt 506 and the pulleys 502, 508. Moving the idler pulley 508 away from the pulley 502, increases the tension in the belt 506, and, accordingly, increases the friction between the belt 506 and the pulleys 502, 508. Moving the idler pulley 508 toward the pulley 502, decreases the tension in the belt 506, and, accordingly, decreases the friction between the belt 506 and the pulleys 502, 508.

[0114] Similar to the discussion of braking system 400, increasing the friction between the belt 506 and the pulleys 502, 508, increases the differential between the rotation of the rear shaft assembly to which the braking system 500 is coupled and the front shaft assembly. As a corollary, decreasing the friction between the belt 506 and the pulleys 502, 508, decreases the differential between the rotational velocity of the rear shaft assembly 504 and the front shaft assembly. As discussed above, the greater the differential, the greater the length of the excess that the front running belt pulleys push rearward.

[0115] FIG. 17 illustrates another exemplary embodiment of a running belt retention system of the treadmill 10 used to help induce and maintain the running belt in a desired non-planar shape to define the running surface. The treadmill 10 is shown including a plurality of rollers 600 used to support the running belt 16 in place of bearing rails 200, discussed above.

[0116] The each roller 600 is shown extending laterally generally between the left-hand side member 52 and the right-hand side member 54 of the frame 40. Along the longitudinal axis 18, the rollers 600 are disposed adjacent to one another generally between one or more front running belt pulleys 604 and one or more rear running belt pulleys 606. Typically, the running belt used with this exemplary embodiment is a continuous polymer belt without slats; the use of a continuous polymer belt having greater flexibility in the lateral direction than running belt 16 improves the ease of movement of the running belt along the rollers 600. However, other suitable continuous belts may be used according to other exemplary embodiment

[0117] In the exemplary embodiment shown, the one or more front running belt pulleys is shown as a single, front running belt pulley 604 that is substantially a large roller, disposed at the front end 48 of the frame 40. Similarly, the one or more rear running belt pulleys is shown as a single, rear running belt pulley 606 that is a substantially a large roller, disposed at the rear portion of the frame 40. According to other exemplary embodiments, any multiple of running pulleys may be used at one or both of the front end and the rear end, such as front running belt pulleys 62.

[0118] Collectively, the rollers 600 define a top profile 608 similar to the top profile 210 defined by the bearing rails 200, discussed above, and provide for a running belt to move therealong. Similar to the top profile of the bearing rails, the top profile 608 defined by the rollers may be varied (e.g., may include a convex portion and a concave portion, may be modeled by a third-order polynomial, may be modeled by a fourth-order polynomial, etc.).

[0119] The front and rear running belt pulleys 604, 606 and the rollers 600 help define the running surface. In use, the running belt is disposed over the front running belt pulley 604, along the top profile 602 defined by the rollers 600, and over the rear running belt pulley 606. The running belt is maintained in a position substantially along these elements primarily by the weight of the running belt; however, according to other exemplary embodiments, a

synchronizing system may also be used to ensure that the running belt is maintained in the desired position.

[0120] Referring to FIGS. 18-21, an embodiment of a running belt retention system including a track system 700 and configured to help induce and maintain the running belt in a desired non-planar shape to define the running surface according to an exemplary embodiment.

[0121] A treadmill according to this exemplary embodiment does not include front and rear shaft assemblies or bearing rails, but, rather, includes a pair of opposed tracks 702 configured to provide for movement of a running belt 16 therealong. The tracks 702 are spaced apart, generally define the path that the running belt 16 will travel, and substantially replicate at least a portion of the running surface. Each track 702 includes a side support wall 708 and a guide portion 710 generally centrally-disposed along the side support wall 708. The guide portion 710 extends from an inner side 712 of the side support wall 708 towards the interior of the treadmill frame, defined generally between the left-hand side member and the right-hand side member. The guide portion 710 generally defines the contour of the running surface that is defined by the running belt 16 when coupled to the tracks 702. An outer side 714 each side support wall 708 is disposed substantially adjacent to an inner surface of one of the side members of the treadmill frame.

[0122] A plurality of roller or wheel assemblies 716 are connected with, preferably mounted directly to or integral with, each of a plurality of slats 228 of the running belt 16. Each a laterally-oriented slat 228 includes a left-hand end 252 generally opposite a right-hand end 254. One of a plurality of wheel assemblies 716 is coupled at each end 252, 254 of each slat 228 at an interior surface 256. The wheel assemblies 716 are configured to be mated with the tracks 702 and provide for motion of the running belt 16 along the tracks 702.

[0123] Each wheel assembly 716 is shown including first roller or wheel 720 and a second roller or wheel 722 rotatably coupled to a support shown as an elongated connecting member 724. The connecting member 724 connects each wheel assembly 716 to a slat 228 and maintains the relative position of the first wheel 720 and the second wheel 722. When coupled to the track 702, the first wheel 720 of a wheel assembly 716 is disposed to one side the guide portion 710 and rotatably movable therealong, and the second wheel 722 of the wheel assembly

716 is disposed generally opposite the first wheel 720 to the other side of the central guide portion 710.

[0124] The wheels 720, 722 and the tracks 702 are shaped such that when they are mated, the wheels 720, 722 cannot be pulled inwardly off of or pushed outwardly off of the track 702. In the exemplary embodiment shown, the guide portion 710 is shown having a substantially-circular cross section 724 and the wheels 720, 722 are shown having circumferentially-disposed arcuate depressions 726 that receive and travel along an outer curved portion 728 and an inner curved portion 730 of the guide portion 710 of the track 702. According to other exemplary embodiments, the wheels and the track guide portion can have substantially any corresponding shapes that provide for the wheels and the track to mate and that provide for movement of the wheels therealong.

[0125] When the running belt 16 is being driven by a user, the interaction of the guide portion 710 and the first and second wheels 720, 722 helps maintain the belt in the desired non-planar shape. As mentioned above, the tracks 702 generally defines the contour of the running surface defined by the running belt 16. Being coupled to the guide portion 710 of the track 702, each wheel assembly 716 rotates about the track 702, following the contour defined thereby.

[0126] If the running belt 16 began to deviate from the desired path, the interaction between the wheels 720, 722 and the guide portion 710 would substantially prevent undesirable shifting. While being rotatably coupled to the elongated connecting member 724, the axes 732 and 734 of the first wheel 720 and second wheel 722, respectively, are a fixed distance apart. Further, the arcuate depressions 726 of the wheels 720, 722 are in contact with the outer curved portion 728 and inner curved portion 730, respectively. Thus, as a result the interactions between the arcuate depressions 726 and the curved portions 728, 730, any movement of a wheel assembly 716 relative to the track 702 other than along the path defined by the track 702 is countered by a force from the guide portion 710. It should also be noted that the interactions between the depressions 726 of adjacent wheel assemblies 716 and the curved portions 728, 730 of the track 702 may also help keep a wheel assembly 716 in place.

[0127] Referring to FIGS. 22-24, the treadmill 10 is shown including another exemplary embodiment of a track system configured to help induce and maintain the running belt in a

desired non-planar shape to define the running surface, shown as a track system 800. Similar to track system 700, a treadmill according to this exemplary embodiment does not include front and rear shaft assemblies or bearing rails, but, rather, includes a pair of tracks 802 configured to provide for movement of a running belt 16 therealong. In this exemplary embodiment, each track 802 is shown as an elongated member having a substantially C-shaped cross section that defines a channel 804 having an opening 806 that faces the interior of the frame 40. An outer wall 808 each of the tracks 802 is disposed substantially adjacent to an inner surface of a left-hand or right-hand side member 52, 54 (shown, e.g., in FIG. 2) such that the openings 806 face each other. The outer wall 808 is substantially opposite an inner wall 810

[0128] As discussed above, the running belt 16 includes a plurality of laterally-oriented slats 228 each having a left-hand end 252 generally opposite a right-hand end 254. One of a plurality of roller or wheel assemblies 812 is coupled at each end 252, 254 of each slat 228 to mate with the tracks 802 and to provide for motion of the running belt 16 along the tracks 802.

[0129] Each wheel assembly 812 is shown including a support shown as a mounting block 814 and a wheel 816 rotatably coupled to the mounting block 814. The mounting block 814 mounted to an interior surface 256 of a slat 228. The wheel 816 is supported relative to the mounting block 814 by an axis 818 that extends substantially parallel to the slats 228 to facilitate positioning the wheel 816 in the channel 804. The wheel 816 is received in the channel 804 and is rotatably movable therewithin to facilitate travel of the running belt 16 along the contour defined by the channel 804. The shape of the channel 804 generally corresponds to the shape of the wheel 816.

[0130] When the running belt 16 is being driven by a user, the walls of the track 802 defining the C-shaped channel 804 help forcibly retain the wheel 816 therein, preventing the wheel from moving in any direction other than along the contour defined by the channel 804, and, thereby, maintaining the running belt 16 in the desired non-planar shape to define the running surface. The outer wall 808 and the inner wall 810 limit the side-to-side, lateral movement of the wheel 816 when it is disposed in the channel 804. Limiting the motion of the wheel 816, similarly limits the motion of the wheel assembly 812 and the slat 228 fixed relative thereto. Further, a first wall 820 substantially opposite a second wall 822 substantially limits the up-and-down

motion of the wheel 816 relative to the channel 804. In circumstances where side-to-side and/or up-and-down motion of the wheel 816 occurs, the walls 808, 810, 820, 822 defining the channel 804, providing counter forces to maintain the wheel 816 in the desired position and help direct the wheel 816 along the desired path.

[0131] Referring to FIGS. 25-28, the treadmill 10 is shown including still another exemplary embodiment of a track system configured to help induce and maintain the running belt in a desired non-planar shape to define the running surface, shown as a track system 900. Similar to track system 800, the treadmill according to this exemplary embodiment does not include bearing rails, but, rather, includes a pair of tracks 902 configured to provide for movement of a running belt 16 therealong. In this exemplary embodiment, each track 902 is shown as an elongated member having a substantially C-shaped cross section that defines a channel 904 having an opening 906 that faces the exterior of the track 902. Stated otherwise, each channels 904 extend about an outer periphery 908 of a tracks 902.

[0132] As discussed above, the running belt 16 includes a plurality of laterally-oriented slats 228 each having a left-hand end 252 generally opposite a right-hand end 254. One of a plurality of roller or wheel assemblies 910 is coupled at each end 252, 254 of each slat 228 to mate with the tracks 902 and to provide for motion of the running belt 16 along the tracks 902.

[0133] Each wheel assembly 910 is shown including a support shown as a connecting bar 912 that is substantially T-shaped and connected to a first wheel 914 and a second wheel 916. A first portion 918 of the connecting bar 912 is fixed relative to the interior surface 256 of a slat 228. A second portion 920 extends substantially perpendicular to the first portion 918 and away from the interior surface 256 of the slat 228. The first wheel 914 and the second wheel 916 are connected to the connecting bar 912 by an axis 922 that extends generally parallel to the first portion 918 and perpendicular to the second portion 920 of the connecting bar 912. The first wheel 914 is disposed to one side of the second portion 920 of the connecting bar 912 and the second wheel 916 is disposed opposite the first wheel 914 to the other side of the second portion 920.

[0134] When the wheel assemblies 910 are mated with the tracks 902, the second portion of the connecting bar 912 extends partially into the channel 904, the first wheel 914 is received

within a first portion 924 of the channel 904 and the second wheel 916 is disposed within a second portion 926 of the channel 904. The first portion 924 of each channel 904 is disposed proximate to an outer surface 928 of the track 902 relative to the second portion 926.

[0135] When the running belt 16 is being driven by a user, the first wheel 914 and the second wheel 916 of a given wheel assembly rotate within the channel 904, facilitating moment of the running belt 16 in the path defined by the track 902. As the running belt 16 is rotated, the slats 228 are disposed generally exterior to the periphery 908 of the track 902. The walls of the track 902 defining the channel 904 help forcibly retain the wheels 914, 916. An outer wall 930 and an inner wall 932 limit the side-to side movement of the wheels 914, 916, either by coming into contact with the wheels 914, 916 themselves or by coming into contact with another part of the wheel assembly 910 (e.g., the connecting bar 912). Limiting the motion of the wheels 914, 916 and the wheel assembly 910 similarly limits the motion of the slat fixed relative thereto, helping each slat, and, thereby, the running belt 16 to follow the desired path. Further, a first wall 934 substantially opposite a second wall 936 substantially limits the up-and-down motion of the wheels 914, 916 relative to the channel 904. In circumstances where side-to-side and/or up-and-down motion of the wheel 916 occurs, the walls 930, 932, 934, 936 defining the channel 904, providing counter forces to maintain the wheels 914, 916 in the desired position and help direct the wheels 914, 916 along the desired path.

[0136] Referring to FIGS. 29-30, the treadmill 10 is shown including another exemplary embodiment of a track system configured to help induce and maintain the running belt in a desired non-planar shape to define the running surface, shown as a track system 1000.

[0137] Instead of using wheel assemblies, such as 716 and 910, discussed above, the treadmill according to this exemplary embodiment utilizes a plurality of magnets 1002 to maintain the running belt 16 in the desired position. One or more magnets 1002 are fixed relative to the interior surface 256 of the slats 228 at locations substantially corresponding to the position of a track 1004, which is typically along the left-hand end 252 and the right-hand end 254 of the slats 228. The magnets 1002 may be coupled by any variety of fasteners or fastening mechanisms. Generally, it is preferable that, when the magnets 1002 are fixed relative to the slats, the fasteners do not directly contact the periphery 1006 of the tracks 1004

to avoid scratching and damage thereto. While it is generally desirable to mount a magnet 1002 to each slat, 228, the number of magnets used will vary depending upon a variety of factors such as the relative weight of the belt and the relative magnetic strength of each magnet.

[0138] The magnets 1002 are configured to magnetically couple the running belt 16 to the track 1004, which is made of metal (e.g., steel) or includes a peripheral metal portion. The magnets 1002 have strength suitable to maintain the running belt 16 in close proximity to a periphery 1006 of the tracks 1004.

[0139] When the treadmill is driven by a user, the force imparted to the running belt 16 is sufficient to permit the magnets to move relative bearing rails, but not to lose the magnetic connection therebetween. According to one exemplary embodiment, as the running belt 16 moves relative to the track 1004, the magnets 1002 are generally spaced a small distance from the periphery 1006 of the track 1004, helping to further reduce the noise associated with operation of the treadmill. According to other exemplary embodiments, the magnets 1002 are in physical contact with the periphery 1006 of the track 1004 in addition to being magnetically coupled thereto.

[0140] According to an exemplary embodiment similar to track system 1000, a plurality of magnets may be positioned on the frame, track, or other fixed component of the treadmill base to apply a downwardly-directed force to the metal slats of the running belt as it passes over the magnets. For example, the magnets may be positioned on the cross-members 56. As the running belt rotates, the portion passing above the magnets will be drawn downward by the force of the magnets, helping maintain that portion of the running belt (i.e., defining the running surface) in the desired shape.

[0141] Referring to FIGS. 31-34, the treadmill 10 is shown including another exemplary embodiment of a track system configured to help induce and maintain the running belt in a desired non-planar shape to define the running surface, shown as a track system 1100.

[0142] The track system 1100 is substantially similar to track system 700, but configured to be operable with a running belt 1102 that is a conventional running belt rather than a slatted running belt 16. The track system 1100 includes a pair of tracks 702 and a wheel assemblies

1104 having substantially the same configuration as wheel assembly 716 with the exception that a securing device shown as a clip 1106 is used to connect the wheel assembly 1104 to the running belt 1102, rather than the elongated connecting member 724. The clip 1106 is shown extending and having a first portion 1108 and a second portion 1110 that opening towards the interior of the treadmill 10 before being secured. When the running belt 1102 shown as a continuous polymer (e.g., urethane) belt is in position, a first edge 1112 of the running belt 1102 is received between a first portion 1108 and a second portion 1110 of the clip 1106 and fixed relative thereto (e.g., by a fastener, etc.). The polymer belt is a urethane belt according to an exemplary embodiment. The urethane belt is desirable heavy enough to help assume the shape of the rollers, but not so thick or heavy that it undesirably impedes movement. The clips extend along the first edge 1112 and the second edge 1114 of the running belt 1102, substantially suspending the belt between the tracks 702. According to an exemplary embodiment, the securing device may be any securing device suitable for securing an edge portion of the running belt 1102 relative thereto (e.g., a bolt, a clamp, etc.).

[0143] According to still another exemplary embodiment, a treadmill has a track system including a pair of tracks and wheel assemblies. The wheel assemblies include hangers (e.g., magnetic hangers) that are received in channels that are interior to the track, the hangers being slidably movable within the channels. According to one exemplary embodiment, the hangers are substantially I-shaped, having one transverse portion received in the channel and the other transverse portion fixed to an interior side of a slat. According to some exemplary embodiments, the system further includes bearing rails that facilitate motion of the running belt itself and the hangers within the track. The hangers and the channel of the track may have any configuration suitable for facilitating movement of the running belt and maintaining the running belt in the desired non-planar shape.

[0144] The above-described ways of inducing and maintaining the running belt in the desired non-planar shape can also be used with or adapted to a manual treadmill having a planar running surface, such as treadmill 1200 having planar running surface 1202 shown in FIG. 35. The treadmill 1200 is shown substantially similar to treadmill 10, but the running surface is substantially planar. Accordingly, the ability to manually drive the treadmill is substantially

dependent on the incline of the running surface 1202 relative to the ground. Ways to adjust this incline for any treadmill disclosed herein will be discussed in more detail later.

[0145] In the exemplary embodiment shown, the running surface 1202 is defined by a running belt 1204 that is disposed about front and rear running belt pulleys of a front and rear shaft assembly, respectively. The running belt 1204 also travels along a pair of bearing rails having a substantially linear top profile that facilitate motion of the running belt 1204.

[0146] As discussed above, the speed controls for the manual treadmill 10 and the various embodiments thereof are generally the user's cadence and relative position of her weight-bearing foot on the running surface. More generally, the running belt 16 of the treadmill 10 is responsive to the weight of the user mounting, dismounting, or running on the treadmill 10. While it is generally desirable for the running belt 16 to be moved rearward, the running belt is capable of rotating forward. Forward rotation of the running belt can create safety concerns. For example, if a user were to mount the treadmill by placing her weight bearing foot at a location (e.g., location D shown in FIG. 5) along the rear portion 74 of the running surface 70, the running belt 16 may move forward and cause them to loose their footing, resulting in an injury or simply an unpleasant user experience.

[0147] A number of safety devices may be used with the treadmill 10 to help prevent undesirable forward rotation of the running belt 16. FIG. 36 illustrates a safety device shown as a one-way bearing assembly 1300 according to an exemplary embodiment. The one-way bearing assembly 1300 is a motion restricting element that is configured to permit rotation of at least one of the front and rear shaft assemblies 44, 46 (and hence the running belt 16) in only one direction, preferably clockwise as seen in FIGS 1 and 5.

[0148] In the exemplary embodiment shown, the one way bearing assembly 1300 is disposed about and cooperates with the rear shaft 68 as shown in FIG. 2. The one-way bearing assembly 1300 comprises a housing 1302 which supports an inner ring 1304 that cooperates with the rear shaft 68 and supports an outer ring 1306 fixed relative to the housing 1302. A plurality of sprags (not shown) are disposed between the inner ring 1304 and the outer ring 1306. The sprags are asymmetric, and, thus, provide for motion in one direction and prevent rotation in the opposite direction. The housing 1302 is fixed to a bracket 1310 that is connected to, and

preferably directly mounted to, the frame 40 to fix the location of the housing 1302 and prevent movement of the housing 1302 in response to the rotation of the rear shaft 68. It should be noted that the location at which the bracket 1310 is mounted to the frame 40 can be adjusted depending on the location of the rear shaft 68, which may change depending on the shape of the non-planar running surface or the desired tension in the running belt. According to another exemplary embodiment, the one-way bearing may be transitionally fit into the housing, rather than press fit. According to yet another exemplary embodiment, the one-way bearing may include rollers in addition to sprags.

[0149] The one-way bearing assembly 1300 further includes a key 1312 that is fixed relative to the inner ring 1304 and configured to cooperate with a keyway 1314 formed in the rear shaft 68. Viewed from the perspective shown in FIGS. 1 and 5, when the running belt 16 is moving rearward, rotating in the clockwise direction, the rear shaft 68 similarly rotates in the clockwise direction. The inner ring 1304 of the one-way bearing assembly 1300 rotates with rotational velocity corresponding to the rotational velocity of the rear shaft 68 because of the interaction between the key 1312 and the keyway 1314. If a force is applied by the user to the running belt 16 that urges the rear shaft 68 to rotate counterclockwise, the one-way bearing assembly 1300 provides a counter force, preventing the counterclockwise rotation of the rear shaft 68 and the forward rotation of the running belt 16. Specifically, as the rear shaft 68 begins to move counterclockwise, the interaction of the key 1312 and the keyway 1314 begins to drive the inner ring 1304 of the one-way bearing assembly 1300 rearward. The sprags become wedged between the inner ring 1304 and the outer ring 1306, preventing the counterclockwise rotation of the inner ring and key 1312 disposed therein. The key 1312, by virtue of its inability to rotate, provides a counterforce to the keyway 1314 as the keyway continues to attempt to rotate counterclockwise. By preventing the keyway 1314 from moving counterclockwise, the one-way bearing assembly 1300 thus prevents the rear shaft 68, the rear running belt pulleys 66, and running belt 16 from rotating counterclockwise as seen in FIGS 1 and 5.

[0150] FIG. 38 illustrates another safety device that may be used with the treadmill 10, shown as a one-way bearing assembly 1500 according to an exemplary embodiment. The one-way bearing assembly 1500 is a motion restricting element that is configured to permit rotation of at

least one of the front and rear shaft assemblies 44, 46 (and hence the running belt 16) in only one direction, preferably clockwise as seen in FIGS 1 and 5.

[0151] In the exemplary embodiment shown, the one-way bearing assembly 1500 is disposed about and cooperates with the rear shaft 68. The one-way bearing assembly 1500 comprises a housing 1502 which supports an inner ring 1504 that cooperates with the rear shaft 68 and supports an outer ring 1506 fixed relative to the housing 1502. A plurality of sprags (not shown) are disposed between the inner ring 1504 and the outer ring 1506. The sprags are asymmetric, and, thus, provide for motion in one direction and prevent rotation in the opposite direction. The one-way bearing assembly 1500 is further shown to include a first snap ring 1532 and a second snap ring 1534, which are configured to seat in a first circumferential groove 1536 and a second circumferential groove 1538 on the rear shaft 68, respectively. When installed, the first snap ring 1532 is supported inboard of and adjacent to the inner ring 1504, and the second snap ring 1534 is supported outboard of and adjacent to the inner ring 1504, thereby further restricting axial motion of the one-way bearing assembly 1500 relative to the rear shaft 68.

[0152] The housing 1502 is supported by a stud 1520 which is coupled to the frame 40. The stud 1520 may be separated or spaced apart from the housing 1502 by a spacer 1522 and a sleeve 1523 which may be restrained on the stud 1520 by a nut 1524 and a washer 1526. The sleeve 1523 of the embodiment shown is formed of rubber and is configured to reduce noise, wear, and shock load between the housing 1502 and the stud 1520 and/or the spacer 1522. The housing 1502 includes a plurality of legs, shown as a first leg 1516 and a second leg 1518, which extend on either side of the stud 1520. Accordingly, the stud 1520 resists rotational motion of the housing 1502 in response to rotation of the rear shaft 68 and may provide sufficient reactive or counter force to the housing 1502 to enable the one-way bearing assembly 1500 to prevent counterclockwise rotation of the rear shaft 68. Supporting the one-way bearing assembly 1500 in this manner negates the need for fixing the housing 1502 to the frame 40 or an intermediary bracket. Accordingly, the housing 1502 may move with the rear shaft 68 (e.g., the housing 1502 may pivot about the stud 1520) as the rear shaft 68 flexes under load, thereby reducing side loading on the inner ring 1504, which in turn reduces wear on, and extends the life of, the one-way bearing assembly 1500.

[0153] It should be noted that the location at which the stud 1520 is mounted to the frame 40 can be adjusted depending on the location of the rear shaft 68, which may change depending on the shape of the non-planar running surface or the desired tension in the running belt. Furthermore, the stud 1520 need not be positioned below or downward from the rear shaft 68, as shown, but may be located in any direction relative to the rear shaft 68. According to another exemplary embodiment, the one-way bearing may be transitionally fit into the housing, rather than press fit. According to yet another exemplary embodiment, the one-way bearing may include rollers in addition to sprags.

[0154] The one-way bearing assembly 1500 further includes a key 1512 that is fixed relative to the inner ring 1504 and configured to cooperate with a keyway 1514 formed in the rear shaft 68. Viewed from the perspective shown in FIGS. 1 and 5, when the running belt 16 is moving rearward, rotating in the clockwise direction, the rear shaft 68 similarly rotates in the clockwise direction. The inner ring 1504 of the one-way bearing assembly 1500 rotates with rotational velocity corresponding to the rotational velocity of the rear shaft 68 because of the interaction between the key 1512 and the keyway 1514. If a force is applied by the user to the running belt 16 that urges the rear shaft 68 to rotate counterclockwise as seen in FIGS. 1 and 5, the one-way bearing assembly 1500 provides a counter force, preventing the counterclockwise rotation of the rear shaft 68 and the forward rotation of the running belt 16. Specifically, as the rear shaft 68 begins to move counterclockwise, the interaction of the key 1512 and the keyway 1514 begins to drive the inner ring 1504 of the one-way bearing assembly 1500 rearward. The sprags become wedged between the inner ring 1504 and the outer ring 1506, preventing the counterclockwise rotation of the inner ring and key 1512 disposed therein. The key 1512, by virtue of its inability to rotate, provides a counterforce to the keyway 1514 as the keyway continues to attempt to rotate counterclockwise. By preventing the keyway 1514 from moving counterclockwise, the one-way bearing assembly 1500 thus prevents the rear shaft 68, the rear running belt pulleys 66, and running belt 16 from rotating counterclockwise as seen in FIGS 1 and 5.

[0155] Other safety devices to help prevent undesirable forward rotation of the running belt 16 may include cam locking systems, which may be particularly well-suited for use in

conjunction with track systems 700, 800, and 900. Also, taper locks, a user operated pin system, or a band brake system with a lever may be utilized.

[0156] Controlling the operation of the running belt 16 in ways in addition to preventing rearward rotation, can help improve the safety of the treadmill and/or help a user adjust the treadmill for a desirable level of performance. Including an incline or elevation adjustment system is one way to provide these benefits. As mentioned above, as the increasing or decreasing of the relative height or distance of the running surface relative to the ground is one way that the operation, most typically the speed, of the treadmill can be adjusted. Accordingly, adjusting the incline of the base of the treadmill results in an adjustment to the speeds a user can achieve and/or how easy or challenging it is for the user to achieve certain speeds.

[0157] Referring back to FIGS. 1-6, a plurality of nuts 270 are fixed, and more preferably welded, to the bottom of the frame 40 allow the feet 28 to be adjusted. The feet 38 include a lower or base portion 272 and a threaded shaft 274 extending vertically upward from the base portion 272 according to an exemplary embodiment. Generally, by increasing the distance between the nuts 270 and the base portions 272 of the feet 28 at the front end 48 of the frame 40 relative to the rear end 50, the incline of the base 12 will increase. Stated otherwise, the angle between the longitudinal axis 18 and the ground will increase. Similarly, the distance between the nuts 270 and the base portions 272 of the feet at the rear end 50 may be decreased relative to the feet 28 at the front end 48, thereby increasing the incline. By increasing the incline, a user is typically able to achieve greater speeds on the treadmill 10.

[0158] Treadmill 1200 shown in FIG. 35 preferably has at least some incline (i.e., the longitudinal axis of the treadmill to be other than parallel to the ground) when in operation as the shape of the running surface, substantially planar, does not provide for increases and decreases in height in and of itself. On the other hand, the longitudinal axes of the treadmills having non-planar running surfaces may be parallel to the ground or at an incline thereto during operation. It should be noted that, while it is generally desirable to have the front shaft at a height at or above the height of the rear shaft, with some running surface configurations, desirable orientations can be achieved by raising the rear shaft to a location above the front shaft relative to the ground.

[0159] In some cases, the user may want to decrease the incline of the treadmill (e.g., to decrease the speeds the treadmill can achieve, etc.). For example, the user may want to utilize a relatively long stride, but does not want to be running at such high speeds. This can be accomplished by lowering the incline of the treadmill from the higher incline position. Once in the lowered position, the same stride the user was using at the higher incline position will typically result in the user running at lower speeds in the lower incline position. This same principle can also be applied for the purposes of safety. That is, keeping the front of the treadmill at a lower incline position or lowering the treadmill to a lower incline position can help prevent a user from achieving speeds that are too great for them (e.g., that would cause them to be off-balance, lose control, be injured, etc.).

[0160] Because the treadmill is preferably manually operated, it does not have an external power source which can be utilized to operate a height adjusting motor as is found in conventional treadmills. Therefore, a manual height adjusting system is preferably integrated into the treadmill. Referring to FIG. 37, an example of a manual incline or elevation adjustment system 1400 is shown according to an exemplary embodiment. A hand crank 1402 configured to be operated by a person, such as the user, is provided allow a user to operate the incline adjustment system 1400 to adjust the incline of the base 12 of the treadmill 10 relative to the ground. The front shaft 64 may be lowered relative to the rear shaft 68 and/or the front shaft 64 may be raised relative to the rear shaft 68 using the hand crank 1402. In an alternative exemplary embodiment, the front shaft may be maintained at a position above the ground, and the rear shaft may be raised or lowered relative thereto adjust the incline.

[0161] Generally, the hand crank 1402 includes a handle portion 1404 disposed parallel to and spaced a distance from a shaft 1406 that is coupled to the frame 40 (e.g., with a bracket). When assembled, a drive belt or chain 1407 is disposed about a gear 1408 that is positioned about the shaft 1406 of the hand crank 1402. Rotational motion can be imparted to the gear 1408 by rotating the handle portion 1404. In response to rotation of the gear 1408, the drive belt 1407 causes a sprocket 1410 is fixed relative to an internal connecting shaft 1412 of the internal connecting shaft assembly 1414 to rotate. The internal connecting shaft assembly 1414 further includes a pair of drive belts or chains 1416 that are operably coupled to gears 1418 of rack and pinion blocks 1420. The rotation of the internal connecting shaft 1412 causes the

drive belts or chains 1416 to rotate gears 1418. As the gears 1418 rotate, a pinion (not shown) disposed within the rack and pinion blocks 1420 imparts linear motion to the racks 1422, thereby operably raising or lowering the base 12 of the treadmill 10 depending on the direction of rotation of the handle portion 1404 of the hand crank 1402.

[0162] According to another exemplary embodiment, an incline adjustment system that is a gas assisted un-weighting incline adjustment system may be utilized. According to other exemplary embodiments, any suitable linear actuator may serve as an incline adjustment system for the manual treadmill disclosed herein.

[0163] According to an exemplary embodiments, the incline of one or more portions of the running surface may be adjusted independent of adjusting the incline of the base. For example, one or more portions of a bearing rail may be configured to be movable relative to one or more other portion of the bearing rail. In one exemplary embodiment, a bearing rail is divided into a first portion and a second portion movable relative to each of the about a pivot point disposed therebetween. A person (e.g., a user, trainer, technician, etc.) can adjust the operational characteristics of the treadmill (similar to the discussion of using running surfaces having different curved profiles above) by merely adjusting the relative position of the bearing rail portions. If the user wants to achieve greater speeds, they may increase the incline of the front portion, while leaving the center and rear portions unchanged. If the user would like to alter the configuration of the treadmill to more strongly encourage running on the balls of their feet, they might increase the incline of the front and rear portions from a higher radius of curvature so that they collectively define a lower radius of curvature. Adjustments to the position of the bearing rails may be imparted using a crank, or other suitable device.

[0164] It is further contemplated that, because the treadmill 10 does not require an electric motor for operation, it is well suited for operation in an aquatic environment. For example, the treadmill 10 may be at least partially submerged in a pool, thereby providing added resistance due to hydrodynamic drag on a user and/or reducing footfall impact due to the buoyancy of the user. Accordingly, a submerged embodiment of the treadmill 10 may be used for training and/or rehabilitation purposes. Modifications may be made to the treadmill 10 for use in an aquatic environment. For example, the treadmill 10 may include sealed bearings and

components formed of corrosion-resistant materials (e.g., plastic, composite, stainless steel, brass, etc.) to extend its useful life. Further, the shape of the running surface 70 may also be modified to compensate for the buoyancy of the user in water and to compensate for the effects of salinity on buoyancy. For example, it is contemplated that the shape of the running surface 70 may be different for a treadmill 10 used in a freshwater environment and a highly saline environment.

[0165] A number of other devices, both mechanical and electrical, may be used in conjunction with or cooperate with a treadmill according to this disclosure. FIG. 1, for example, shows a display 280 adapted to calculate and display performance data relating to operation of the treadmill according to an exemplary embodiment. The display 280 includes an independent power source (e.g., a battery) that provides for the display 280 to be electrically-operative. The feedback and data performance analysis from the display may include, but are not limited to, speed, time, distance, calories burned, heart rate, etc. For example, a the display may include a sensor that is responsive to the position of a magnet on one of the running belt pulleys. The sensor is configured to recognize every time the magnet rotates past (e.g., moves past, crosses, etc.) a certain location. With this data, the display may calculate the speed at which the user is running and then provide this data to them via a user interface. According to other exemplary embodiments, other displays, cup holders, cargo nets, heart rate grips, arm exercisers, TV mounting devices, user worktops, and/or other devices may be incorporated into the treadmill.

[0166] As utilized herein, the terms "approximately," "about," "substantially," and similar terms are intended to have a broad meaning in harmony with the common and accepted usage by those of ordinary skill in the art to which the subject matter of this disclosure pertains. It should be understood by those of skill in the art who review this disclosure that these terms are intended to allow a description of certain features described and claimed without restricting the scope of these features to the precise numerical ranges provided. Accordingly, these terms should be interpreted as indicating that insubstantial or inconsequential modifications or alterations of the subject matter described and are considered to be within the scope of the disclosure.

[0167] It should be noted that the term "exemplary" as used herein to describe various embodiments is intended to indicate that such embodiments are possible examples, representations, and/or illustrations of possible embodiments (and such term is not intended to connote that such embodiments are necessarily extraordinary or superlative examples).

[0168] For the purpose of this disclosure, the term "coupled" means the joining of two members directly or indirectly to one another. Such joining may be stationary or moveable in nature. Such joining may be achieved with the two members or the two members and any additional intermediate members being integrally formed as a single unitary body with one another or with the two members or the two members and any additional intermediate members being attached to one another. Such joining may be permanent in nature or may be removable or releasable in nature.

[0169] It should be noted that the orientation of various elements may differ according to other exemplary embodiments, and that such variations are intended to be encompassed by the present disclosure.

[0170] It is important to note that the constructions and arrangements of the manual treadmill as shown in the various exemplary embodiments are illustrative only. Although only a few embodiments have been described in detail in this disclosure, those skilled in the art who review this disclosure will readily appreciate that many modifications are possible (e.g., variations in sizes, dimensions, structures, shapes and proportions of the various elements, values of parameters, mounting arrangements, use of materials, colors, orientations, etc.) without materially departing from the novel teachings and advantages of the subject matter recited in the claims. For example, elements shown as integrally formed may be constructed of multiple parts or elements, the position of elements may be reversed or otherwise varied, and the nature or number of discrete elements or positions may be altered or varied. The order or sequence of any process or method steps may be varied or re-sequenced according to alternative embodiments. Other substitutions, modifications, changes and omissions may also be made in the design, operating conditions and arrangement of the various exemplary embodiments without departing from the scope of the present disclosure.

What is Claimed:

1. A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt includes a curved running surface; and

a safety device coupled to at least one of the front shaft and the rear shaft, wherein the safety device is structured to restrict movement of at least one of the running belt, the front shaft, and the rear shaft in a first rotational direction while permitting movement of the at least one of the running belt, the front shaft, and the rear shaft in a second rotational direction opposite the first rotational direction.

2. The manually powered treadmill of claim 1, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

3. The manually powered treadmill of claim 2, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

4. The manually powered treadmill of claim 1, wherein the safety device is a one-way bearing.

5. The manually powered treadmill of claim 1, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

6. The manually powered treadmill of claim 1, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

7. The manually powered treadmill of claim 6, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

8. A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame a spaced distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, at least partially disposed about the front and rear shaft assemblies, and including a running surface, at least a portion of which is curved; and

a safety device for resisting rotation of at least one of the running belt, the front shaft assembly, and the rear shaft assembly in a first rotational direction while permitting rotation of at least one of the running belt, the front shaft assembly, and the rear shaft assembly in a second rotational direction opposite the first rotational direction.

9. The manually powered treadmill of claim 8, wherein the safety device is a one-way bearing.

10. The manually powered treadmill of claim 8, wherein the front shaft assembly comprises a front shaft coupled to frame.

11. The manually powered treadmill of claim 10, wherein the front shaft assembly comprises and at least one front running belt pulley coupled to the front shaft.

12. The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

13. The manually powered treadmill of claim 12, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

14. The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

15. The manually powered treadmill of claim 14 wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

16. The manually powered treadmill of claim 8, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill

17. The manually powered treadmill of claim 8, wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

18. The manually powered treadmill of claim 17, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

19. The manually powered treadmill of claim 8, wherein the frame includes a left side member, a right side member a spaced distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

20. The manually powered treadmill of claim 19 wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

21. A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame a spaced distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved; and

a safety device coupled to at least one of the running belt, the front running belt pulley, and the rear running belt pulley, wherein the safety device is structured to resist rotation of the at least one running belt, the front running belt pulley, and the rear running belt pulley in a first direction while permitting rotation of the at least one running belt, the front running belt pulley, and the rear running belt pulley in a second direction opposite the first direction.

22. The manually powered treadmill of claim 21 wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

23. The manually powered treadmill of claim 21 further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

24. The manually powered treadmill of claim 21 further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

25. The manually powered treadmill of claim 21, wherein the safety device is a one-way bearing.

26. The manually powered treadmill of claim 21, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

27. The manually powered treadmill of claim 26, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

28. A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

permitting movement of the running belt in a first direction; and

providing a safety device coupled to the frame wherein the safety device resists movement of the running belt in a second direction opposite the first direction.

29. A method according to claim 28 further comprising providing for the selective application of a braking force to resist the rotational movement of the running belt in the first direction.

30. A method according to claim 28 further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

ABSTRACT

A manually operated treadmill is provided that includes a frame having a front end and a rear end positioned opposite the front end; a front shaft rotatably coupled to the frame proximate the front end; a rear shaft rotatably coupled to the frame proximate the rear end; a plurality of bearings coupled to the frame; a running belt supported by the plurality of bearings, wherein the running belt includes a curved running surface; and a safety device coupled to at least one of the front shaft and the rear shaft, wherein the safety device is structured to substantially prevent rotation of at least one of the front shaft and the rear shaft in a first rotational direction while permitting rotation of the at least one of the front shaft and the rear shaft in a second rotational direction opposite the first rotational direction.

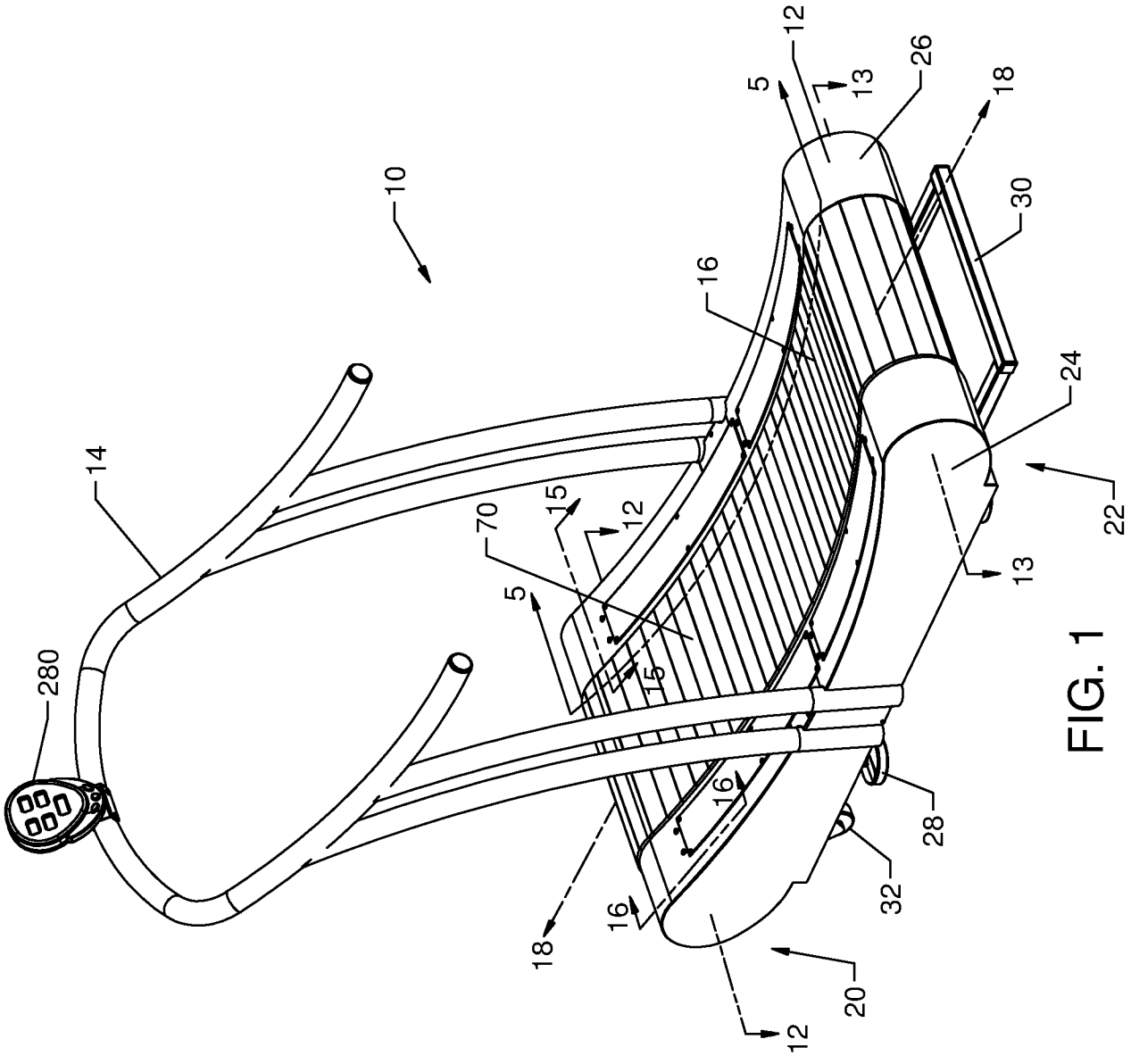

FIG. 1

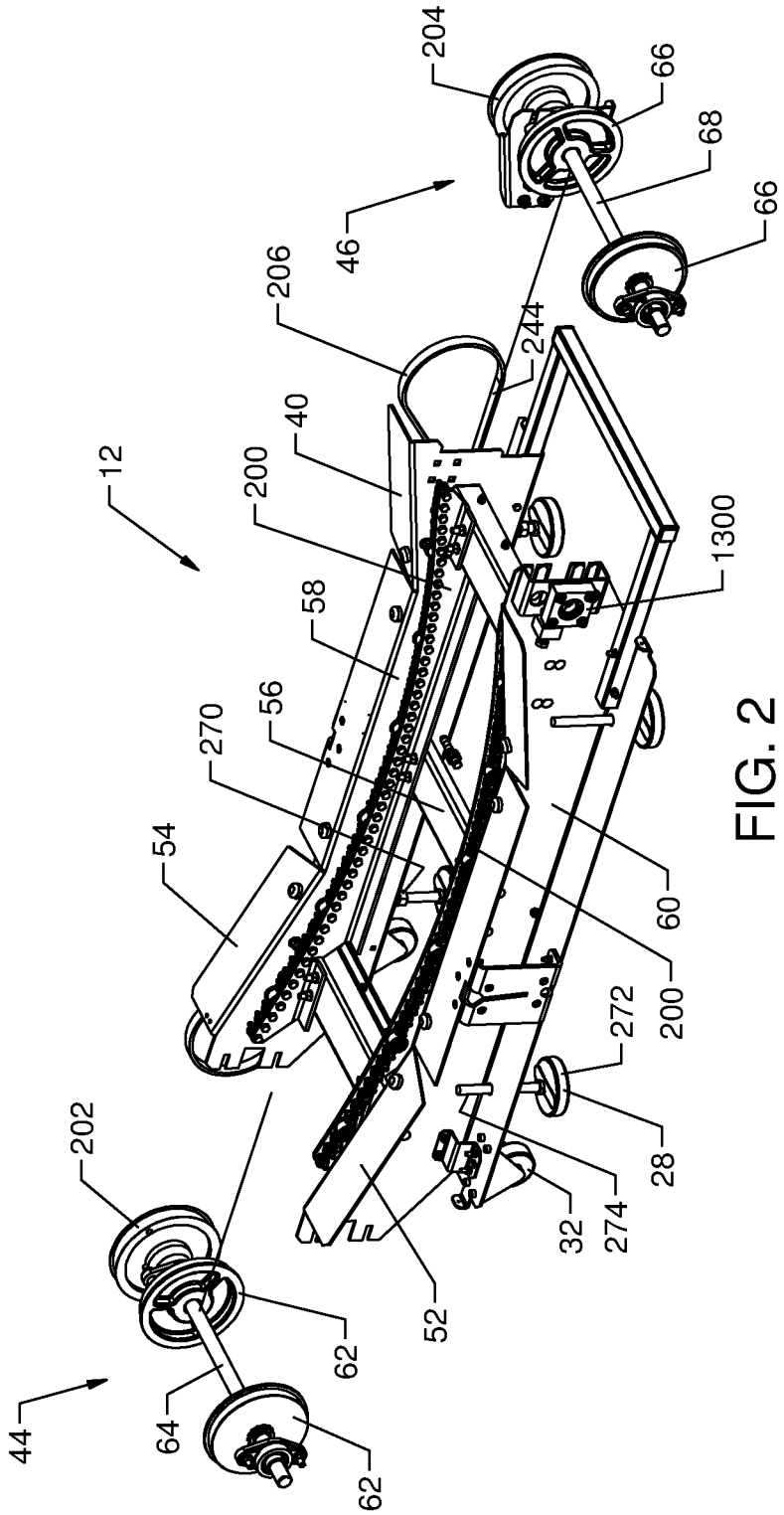
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FIG. 2

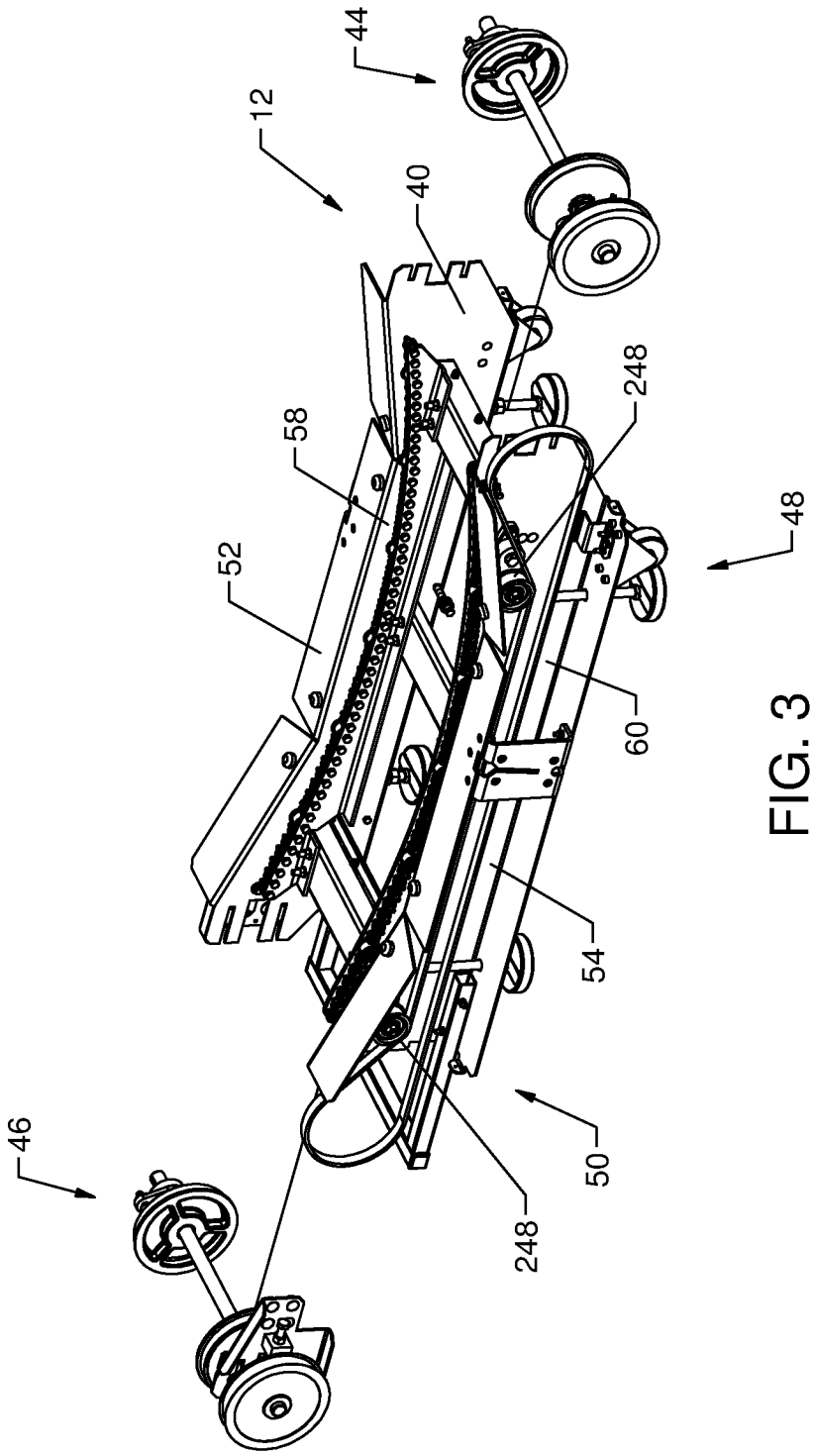

FIG. 3

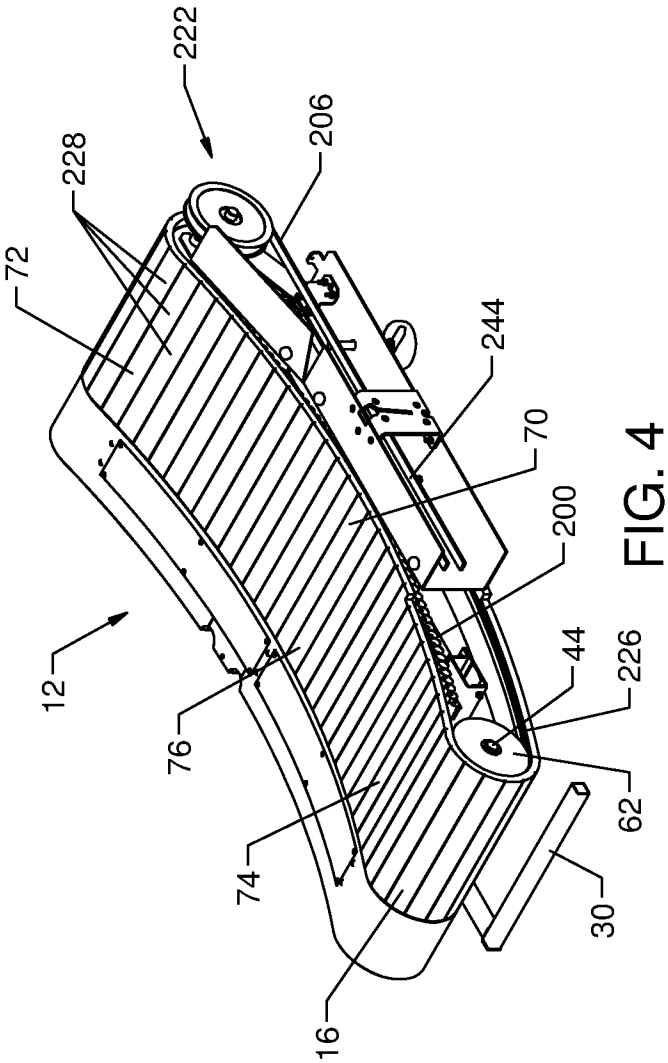
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FIG. 4

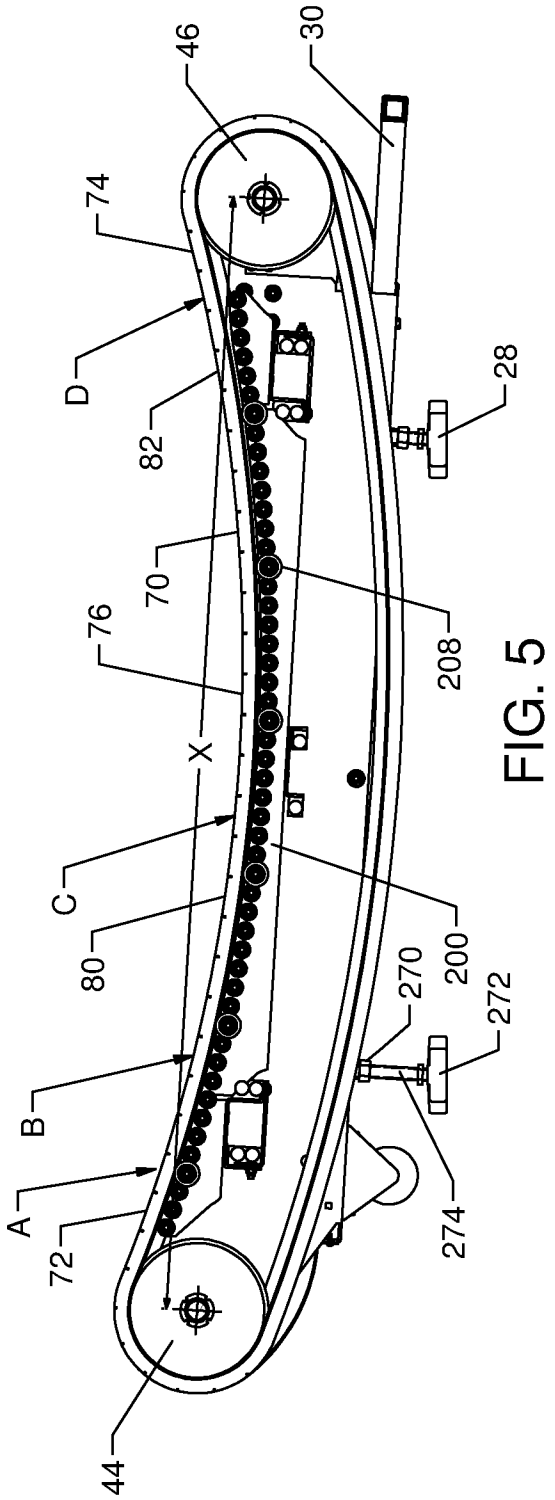
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FIG. 5

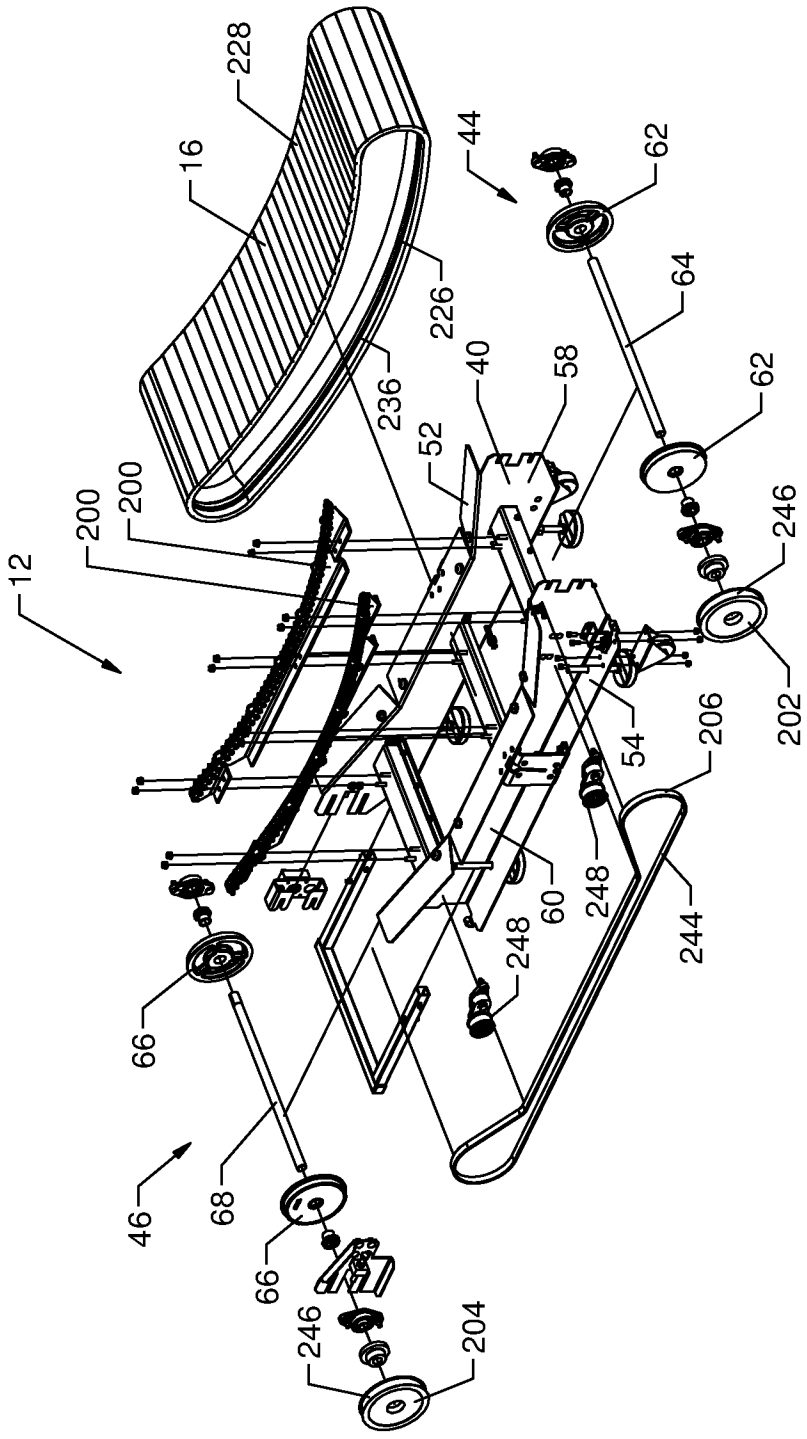
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FIG. 6

FIG. 7a

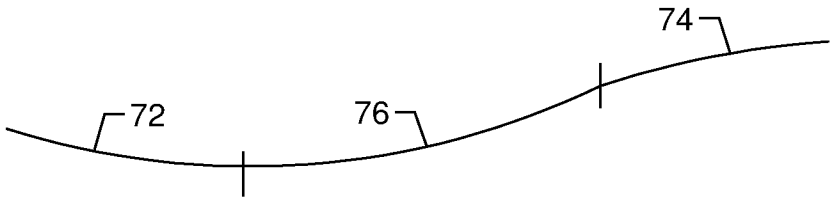


FIG. 7b

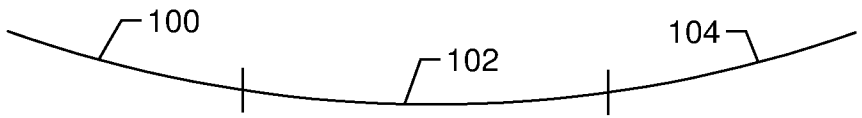


FIG. 7c

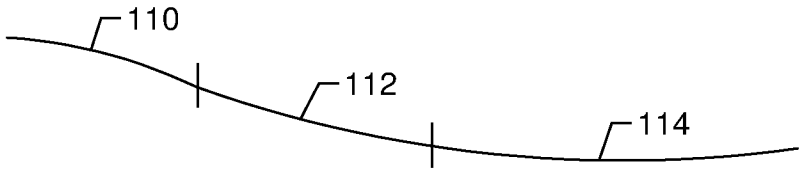


FIG. 7d

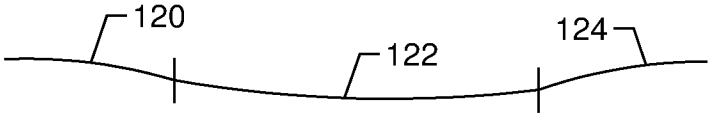
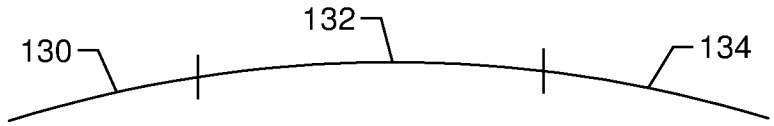


FIG. 7e



LIFECORE Ex. 1026, p. 72

FIG. 7f

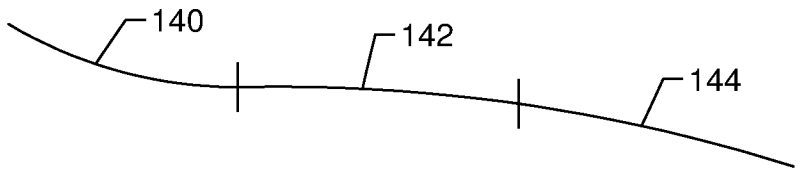


FIG. 7g

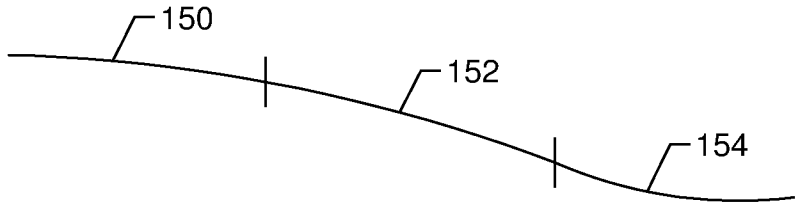


FIG. 7h

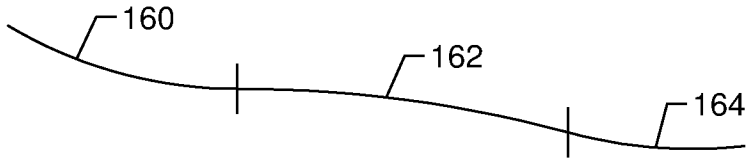


FIG. 7i

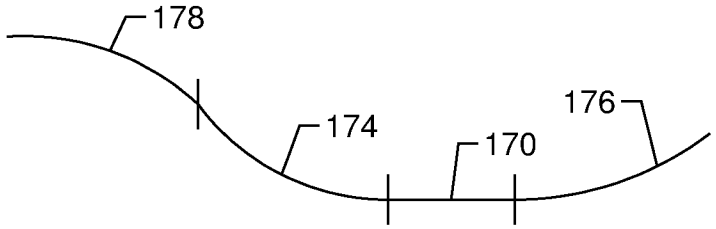
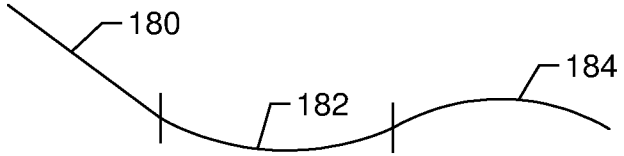


FIG. 7j



LIFECORE Ex. 1026, p. 73

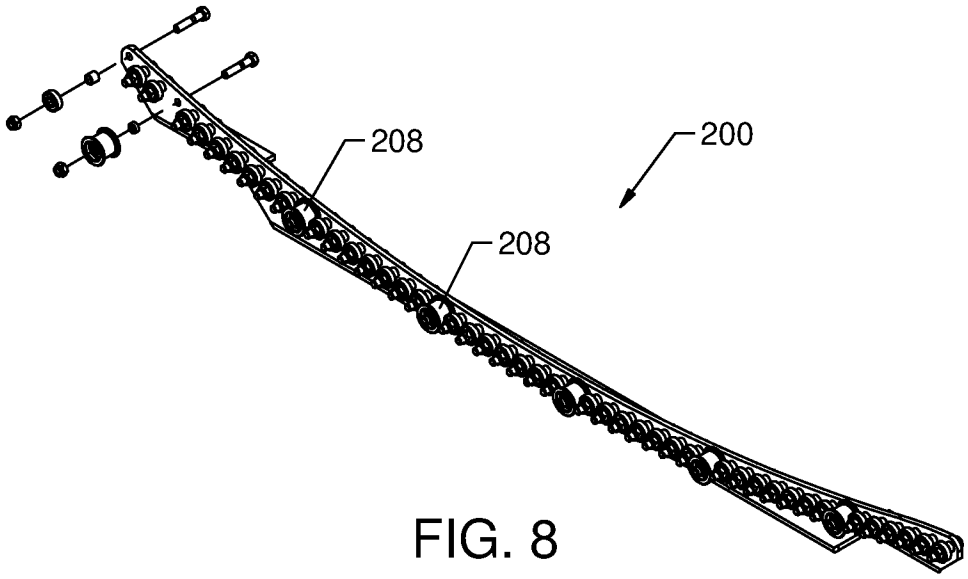


FIG. 8

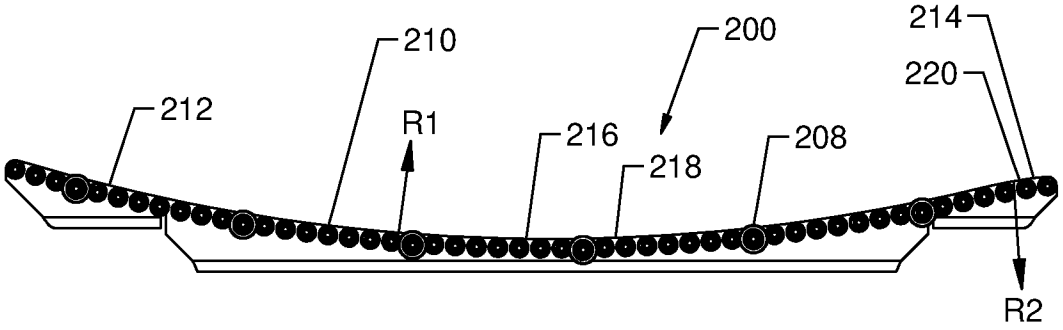


FIG. 9

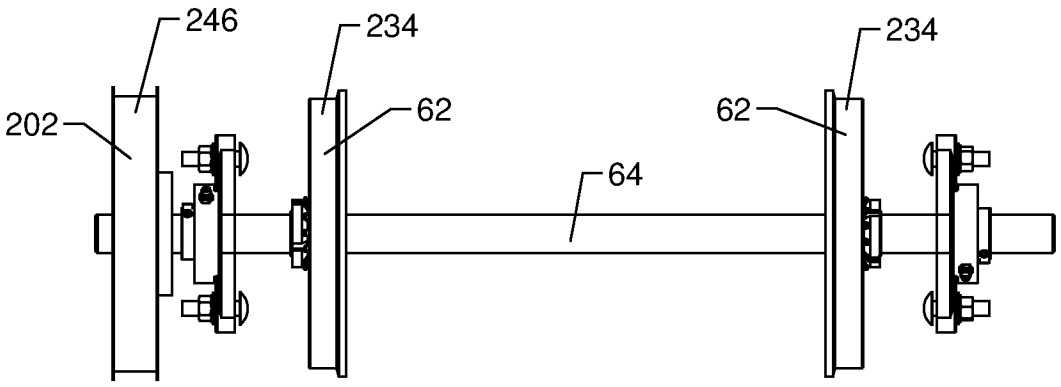


FIG. 10

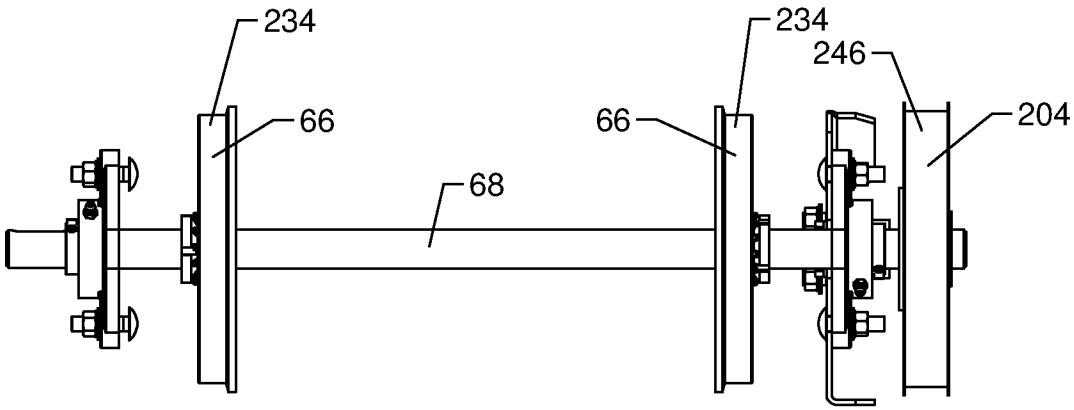


FIG. 11

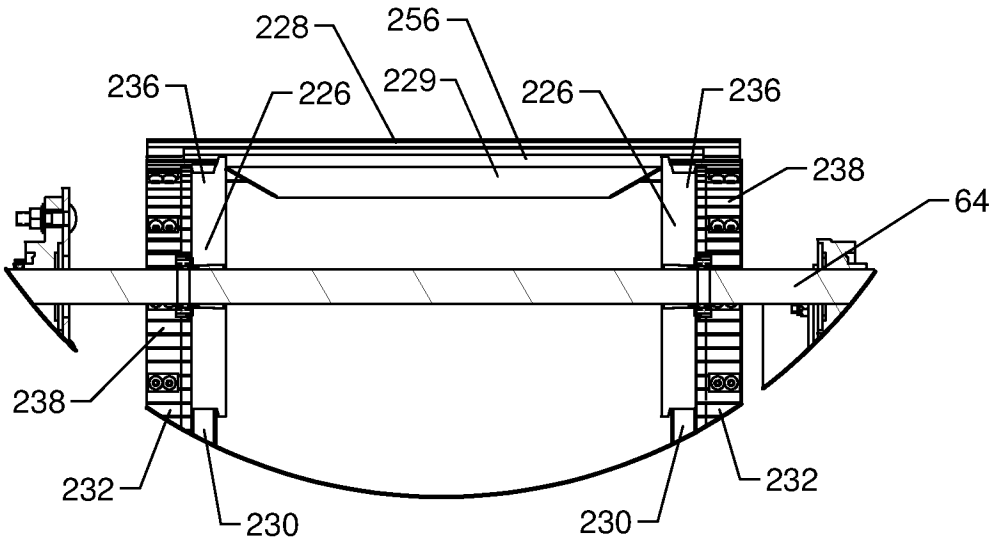

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FIG. 12

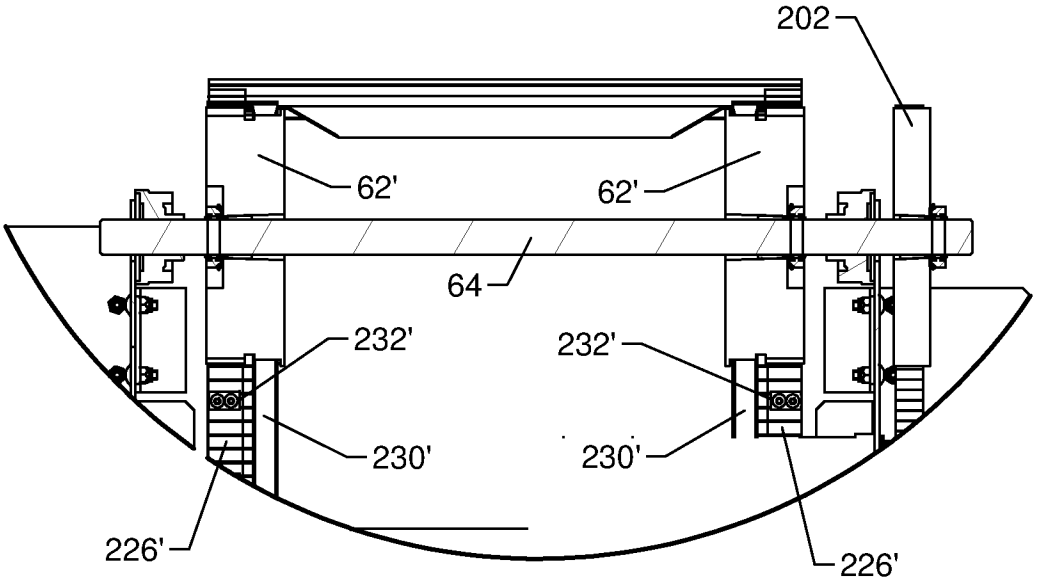
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FIG. 13

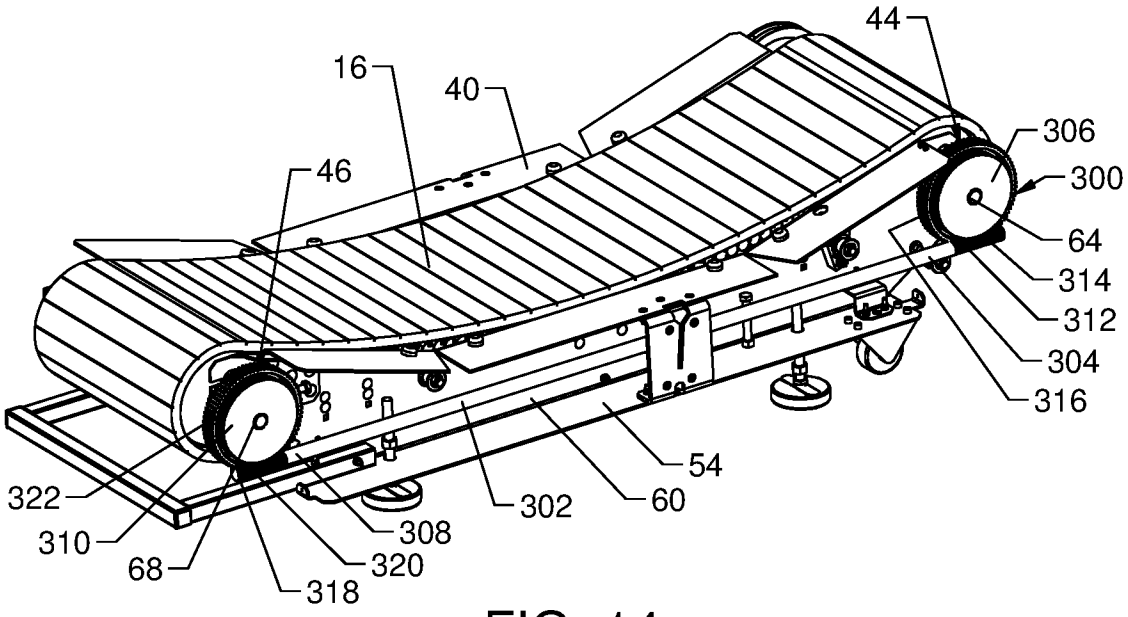
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FIG. 14

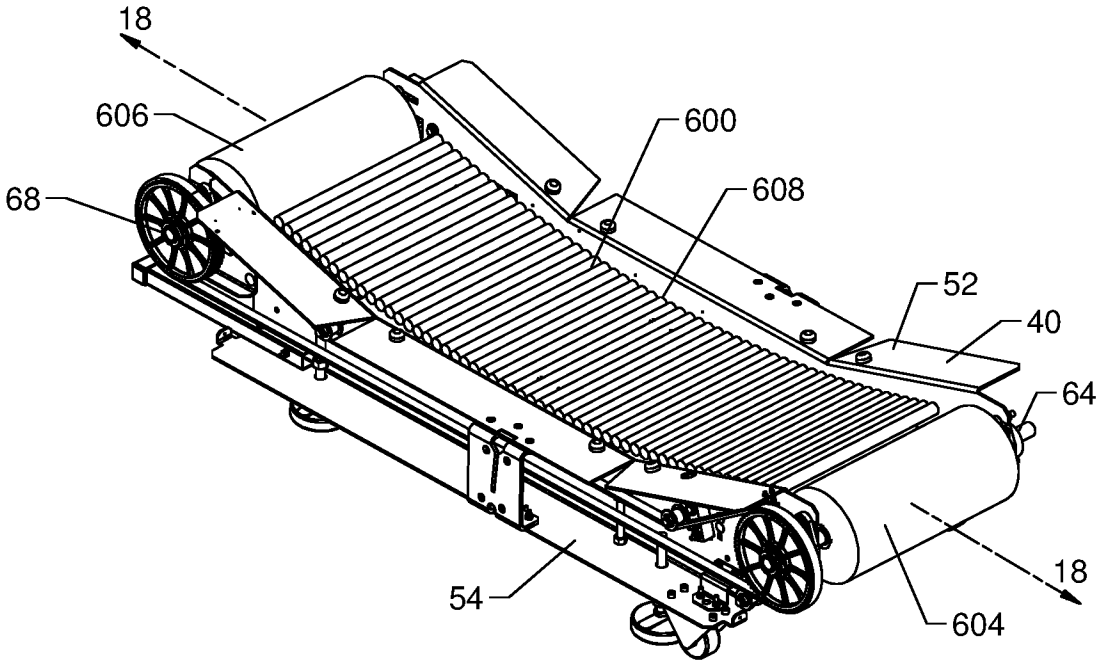
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FIG. 17

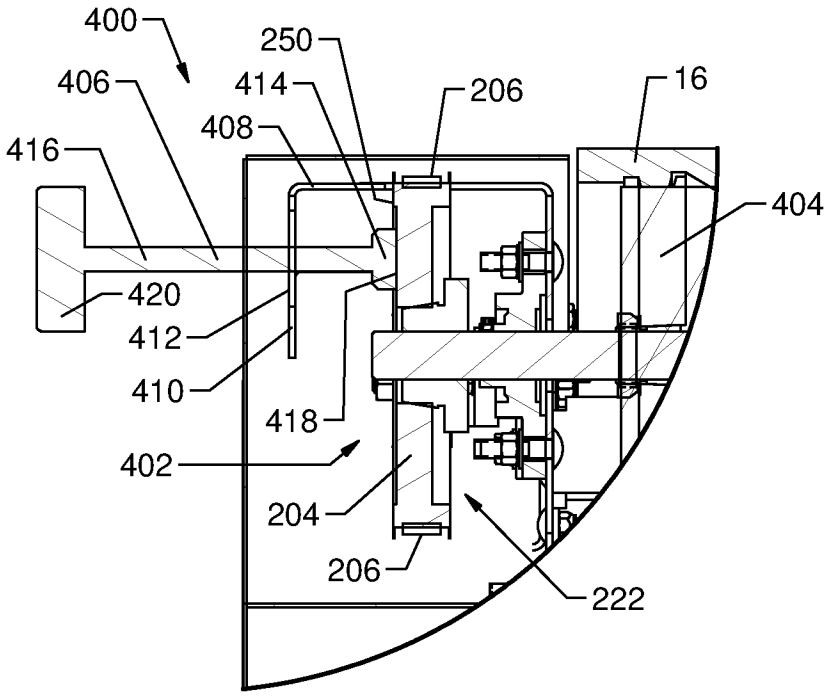
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FIG. 15

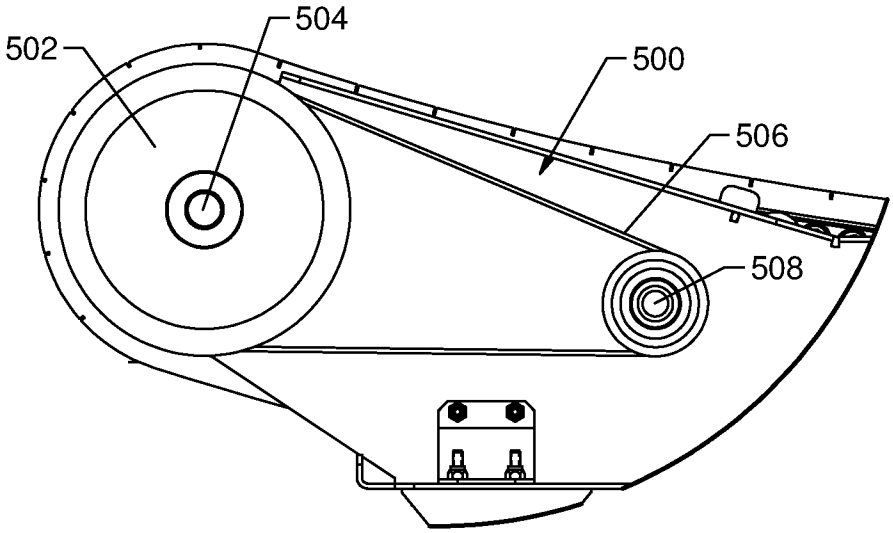
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FIG. 16

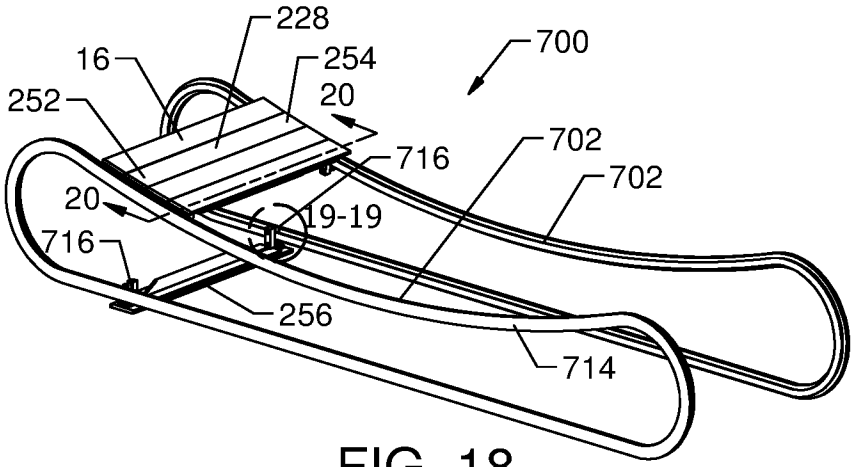


FIG. 18

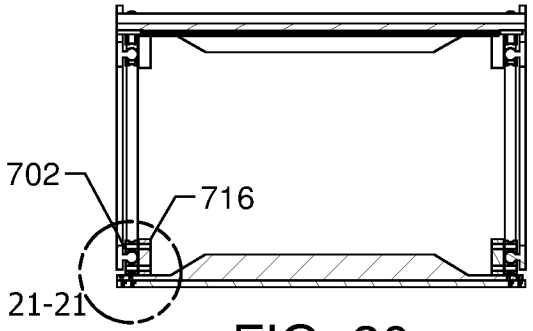


FIG. 20

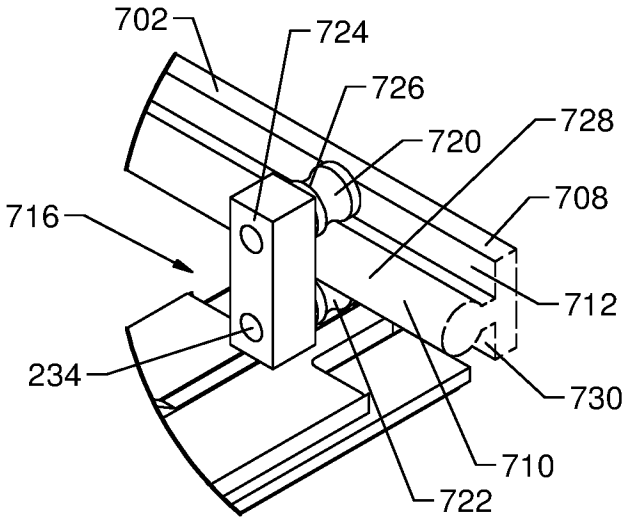


FIG. 19

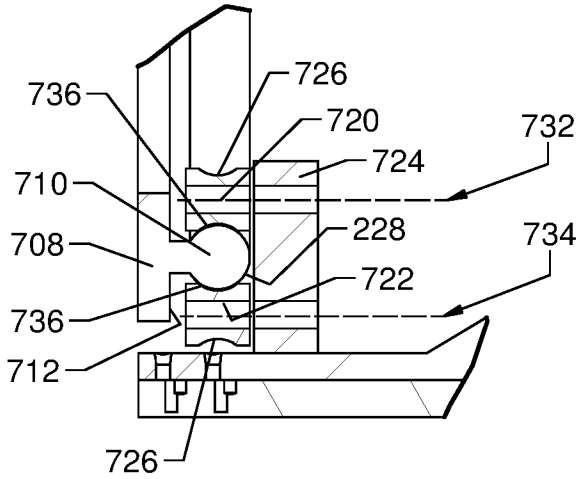


FIG. 21

LIFECORE Ex. 1026, p. 79

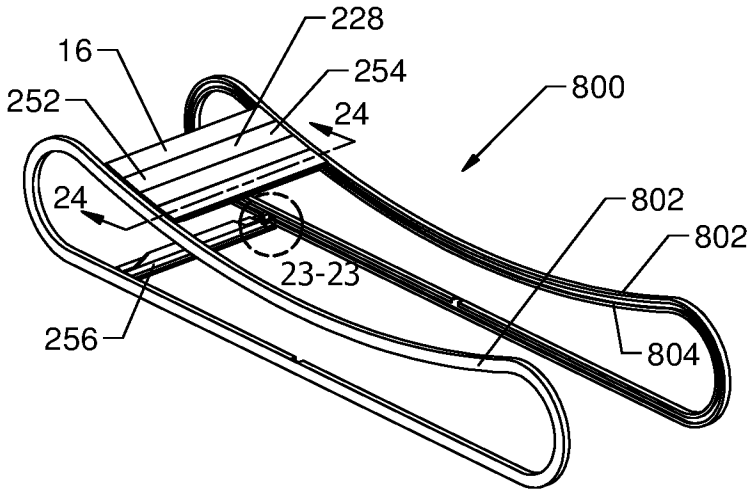


FIG. 22

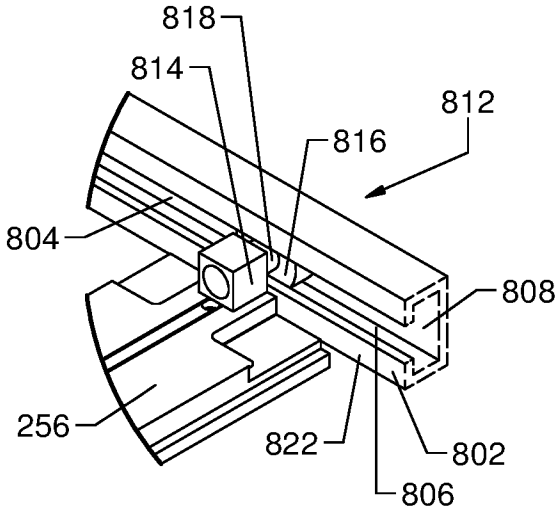


FIG. 23

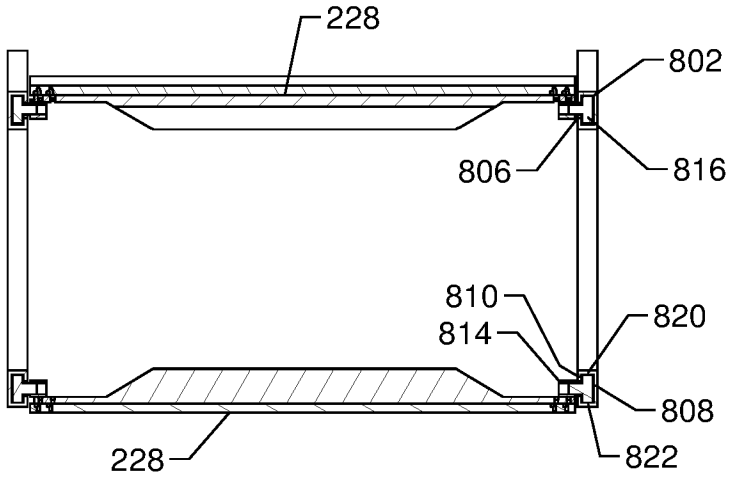


FIG. 24

LIFECORE Ex. 1026, p. 80

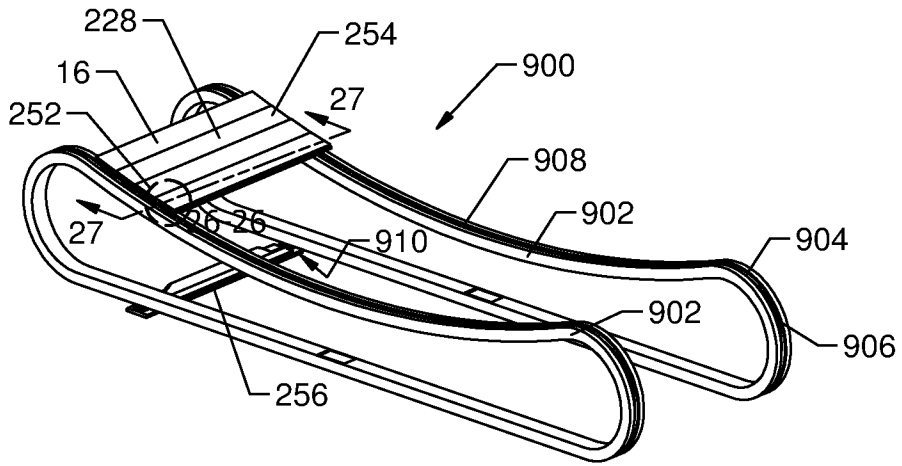


FIG. 25

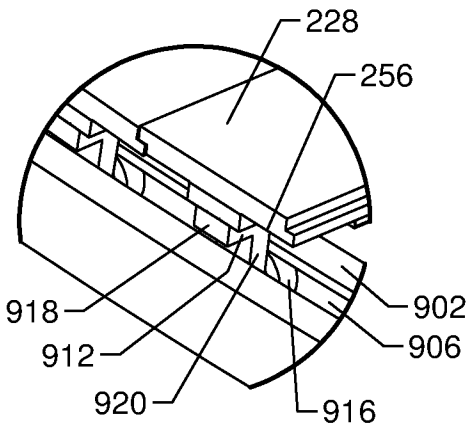


FIG. 26

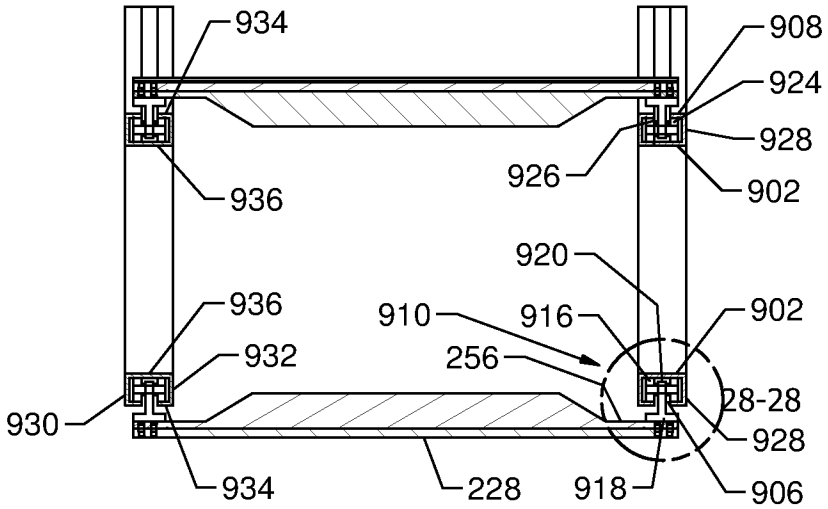


FIG. 27

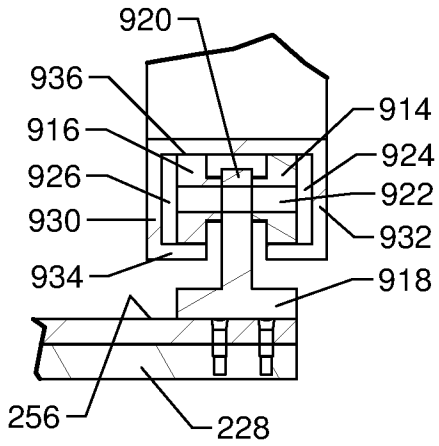
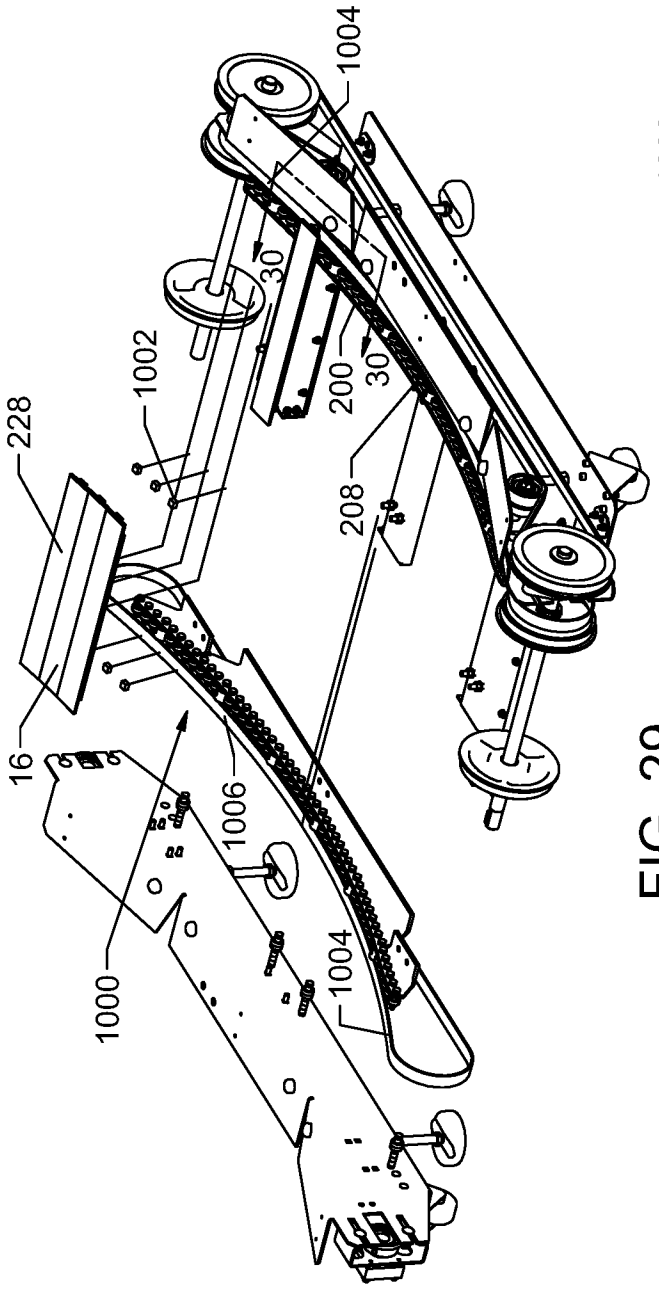


FIG. 28

LIFECORE Ex. 1026, p. 81


228
1002
1004
30
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30
208
16
1006
1000
1004

FIG. 29

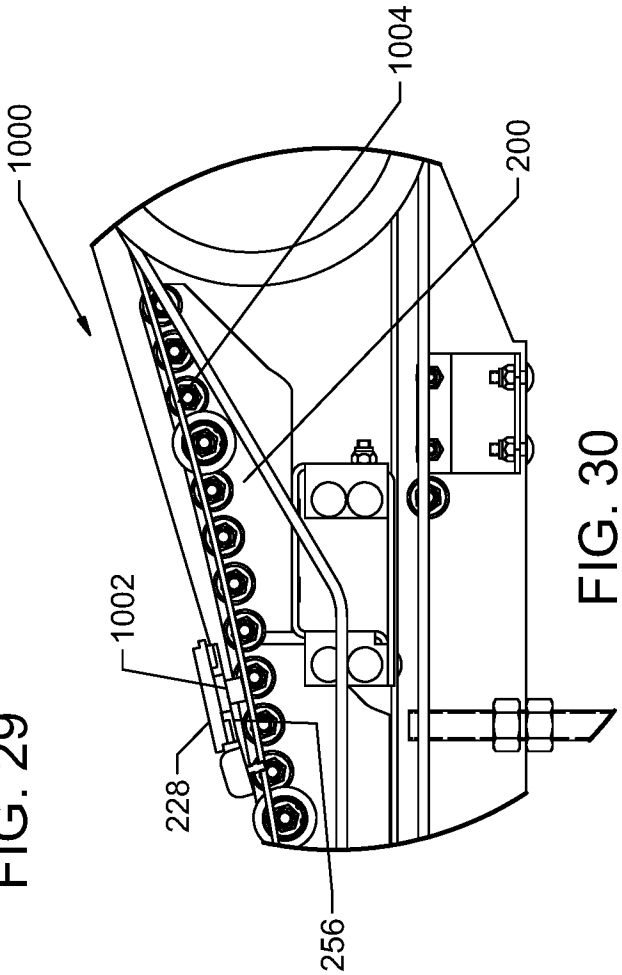
1000
1004
200
1002
228
256

FIG. 30

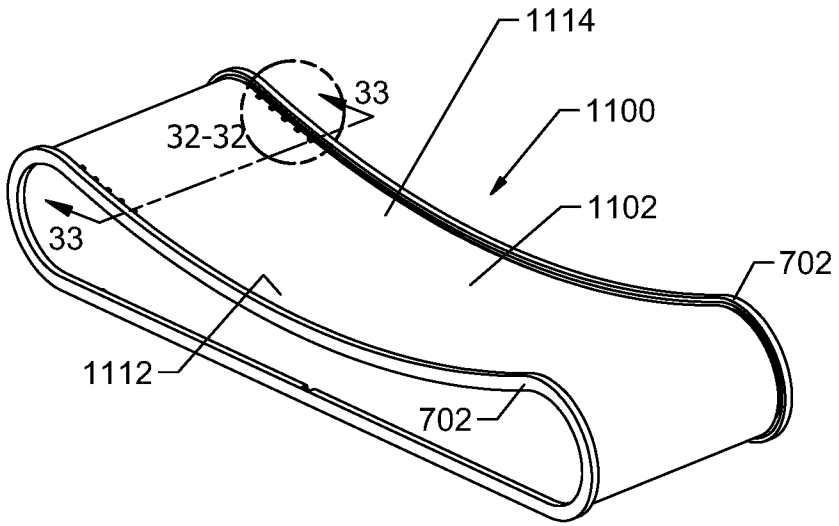

FIG. 31

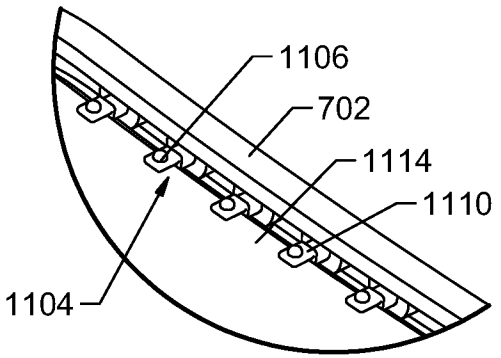

FIG. 32

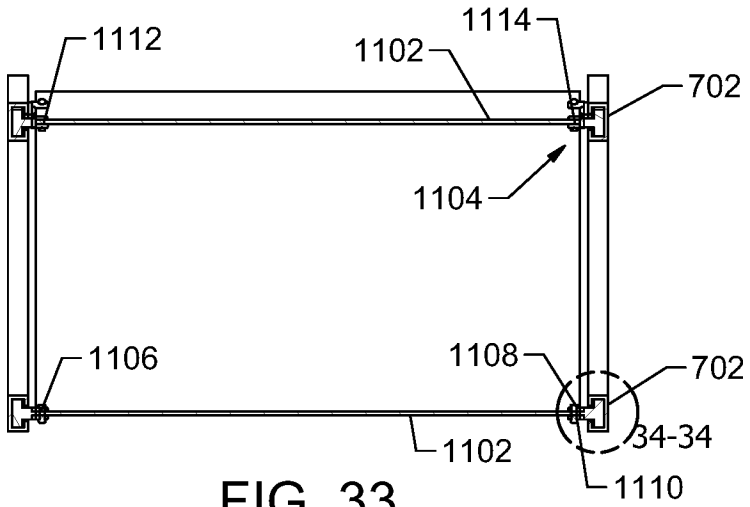

FIG. 33

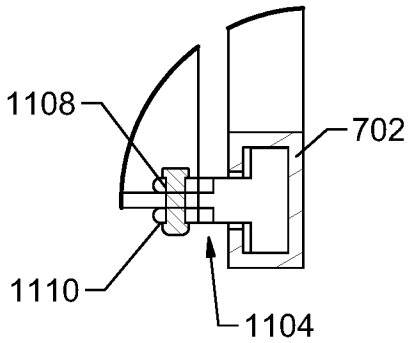

FIG. 34

LIFECORE Ex. 1026, p. 83

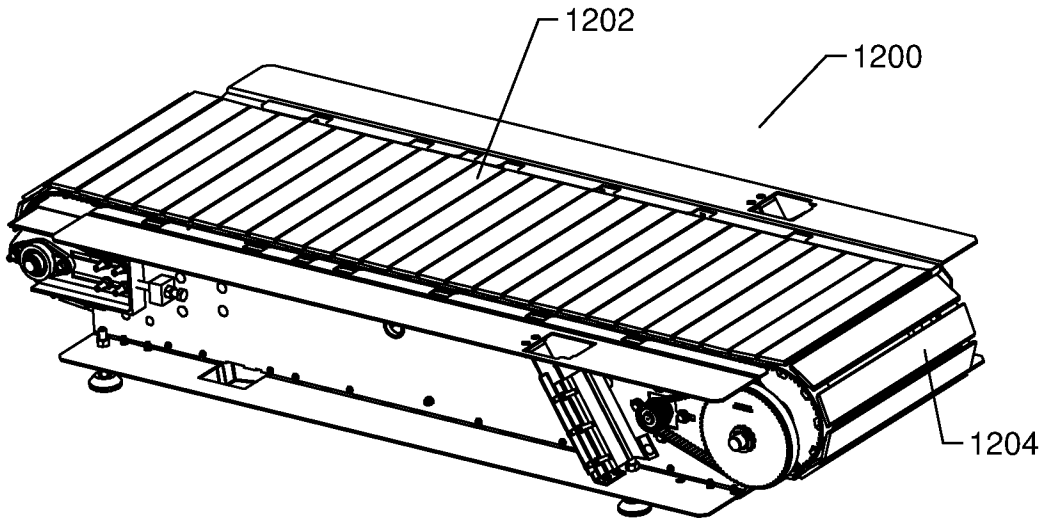

FIG. 35

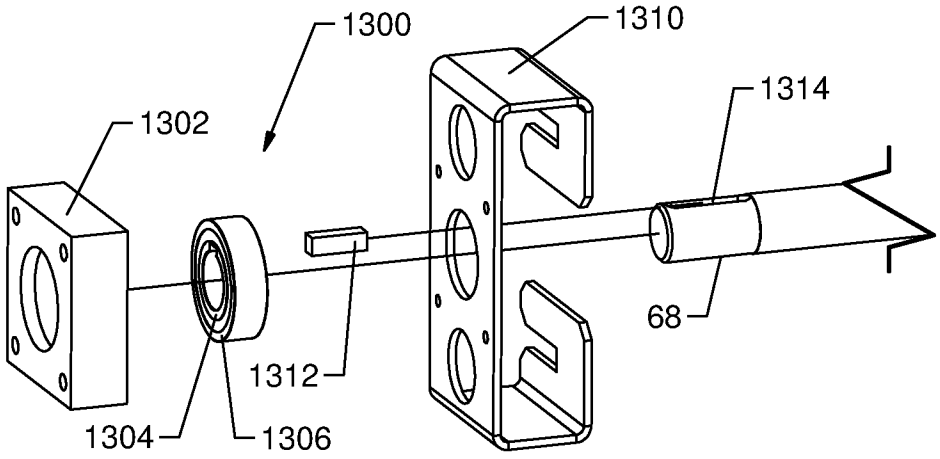

FIG. 36

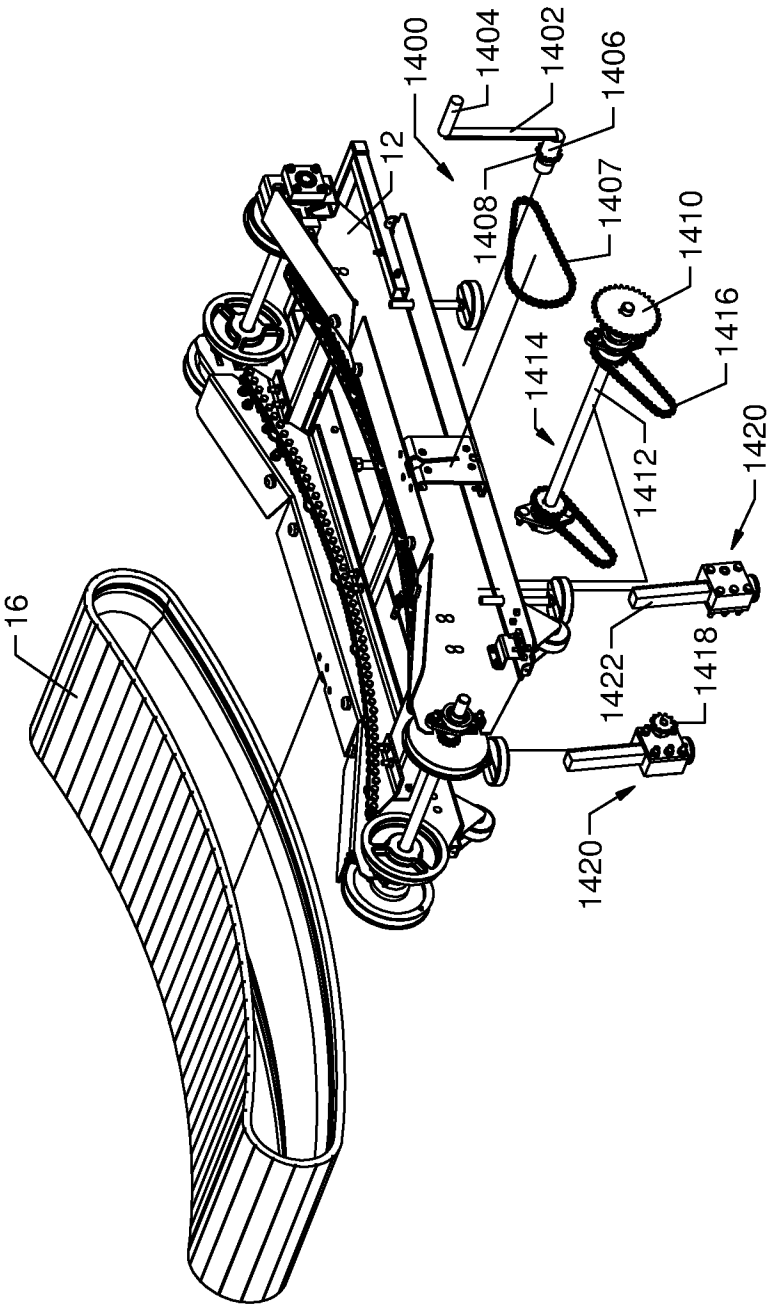
16
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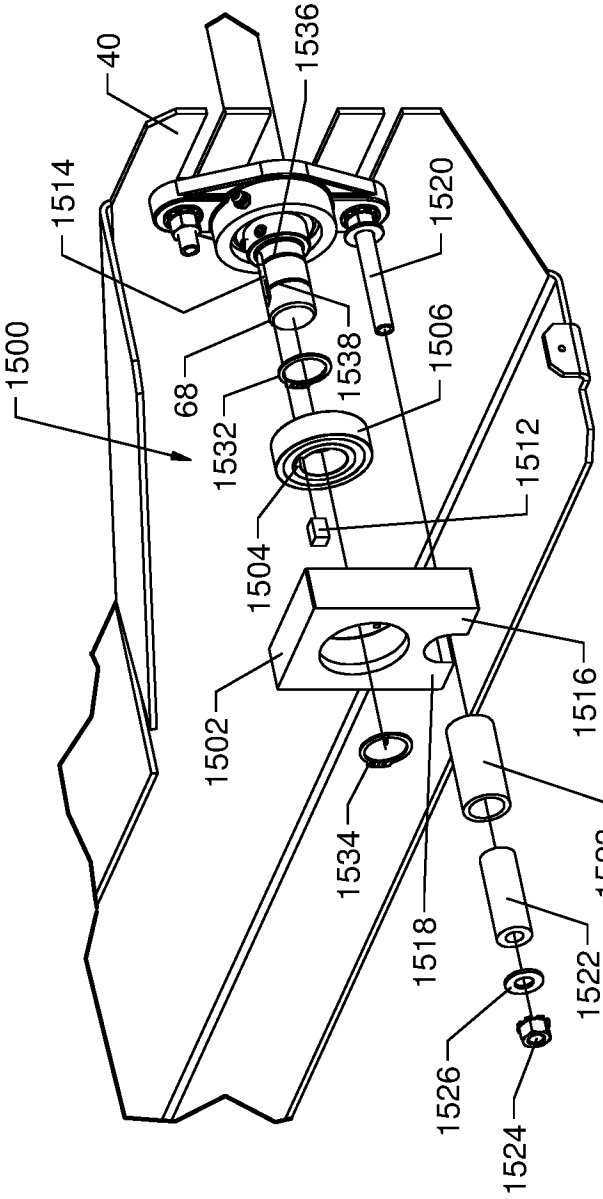
FIG. 37


40
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1520
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68
1532
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FIG. 38

PTO/AIA/01 (modified)

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	097208-0190

Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/076,912 filed on 11/11/2013.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Douglas G. Bayerlein Date (Optional): _____

Signature: Douglas G Bayerlein

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

PTO/AIA/01 (modified)

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LEGAL NAME OF INVENTOR

Inventor: Vance E. Emons Date (Optional): 11/25/2013

Signature: Vance E Emons

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

PTO/AIA/01 (modified)

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LEGAL NAME OF INVENTOR

Inventor: Nicholas A. Oblamski Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	097208-0190

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LEGAL NAME OF INVENTOR

Inventor: Scott D. Hoerig Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

PTO/AIA/01 (modified)

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LEGAL NAME OF INVENTOR

Inventor: Matthew J. Zank Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	097208-0190

Title of Invention	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

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I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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LEGAL NAME OF INVENTOR

Inventor: Robert L. Zimpel Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

PTO/AIA/01 (modified)

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	097208-0190

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LEGAL NAME OF INVENTOR

Inventor: Joel W. Richards Date (Optional): 11/27/13

Signature: Joel Tilbrook

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	Not yet assigned
Filing Date:	Herewith
Examiner:	Not yet assigned
Art Unit:	Not yet assigned
Confirmation No.:	Not yet assigned

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. PCT/US10/27543, filed 3/16/2010; application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), within three (3) months of the filing date of the application.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date: April 20, 2018

By: /R.J. McKenna/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 297-5723
Facsimile: (414) 297-4900

Richard J. McKenna
Attorney for Applicant
Registration No. 35,610

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Not yet assigned
				Filing Date	Herewith
Date Submitted: April 20, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	Not yet assigned
(use as many sheets as necessary)				Examiner Name	Not yet assigned
Sheet	1	of	11	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	1,211,765	01-09-1917	SCHMIDT	
	A2	2002/0147079-A1	10-10-2002	KALNBACH, DOUGLAS ALLEN	
	A3	2003/0186787	10-02-2003	WU ET AL.	
	A4	2004/0018917	01-29-2004	CORBALIS ET AL.	
	A5	2004/0077465	04-22-2004	SCHMIDT, DAVID	
	A6	2005/0009668	01-13-2005	SAVETTIERE ET AL.	
	A7	2005/0209059	09-22-2005	CRAWFORD ET AL.	
	A8	2006/0003871	01-05-2006	HOUGHTON ET AL.	
	A9	2006/0003872	01-05-2006	CHILES ET AL.	
	A10	2006/0122035	06-08-2006	FELIX, RONNIE D.	
	A11	2006/0287165-A1	12-21-2006	PASQUALIN, GIORGIO GIULIANO	
	A12	2007/0123396	05-31-2007	ELLIS, JOSEPH K.	
	A13	2008/0020907-	01-24-2008	LIN, CHIN-TA	
	A14	2008/0287266-A1	11-20-2008	SMITH, ARLAN R.	
	A15	2009/0170666-A1	07-02-2009	CHIANG, YUNG-CHANG	
	A16	2009/0215589-A1	08-27-2009	SCHOENENBERGER, WILLI	
	A17	2009/0280960	11-12-2009	TIAN, PENG FENG	
	A18	2010/0216607-	08-26-2010	MUELLER, KARL	
	A19	2011/0266091	11-03-2011	TAYLOR, WILLIAM	
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	A204	Plaintiff's Reply to Defendant Woodway's Answer, Affirmative Defenses and Counterclaims to Plaintiff's Second Amended Complaint filed March 27, 2015, 6 pages.	
	A205	Plaintiff's Reply to Defendant Woodway's Answer, Affirmative Defenses and Counter-Claims to Plaintiffs' Supplemental Complaint filed March 17, 2017, 8 pages.	
	A206	Plaintiffs Memorandum of Law in Opposition to Woodway's Motion for Summary Judgement of Invalidity and Opening Claim Construction Brief, Cross-Motion for Summary Judgment Upholding Validity, Cross-Motion for Summary Judgment for Infringement and Motion to Extend the Page Limitation for this Memorandum filed June 6, 2017, 46 pages.	
	A207	Plaintiffs' Initial Claims Construction Memorandum filed July 31, 2017.	
	A208	Plaintiffs' Memorandum of Law in further Opposition to Defendant's Motion to Dismiss Certain of Plaintiffs' Claims filed November 19, 2015, 19 pages.	
	A209	Plantar Fascia, http://en.wikipedia.org/wiki/Plantar_fascia, March 3, 2010, 3 pages.	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Not yet assigned
				Filing Date	Herewith
Date Submitted: April 20, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	Not yet assigned
(use as many sheets as necessary)				Examiner Name	Not yet assigned
Sheet	9	of	11	Attorney Docket Number	097208-0226

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[6]
	A210	Reply in Opposition to D126 filed November 6, 2015 and Exhibits A and B.	
	A211	Reply Memorandum of Law in Further Support of Plaintiffs' Motion for Leave to Amend the Second Amended Complaint filed July 7, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 13 pages.	
	A212	Response in Opposition re [117] First Motion to Amend Second Amended Complaint filed July 7, 2015, 2 pages.	
	A213	Response in Opposition to [110] Motion to Amend-Corret-Supplement filed June 15, 2015, 2 pages.	
	A214	Revised Answer to Counterclaims filed December 12, 2014 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 5 pages.	
	A215	ROSS ET AL., The Effects of Treadmill Sprint Training and Resistance Training on Maximal Running Velocity and Power, National Strength and Conditioning Association, March 2009, 10 pages.	
	A216	Rule 56.1 Counter-Statement by Plaintiffs Speedfit LLC, and Aurel A. Astilean filed June 6, 2017, 13 pages.	
	A217	Second Amended Complaint filed February 17, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 18 pages.	
	A218	SIROTIC ET AL., Physiological and Performance Test Correlates of Prolonged, High-Intensity, Intermittent Running Performance in Moderately Trained Women Team Sport Athletes, Journal of Strength and Conditioning Research, 2007, 7 pages.	
	A219	SIROTIC ET AL., The Reliability of Physiological and Performance Measures During Simulated Team-Sport Running on a Non-Motorised Treadmill, Journal of Science and Medicine in Sport, April 11, 2007, 10 pages.	
	A220	Soccer International, The Red Devil's in the Details, dated June 2010, 4 pages.	
	A221	Speedfit LLC's Opening Claim Construction Brief, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, March 26, 2018, 9 pages.	
	A222	SPEEDFIT, video produced to Woodway at least by November 10, 2014 in litigation, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., No. 2:13-cv-01276-KAM-AKT, 21 pages of screenshot excerpts.	
	A223	SPEEDFIT, video produced to Woodway at least by November 10, 2014 in litigation, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., No. 2:13-cv-01276-KAM-AKT, 23 pages of screenshot excerpts.	
	A224	Supplemental Complaint filed February 10, 2017 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc.	
	A225	Supplemental Declaration of Kadie M. Jelenchick filed June 6.	
	A226	The Australian Competition & Consumer Commission's Mandatory Safety Standard For Treadmills (Supplier Guide), 2009, 20 pps.	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Not yet assigned
				Filing Date	Herewith
Date Submitted: April 20, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	Not yet assigned
(use as many sheets as necessary)				Examiner Name	Not yet assigned
Sheet	10	of	11	Attorney Docket Number	097208-0226

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[6]
	A227	The Woodway Force Brochure, The Best Way to Train for Speed & Athletic Power, dated May 5, 2005, 2 pages.	
	A228	Third Amended Complaint filed October 23, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc. and Exhibits A - H.	
	A229	Woodway USA, Inc.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiffs' First Amended Complaint filed October 24, 2014 and Exhibits 1 and 2.	
	A230	Woodway USA, Inc.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiffs' Second Amended Complaint filed March 6, 2015, 17 pages.	
	A231	Woodway USA, Inc.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiffs' Supplemental Complaint filed February 24, 2017, 18 pages.	
	A232	Woodway USA, Inc.'s List of Claim Terms to be Considered and Proposed Constructions, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, Exhibit D, March 26, 2018, 4 pages.	
	A233	Woodway USA, Inc.'s Memorandum in response to Plaintiffs' Motion for Leave to Amend the Second Amended Complaint filed July 7, 2015, 16 pages.	
	A234	Woodway USA, Inc.'s Memorandum in Response to Plaintiffs' Motion Under 35 USC 256 to Correct Inventorship of USPN 8,308,619 and USPN 8,342,016 filed June 15, 2015, 20 pages.	
	A235	Woodway USA, Inc.'s Memorandum of Law in Support of Its Motions for Summary Judgment of Invalidity of US Patent Nos. 8,308,619 and 8,343,016 and Opening Claim Construction Brief filed June 6, 2017, 38 pages.	
	A236	Woodway USA, Inc.'s Opening Claim Construction Brief, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, March 26, 2018, 15 pages.	
	A237	Woodway USA, Inc.'s Patents, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, Exhibit B, March 26, 2018, 3 pages.	
	A238	Woodway USA, Inc.'s Reply Claim Construction Brief, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, March 26, 2018, 9 pages.	
	A239	Woodway USA, Inc.'s Reply Memorandum in Support of Its Motion to Dismiss filed November 25, 2017, 24 pages.	
	A240	Woodway USA, Inc.'s Responsive Claim Construction Brief filed July 28, 2017, 19 pages.	
	A241	Woodway, Curve 3.0 Specification, May 25, 2011, 1 page.	
	A242	Woodway, Curve Specification, May 24, 2011, 1 page.	
	A243	Woodway, Curve Specification, May 25, 2011, 1 page.	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** Date Submitted: April 20, 2018 *(use as many sheets as necessary)*				***Complete if Known***	
				Application Number	Not yet assigned
				Filing Date	Herewith
				First Named Inventor	Douglas G. Bayerlein
				Art Unit	Not yet assigned
				Examiner Name	Not yet assigned
Sheet	11	of	11	Attorney Docket Number	097208-0226

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[6]
	A244	Woodway, Curve XL Specification, May 18, 2011, 1 page.	
	A245	Woodway, Force Specification, April 8, 2008, 1 page.	
	A246	Woodway, Force Specification, May 2, 2011, 1 page.	
	A247	Woodway, Force Specification, May 2, 2012, 1 page.	
	A248	Woodway's USA, Inc.'s Reply in Support of its Motion for Summary Judgment of Invalidity of US Patent Nos. 8,308,619 and 8,343,016 and Reply Claim Construction Brief filed June 6, 2017, 16 pages.	
	A249	Woodway's Opposition to Defendant's Notice of Motion and Motion to Dismiss Case and Transfer Litigation to EDNY, Woodway USA, Inc. v. Aurel A. Astilean, Civ. Dkt. No. 2:13-cv-00681-WERC (E.D. WI), October 18, 2013, 22 pages.	
	A250	Woodways USA, Inc.'s Supplemental Rule 56.1 Statement of Undisputed Material Facts and Responses to Rule 56.1 Counterstatement by Plaintiffs Speedfit LLC and Aurel A. Astilean filed June 6, 2017, 20 pages.	

Examiner Signature		Date Considered	

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Richard J. McKenna/Laura Buhs
Attorney Docket Number:	097208-0226

Filed as Small Entity

Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)

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	330	330
UTILITY EXAMINATION FEE	2311	1	380	380
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2000	2000
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	10	50	500
INDEPENDENT CLAIMS IN EXCESS OF 3	2201	1	230	230

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous-Filing:				
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**3585**

Electronic Acknowledgement Receipt

EFS ID:	32396459
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Richard J. McKenna/Laura Buhs
Filer Authorized By:	Richard J. McKenna
Attorney Docket Number:	097208-0226
Receipt Date:	20-APR-2018
Filing Date:	
Time Stamp:	14:07:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$3585
RAM confirmation Number	042318INTEFSW14082800
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	Transmittal Letter	097208-0226_Transmittal.pdf	95499 7672e2ab24d5e4f0abb46a2d820053b977f26b12	no	3
Warnings:					
Information:					
2	TrackOne Request	097208-0226_Track1.pdf	119395 880a9e0c6569b6e563a08e44f6fa5a30bab205f0	no	1
Warnings:					
Information:					
3	Application Data Sheet	097208-0226_ADS.pdf	1823539 77f5b66479baf602c3fea33638ec2f0a5afa4b64	no	11
Warnings:					
Information:					
4		097208-0226_Application.pdf	223987 53409709deeda3ddfae15a11e14c2617bcce49b9	yes	54

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	48
Claims	49	53
Abstract	54	54

Warnings:					
Information:					
5	Drawings-only black and white line drawings	097208-0226_Figures_Processed.pdf	1197354 4beb1dc77fb82ae2727962229d52b65140e75e2f	no	20

Warnings:					
Information:					
6	Oath or Declaration filed	097208-0226_ParentDeclarations.pdf	3443476 566e44d7171c453f95db8b53c8978379428fa5e4	no	7
Warnings:					
Information:					
7	Transmittal Letter	097208-0226_IDS.pdf	100666 a907fd7ed29da1aa309341a3b15ba1d7afa8dc5b	no	2
Warnings:					
Information:					
8	Information Disclosure Statement (IDS) Form (SB08)	097208-0226_SB08.pdf	144804 aea4da418031fa627f02d6c7c1d569879880bb7f	no	11
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
9	Fee Worksheet (SB06)	fee-info.pdf	41800 b22aadf9c36085b4049e6f81d1a742d085f2a315	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	7190520		

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

First Inventor Name: Douglas G. Bayerlein

Applicant: Woodway USA, Inc.

Title: MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

Prior Appl. No.: 14/832,708

Prior Appl. Filing Date: 8/21/2015

CONTINUING PATENT APPLICATION TRANSMITTAL LETTER

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

Commissioner:

Transmitted herewith for filing under 37 C.F.R. § 1.53(b) is a:

[**X**] Continuation [ ] Division [ ] Continuation-In-Part (CIP)

of the above-identified copending prior application in which no patenting, abandonment, or termination of proceedings has occurred. Priority to the above-identified prior application is hereby claimed under 35 U.S.C. § 120 for this continuing application. The entire disclosure of the above-identified prior application is considered as being part of the disclosure of the accompanying continuing application and is hereby incorporated by reference therein.

[**X**] Applicant claims small entity status under 37 CFR 1.27.

Enclosed are:

[**X**] Description, Claims, and Abstract (54 pages).

[**X**] Formal drawings (20 sheets, Figures 1-38).

[**X**] PTO/SB/424 - Request for Prioritized Examination (1 page).

[**X**] Application Data Sheet (37 CFR 1.76) (11 pages).

[**X**] Executed Declarations (7 pages).

[**X**] Information Disclosure Statement (2 pages).

[**X**] Form PTO-SB08 (11 pages).

The adjustment to the number of sheets for EFS-Web filing follows:

Number of Sheets		**EFS-Web Adjustment**	**Number of Sheets for EFS-Web**
74	x	75%	56

The filing fee is calculated below at the small entity rate:

	Number Filed		**Included in Basic Fee**		**Extra**		Rate		Fee Totals
Basic Filing Fee							$75.00	=	$75.00
Search Fee							$330.00		$330.00
Examination Fee							$380.00		$380.00
Sequence Listing fee									$0.00
Size Fee	56	-	100	=	0	x	$200.00		$0.00
Total Claims:	30	-	20	=	10	x	$50.00	=	$500.00
Independents:	4	-	3	=	1	x	$230.00	=	$230.00
If any Multiple Dependent Claim(s) present:						+	$410.00	=	$0.00
Surcharge under 37 CFR 1.16(e) for late filing of Executed Declaration or late payment of filing fee						+	$80.00	=	$0.00
Prioritized Examination fee (Track I) under 37 C.F.R. § 1.17 (c)									$2,000.00
Processing Fee (Track I) under 37 C.F.R. § 1.17 (i)									$70.00
TOTAL FILING FEE:								=	$3,585.00
Assignment Recordation Fee:						+	$50.00	=	$0.00
Processing Fee under 37 CFR 1.17(i) for Late Filing of English Translation of Application:						+	$70.00	=	$0.00
TOTAL FEE								=	$3,585.00

The above-identified fees of $3,585.00 are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any fees required to secure a filing date and maintain pendency of this application to Deposit Account No. 19-0741.

Respectfully submitted,

Date: April 20, 2018

By: /R.J. McKenna/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 297-5723
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Richard J. McKenna
Attorney for Applicant
Registration No. 35,610

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/958,339	04/20/2018	3764	1515	097208-0226	30	4

CONFIRMATION NO. 4765

26371
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

FILING RECEIPT

Date Mailed: 05/16/2018

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**

Inventor(s)

Douglas G. Bayerlein, Oconomowoc, WI;
Vance E. Emons, Hartland, WI;
Nicholas A. Oblamski, Waukesha, WI;
Scott D. Hoerig, Brookfield, WI;
Matthew J. Zank, Milwaukee, WI;
Robert L. Zimpel, Menomonee Falls, WI;
Joel W. Richards, Wauwatosa, WI;

Applicant(s)

Woodway USA, Inc., Waukesha, WI;

Assignment For Published Patent Application

Woodway USA, Inc., Waukesha, WI

Power of Attorney: The patent practitioners associated with Customer Number 26371

Domestic Priority data as claimed by applicant

This application is a CON of 14/832,708 08/21/2015
which is a CON of 14/076,912 11/11/2013 PAT 9114276
which is a CON of 13/235,065 09/16/2011 ABN
which is a CIP of PCT/US10/27543 03/16/2010
which claims benefit of 61/161,027 03/17/2009

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 05/14/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/958,339**

Projected Publication Date: 08/23/2018

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

Preliminary Class

482

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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 (1-866-999-4258).

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 set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/958,339

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
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), (i), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	30 minus 20 =	* 10	x 50 =	500	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	* 1	x 230 =	230			
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).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	1515		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	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	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	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 found in the appropriate box in column 1.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

26371 7590 05/30/2018

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	

ART UNIT	PAPER NUMBER
3764	

NOTIFICATION DATE	DELIVERY MODE
05/30/2018	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.

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ipdocketing@foley.com

UNITED STATES PATENT AND TRADEMARK OFFICE

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Doc Code:
TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.:15/958,339

1. THE REQUEST FILED April 20, 2018 IS **GRANTED.**

The above-identified application has met the requirements for prioritized examination
- A. ☒ for an original nonprovisional application (Track I).
- B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination.** The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

- A. filing a **petition for extension of time** to extend the time period for filing a reply;
- B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims**, or a multiple dependent claim;
- C. filing a **request for continued examination**;
- D. filing a notice of appeal;
- E. filing a request for suspension of action;
- F. mailing of a notice of allowance;
- G. mailing of a final Office action;
- H. completion of examination as defined in 37 CFR 41.102; or
- I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to Kimberly Inabinet at 571-272-4618.

/Kimberly Inabinet/ Paralegal Specialist, Office of Petitions

Office of Petitions: Decision Count Sheet

Mailing Month: 5

Application No.: 15958339

15958339

For US serial numbers: enter number only, no slashes or commas. Ex: 10123456
For PCT: enter "51+single digit of year of filing+last 5 numbers", Ex. for PCT/US05/12345, enter 51512345

Deciding Official: Kimberly Inabinet

Count (1) - Palm Credit 15958339

Decision: GRANT

FINANCE WORK NEEDED
☐ Select Check Box for YES

GRANT

Decision Type: 643 - Track One request

643

Notes:

Count (2)

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

Count (3)

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

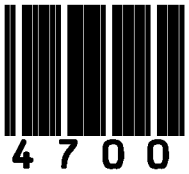
Initials of Approving Official (if required)

If more than 3 decisions, attach 2nd count sheet & mark this box ☐

Printed on: 5/24/2018

Office of Petitions Internal Document - Ver. 5.0

Office of Petitions: Routing Sheet



Application No. 15958339

This application is being forwarded to your office for further processing. A decision has been rendered on a petition filed in this application, as indicated below. For details of this decision, please see the document PET.OP.DEC filed on the same date as this document.

- [X] **GRANTED**
- [ ] **DISMISSED**
- [ ] **DENIED**

OPAP AKIMA-1
JUN 15 2018
PATENT & TRADEMARK OFFICE

DFW
CD Rom

Atty. Dkt. No. 097208-0226

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3764
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. PCT/US10/27543, filed 3/16/2010; application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

CONCISE EXPLANATION OF RELEVANCE

Regarding item A21, there appear to be two available versions of the Wreckreation Video. One version which is currently commercially available from Amazon and was previously submitted to the Patent Office in the form of multiple PDF still shots of the video and a second, slightly different version provided to the Applicant by a third party and which is being submitted in video format as part of the present SB-08. However, Applicant cannot confirm that the entirety of the video of item A21 was publicly broadcast. Applicant has reason to believe that the video from 0:00 to approximately 8:13 was publicly broadcast on February 24, 2009, but cannot confirm that the remainder of this video was ever publicly broadcast.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), within three (3) months of the filing date of the application.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date /6-15-2018/

By /Alexander J. Neuworth/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 319-7029
Facsimile: (414) 297-4900

Attorneys for Applicant

Richard J. McKenna
Registration No. 35,610

Alexander J. Neuworth
Registration No. 72,021

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
Date Submitted: June 15, 2018				**Filing Date**	4/20/2018
				First Named Inventor	Douglas G. Bayerlein
(use as many sheets as necessary)				Art Unit	3764
				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

USPTO MAIL JUN 15 2018 PATENT & TRADEMARK OFFICE

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	2007/0021278	01-25-2007	PAN ET AL.	
	A2	2007/0298935	12-27-2007	BADARNEH ET AL.	
	A3	2008/0119332	05-22-2008	ROMAN, MAURIZIO	
	A4	2009/0156363	06-18-2009	GUIDI ET AL.	
	A5	2012/0264569	10-18-2012	ESCOBEDO ET AL.	
	A6	2014/0171272	06-19-2014	HAWKINS ET AL.	
	A7	2015/0119202	04-30-2015	HENDRICKSON ET AL.	
	A8	2017/0113093	04-27-2017	BELLAVISTA ET AL.	
	A9	5,031,901	07-16-1991	SAARINEN, SULEVI	
	A10	5,094,447	03-10-1992	WANG, LEAO	
	A11	5,145,480	09-08-1992	WANG, KUO-LIANG	
	A12	5,310,392	05-10-1994	LO, PETER K.	
	A13	7,862,483	01-04-2011	HENDRICKSON ET AL.	
	A14	8,585,561	11-19-2013	WATT ET AL.	
	A15	8,876,668	11-04-2014	HENDRICKSON ET AL.	
	A16	9,044,635	06-02-2015	LULL, ANDREW P.	
	A17	9,233,272	01-12-2016	VILLANI ET AL.	
	A18	9,254,409	02-09-2016	DALEBOUT ET AL.	
	A19	9,314,667	04-19-2016	PUERSCHEL, BERND	
	A20	9,974,997	05-22-2018	CEI, DANIELE	

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[6]
	A21	SPEEDFIT, video produced to Woodway at least by April 28, 2015 in litigation, a copy of which is submitted herewith on DVD, Speedfit LLC et al. v. Woodway USA, Inc., Docket No. 2:13-cv-01276-KAM-AKT.	
	A22	Minute Order Regarding Claim Construction, Speedfit LLC v. Woodway, Docket No. 2:17-cv-00768-KAM-AKT, June 13, 2018, 2 pages.	

Examiner Signature		Date Considered	

From: ecf_bounces@nyed.uscourts.gov
To: nobody@nyed.uscourts.gov
Subject: Activity in Case 2:17-cv-00768-KAM-AKT Speedfit LLC v. Woodway USA, Inc. Markman Hearing
Date: Wednesday, June 13, 2018 10:44:19 AM

This is an automatic e-mail message generated by the CM/ECF system. Please DO NOT RESPOND to this e-mail because the mail box is unattended.
*****NOTE TO PUBLIC ACCESS USERS*** Judicial Conference of the United States policy permits attorneys of record and parties in a case (including pro se litigants) to receive one free electronic copy of all documents filed electronically, if receipt is required by law or directed by the filer. PACER access fees apply to all other users. To avoid later charges, download a copy of each document during this first viewing. However, if the referenced document is a transcript, the free copy and 30 page limit do not apply.**

U.S. District Court

Eastern District of New York

Notice of Electronic Filing

The following transaction was entered on 6/13/2018 at 11:43 AM EDT and filed on 6/13/2018

Case Name: Speedfit LLC v. Woodway USA, Inc.
Case Number: 2:17-cv-00768-KAM-AKT
Filer:
Document Number: No document attached

Docket Text:
Minute Entry and Order for proceedings held before Judge Kiyo A. Matsumoto:*Markman* Hearing held on 6/13/2018. Appearances: for plaintiff, John F. Vodopia, Esq.; for defendant, Kadie M. Jelenchick, Esq. The parties presented argument as to the meaning of the term "coupled" in U.S. Patent No. 9,114,276 (the "276 Patent"). Plaintiff conceded on the record that defendant's proposed construction is proper. The court ORDERED as follows: for the reasons stated on the record at the hearing, the term "coupled," as recited in the '276 Patent, shall be construed as "the joining of two members directly or indirectly to one another." The parties are respectfully directed to proceed with discovery pursuant to the scheduling order entered by the Honorable A. Kathleen Tomlinson, United States Magistrate Judge, and under Judge Tomlinson's supervision. Following the close of discovery, the court will hold a hearing regarding inventorship of the patents-in-suit. Ordered by Judge Kiyo A. Matsumoto on 6/13/2018. (Court Reporter Anthony Mancuso.) (Flores, Diego)

2:17-cv-00768-KAM-AKT Notice has been electronically mailed to:

John F. Vodopia jvodopia@gmail.com

Kadie M. Jelenchick kjelenchick@foley.com, mpechulis@foley.com, smaass@foley.com

Jeffrey N. Costakos jcostakos@foley.com, smaass@foley.com

Matthew Peters mpeters@foley.com

2:17-cv-00768-KAM-AKT Notice will not be electronically mailed to:

ARTIFACT SHEET

Enter artifact number below. Artifact number is application number + artifact type code (see list below) + sequential letter (A, B, C …). The first artifact folder for an artifact type receives the letter A, the second B, etc.. Examples: 59123456PA, 59123456PB, 59123456ZA, 59123456ZB

15958339UA

Indicate quantity of a single type of artifact received but not scanned. Create individual artifact folder/box and artifact number for each Artifact Type.

[1] CD(s) containing:

- computer program listing — Doc Code: Artifact — [ ] Artifact Type Code: P
- pages of specification and/or sequence listing and/or table — Doc Code: Artifact — [ ] Artifact Type Code: S
- content unspecified or combined — Doc Code: Artifact — [1] Artifact Type Code: U
- voluntary electronic submission — Doc Code: Artifact — [ ] Artifact Type Code: T

[ ] Stapled Set(s) Color Documents or B/W Photographs
Doc Code: Artifact Artifact Type Code: C

[ ] Microfilm(s)
Doc Code: Artifact Artifact Type Code: F

[ ] Video tape(s)
Doc Code: Artifact Artifact Type Code: V

[ ] Model(s)
Doc Code: Artifact Artifact Type Code: M

[ ] Bound Document(s)
Doc Code: Artifact Artifact Type Code: B

[ ] Confidential Information Disclosure Statement or Other Documents marked Proprietary, Trade Secrets, Subject to Protective Order, Material Submitted under MPEP 724.02, etc.
Doc Code: Artifact Artifact Type Code X

[ ] Other, description: _____
Doc Code: Artifact Artifact Type Code: Z

August 31, 2016

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

26371 7590 07/19/2018
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109
UNITED STATES OF AMERICA

EXAMINER
DEICHL, JENNIFER M

ART UNIT	PAPER NUMBER
3764	

NOTIFICATION DATE	DELIVERY MODE
07/19/2018	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):

ipdocketing@foley.com

Office Action Summary	Application No. 15/958,339	Applicant(s) BAYERLEIN ET AL.	
	Examiner Jennifer M. Deichl	Art Unit 3764	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 *04/20/2018*.

☐ 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) *1-30* 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) *1-30* 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 *04/20/2018* 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: _____.

LIFECORE Ex. 1026, p. 132

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Claim Rejections - 35 USC § 103

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 negatived by the manner in which the invention was made.

Claims 1-4,6-14, 17-21, and 23-29 is/are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279) and Schonenberger (4,334,676).

Regarding claim 1, Bostic teaches a manually powered treadmill, comprising: a frame (15) having a front end and a rear end positioned opposite the front end; a front shaft (55) coupled to the frame proximate the front end; a rear shaft (20) coupled to the frame proximate the rear end; a running belt; and a safety device coupled to at least one of the front shaft and the rear shaft, wherein the safety device is structured to restrict movement of at least one of the running belt, the front shaft, and the rear shaft in a first rotational direction while permitting movement of the at least one of the running belt, the front shaft, and the rear shaft in a second rotational direction opposite the first rotational direction (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Regarding claim 2, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14). The combination of Bostic and Schonenberger yields a treadmill wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

Regarding claim 3, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 4, Bostic teaches the safety device comprises a one-way bearing (column 2 lines 54-64).

Regarding claim 6, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 7, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 8, Bostic teaches a manually powered treadmill, comprising: a frame (15); a front shaft assembly (25, 55) coupled to the frame; a rear shaft assembly (19, 20) coupled to the frame; a running belt (10) at least partially disposed about the front and rear shaft assemblies, and including a running surface; and a safety device for resisting rotation of at least one of the running belt, the front shaft assembly, and the rear shaft assembly in a first rotational direction while permitting rotation of at least one

of the running belt, the front shaft assembly, and the rear shaft assembly in a second rotational direction opposite the first rotational direction (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Regarding claim 9, Bostic teaches the safety device comprises a one-way bearing (column 2 lines 54-64).

Regarding claim 10, Bostic teaches the front shaft assembly comprises a front shaft (55) coupled to frame.

Regarding claim 11, Bostic teaches the front shaft assembly comprises and at least one front running belt pulley (25) coupled to the front shaft.

Regarding claim 12, Bostic teaches the rear shaft assembly comprises a rear shaft (20) coupled to the frame.

Regarding claim 13, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) coupled to the rear shaft.

Regarding claim 14, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) and the front shaft assembly comprises at least one front running belt pulley (25).

Regarding claim 17, the combination of Bostic and Schonenberger yields a treadmill wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

Regarding claim 18, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 19, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14).

Regarding claim 20, Bostic teaches the combination of Bostic and Schonenberger yields a treadmill wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

Regarding claim 21, Bostic teaches a manually powered treadmill, comprising: a frame (15); at least one front running belt pulley (25) coupled to the frame; at least one rear running belt pulley (19) coupled to the frame a spaced distance from the at least one front running belt pulley; a running belt (10) at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface: and a safety device coupled to at least one of the running belt, the front running belt pulley, and the rear running belt pulley, wherein the safety device is structured to resist rotation of the at least one running belt, the front running belt pulley, and the rear running belt pulley in a first direction while permitting rotation of the at least one running belt, the front running belt pulley, and the rear running belt pulley in a second direction opposite the first direction (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the

device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Regarding claim 23, Bostic teaches a front shaft (55) coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

Regarding claim 24, Bostic teaches a rear shaft (20) coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

Regarding claim 25, Bostic teaches the safety device comprises a one-way bearing (column 2 lines 54-64).

Regarding claim 26, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 27, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 28, Bostic teaches a method, comprising: providing a manually powered treadmill, the manually powered treadmill having a frame (15) with a front end and a rear end; disposing a running belt (10) on frame; permitting movement of the running belt in a first direction; and providing a safety device coupled to the frame wherein the safety device resists movement of the running belt in a second direction opposite the first direction (via a one-way clutch; column 2 lines 54-56).

Regarding claim 29, Bostic teaches providing for the selective application of a braking force to resist the rotational movement of the running belt in the first direction (column 3 lines 27-33).

Claims 5, 16, and 30 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279) and Schonenberger (4,334,676) as applied to claims 1, 8, and 30 above, and further in view of Gaetano (US 4,406,451).

Bostic teaches a support foot (35) coupled to the frame, but fails to teach the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill. Gaetano (US 4,406,451) teaches a manual treadmill comprising a support foot (84) which enables an adjustment of a vertical incline of the treadmill. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the incline adjustment taught by Gaetano in order to allow the user to simulate running on hills.

Claims 15 and 22 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279) and Schonenberger (4,334,676) as applied to claims 14 and 21, and further in view of Skowronski (US 6,923,746).

Bostic does not specifically disclose at least one of the at least one front running belt pulley and the at least one rear running belt pulley is formed of an electrically insulating material. Skowronski teaches a treadmill comprising front and rear pulleys formed of an electrically insulating material (column 3 lines 63-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Bostic's pulleys as formed from a plastic material, as taught by Skowronski, in order to provide easily produced and durable pulleys. Such a modification involves the mere selection of a known material based on its suitability for its intended use and therefore fails to distinguish the invention over the prior art.

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 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); *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 nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-30 provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-30 of copending Application No. 15/957,721 (reference application). Although the claims at issue are not identical, they are not patentably distinct from each other because all of the limitations of the present application are either recited by, or obvious over the claims of the reference application.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Deichl whose telephone number is (571)272-5001. The examiner can normally be reached on 8:30am-5:00pm PST Monday-Friday.

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, LoAn Thanh can be reached on 571-272-4966. 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.

/Jennifer M Deichl/
Examiner, Art Unit 3764

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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Not yet assigned
Date Submitted: April 20, 2018				**Filing Date**	Herewith
				First Named Inventor	Douglas G. Bayerlein
				Art Unit	Not yet assigned
(use as many sheets as necessary)				Examiner Name	Not yet assigned
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Substitute for form 1449/PTO				Complete if Known	
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Examiner Signature		Date Considered	

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	A139	Decision and Order Denying Defendant's Motion to Dimiss or to Transfer and Staying Case Pending Decision from Eastern District New York District Court, Woodway USA, Inc. v. Aurel A. Astilean, Civ. Dkt. No. 2:13-cv-00681-WEC (E.D. WI), December 18, 2013, 7 pages.	
	A140	Declaration of Aurel A. Astilean filed June 15, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc. and Exhibit A.	
	A141	Declaration of Aurel A. Astilean, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, Exhibit 1, March 26, 2018, 5 pages.	
	A142	Declaration of Dan Bostan filed June 15, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc. and Exhibit A.	
	A143	Declaration of John F. Vodopia filed June 6, 2017.	

Examiner Signature		Date Considered	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Not yet assigned
				Filing Date	Herewith
Date Submitted: April 20, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	Not yet assigned
(use as many sheets as necessary)				Examiner Name	Not yet assigned
Sheet	5	of	11	Attorney Docket Number	097208-0226

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[6]
	A144	Declaration of John F. Vodopia in Further Support of Plaintiffs' Motion for Leave to Amend filed July 7, 2015 and Exhibits A - C.	
	A145	Declaration of John F. Vodopia In Support of Plaintiffs' motion for Leave to Amend filed July 7, 2017 and Exhibits A - F.	
	A146	Declaration of John F. Vodopia in Support of Plaintiffs' Motion Under 35 USC 256 to Correct Inventorship of USPN 8,308,619 and USPN 8,342,016 filed June 15, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc. and Exhibits A - H.	
	A147	Declaration of Kadie M. Jelenchick filed July 7, 2015 and Exhibits A – G.	
	A148	Declaration of Kadie M. Jelenchick filed June 15, 2015 and Exhibits A, B and E.	
	A149	Declaration of Kadie M. Jelenchick filed June 6, 2017.	
	A150	Declaration of Nicholas Oblamski filed June 15, 2015, and Exhibit A, 11 pages.	
	A151	Declaration of Nicholas Oblamski, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, Exhibit 1, March 26, 2018, 12 pages.	
	A152	Declaration of Thomas B. Decea filed November 19, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc.	
	A153	DISCOVERY CHANNEL, "Wreckreation Nation", Season 1, Episode 8, first aired February 24, 2009, 9 pages of screenshot excerpts.	
	A154	Docket Report, Speedfit LLC and Aurel A. Astilean v. Douglas G. Bayerlain, Civ. Dkt. No. 2:13-cv-01276-KAM-AKT (E.D.N.Y.), December 19, 2013, 8 pages.	
	A155	Docket Report, Woodway USA, Inc. v. Aurel A. Astilean, Civ. Dkt. No. 2:13-cv-00681-WEC (E.D. WI), December 19, 2013, 3 pages.	
	A156	EMS-Grivory Grivory GV-5H Black 9915 Nylon Copolymer, 50% Glass Fiber Filled, As Conditioned, believed to be publically available before September 16, 2011, 2 pages.	
	A157	Excerpt from U.S. Application No. 14/076,912, Exhibit F, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, March 26, 2018, 4 pages.	
	A158	First Amended Complaint (Jury Trial Demanded), Speedfit LLC and Aurel A. Astilean v. Douglas G. Bayerlein, Civ. Dkt. No. 2:13-cv-01276-KAM-AKT (E.D.N.Y.), June 17, 2013, 16 pages.	
	A159	First Amended Complaint filed June 17,2013 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 16 pages.	
	A160	HALL, The Rotary TREADWHEEL, available at least as early as November 2011, 1 page.	

Examiner Signature		Date Considered	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

PTO/SB/08 (modified)

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Date Submitted: April 20, 2018				**First Named Inventor**	Douglas G. Bayerlein
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(use as many sheets as necessary)				Examiner Name	Not yet assigned
Sheet	6	of	11	Attorney Docket Number	097208-0226

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[6]
	A161	HERSHER, Perfect Landing, http://news.harvard.edu/gazette/story/2010/01/different-strokes/, January 27, 2010, 5 pages.	
	A162	HOPKER ET AL., Familiarisation and Reliability of Sprint Test Indices During Laboratory and Field Assessment, Journal of Sports Science and Medicine, December 1, 2009, 5 pages.	
	A163	http://www.gettyimages.com/detail/463782507, Animal treadmill c. 1872, Museum of Science and Industry, Chicago, 3 pps.	
	A164	http://www.gettyimages.com/license/542395667, 1930 era treadmill, 1 page.	
	A165	http://www.mpiwg-berlin.mpg.de/resrep00_01/Jahresbericht_2_2_section.html, 27 pps.	
	A166	Integrated Performance Systems, LLC, Conditioning in a Professional Athlete Case Study, 2005, 1 page.	
	A167	Integrated Performance Systems, LLC, Lower Extremity Rehabilitation & Assessment Case Study, 2005, 2 pages.	
	A168	Integrated Performance Systems, LLC, Youth Athlete-Speed Training Case Study, 2005, 2 pages.	
	A169	International Preliminary Report for Application No. PCT/US2010/026731, mail date September 29, 2011, 7 pages.	
	A170	International Preliminary Report for Application No. PCT/US2010/027543, mail date September 29, 2011, 9 pages.	
	A171	International Search Report and Written Opinion for Application No. PCT/US2010/026731, mail date May 4, 2010, 8 pages.	
	A172	International Search Report and Written Opinion for Application No. PCT/US2010/027543, mail date May 12, 2010, 10 pages.	
	A173	International Search Report and Written Opinion for International Application No. PCT/US2016/055572, dated February 17, 2017, 9 pages.	
	A174	International Search Report, PCT/US2017/040449, October 11, 2017, 6 pages.	
	A175	International Standard ISO 20957-6:2005(E), for Stationary training equipment – Part 6: Treadmills, additional specific safety requirements and test methods, First edition 2005-05-01, 18pps.	
	A176	Introducing the New Force 3 Treadmill Advanced Analysis Package, www.fittech.com.au, believed to be publically available before September 16, 2011, 3 pages.	
	A177	Joint Disputed Claim filed April 19, 2017 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 10 pages.	

Examiner Signature		Date Considered	

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				Art Unit	Not yet assigned
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Sheet	7	of	11	Attorney Docket Number	097208-0226

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	A178	LIEBERMAN ET AL., Running Barefoot, Forefoot Striking & Training Tips, http://www.barefootrunning.fas.harvard.edu/5BarefootRunning&TrainingTips.html, February 26, 2010, 5 pages.	
	A179	LIEBERMAN ET AL., Running Barefoot: Biomechanics of Foot Strike, http://www.barefootrunning.fas.harvard.edu/4BiomechanicsofFootStrike.html, February 26, 2010, 6 pages.	
	A180	LIEBERMAN ET AL., Running Barefoot: Biomechanics of Foot Strikes & Applications to Running Barefoot or in Minimal Footwear, http://www.barefootrunning.fas.harvard.edu/index.html, February 26, 2010, 2 pages.	
	A181	LIEBERMAN ET AL., Running Barefoot: FAQ, http://www.barefootrunning.fas.harvard.edu/6FAQ.html, February 26, 2010, 3 pages.	
	A182	LIEBERMAN ET AL., Running Barefoot: Heel Striking & Running Shoes, http://www.barefootrunning.fas.harvard.edu/2FootStrikes&RunningShoes.html, February 26, 2010, 2 pages.	
	A183	LIEBERMAN ET AL., Running Barefoot: Running Before the Modern Shoe, http://www.barefootrunning.fas.harvard.edu/3RunningBeforeTheModernShoe.html, February 26, 2010, 4 pages.	
	A184	LIEBERMAN ET AL., Running Barefoot: Why Consider Foot Strike, http://www.barefootrunning.fas.harvard.edu/1WhyConsiderFootStrike.html, February 26, 2010, 1 page.	
	A185	Memorandum and Order filed December 28, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 22 pages.	
	A186	Memorandum and Order filed October 10, 2014 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 39 pages.	
	A187	Memorandum and Order filed October 19, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 11 pages.	
	A188	Memorandum of Law in Support of Plaintiffs' Motion for Leave to Amend the Second Amended Complaint filed July 7, 2015, 13 pages.	
	A189	Memorandum of Law in Support of Plaintiffs' Motion Under 35 USC 256 to Correct Inventorship of SPN 8,308,619 and USPN 8,342,016 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 14 pages.	
	A190	Minute Entry for Proceedings on November 10, 2015 and Exhibit G.	
	A191	MOODY, The Effects Resisted Sprint Training on Speed, Agility and Power Production in Young Athletes, believed to be publically available before December 31, 2006, 5 pages.	
	A192	Motion to Dismiss filed October 30, 2015 and Exhibits A - H.	
	A193	Nexus Resin Group, 10124 Antistat, believed to be publically available before September 16, 2011, 2 pages.	

Examiner Signature		Date Considered	

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				Art Unit	Not yet assigned
(use as many sheets as necessary)				Examiner Name	Not yet assigned
Sheet	8	of	11	Attorney Docket Number	097208-0226

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	A194	Notice of Motion filed July 7, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 2 pages.	
	A195	Notice of Motion Under 35 USC 256 to Correct Inventorship of USPN 8,308,619 and USPN 8,342,016 filed June 15, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 3 pages.	
	A196	Notice of Woodway USA, Inc.'s Motion for Summary Judgment of Invalidity of U.S. Patent Nos. 8,308,619 and 8,343,016 filed June 5, 2017, 9 pages.	
	A197	OSHA 1926.307, 9 pps.	
	A198	Owners Manual for NordicTrack WalkFit Classic Treadmill, received on March 2, 2017, 30 pps.	
	A199	Owners Manual, Force 1, November 29, 2007, 44 pages.	
	A200	Owners Manual, Force 3, January 28, 2009, 45 pages.	
	A201	Owners Manual, The Force, December 18, 2008, 68 pages.	
	A202	Photographs of public display of Speedfit Speedboard by Woodway presented at IHRSA Tradeshow on March 17, 2009, 8 pages	
	A203	Photographs produced to Woodway at least by November 10, 2014 in litigation, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., No. 2:13-cv-01276-KAM-AKT, 11 pages.	
	A204	Plaintiff's Reply to Defendant Woodway's Answer, Affirmative Defenses and Counterclaims to Plaintiff's Second Amended Complaint filed March 27, 2015, 6 pages.	
	A205	Plaintiff's Reply to Defendant Woodway's Answer, Affirmative Defenses and Counter-Claims to Plaintiffs' Supplemental Complaint filed March 17, 2017, 8 pages.	
	A206	Plaintiffs Memorandum of Law in Opposition to Woodway's Motion for Summary Judgement of Invalidity and Opening Claim Construction Brief, Cross-Motion for Summary Judgment Upholding Validity, Cross-Motion for Summary Judgment for Infringement and Motion to Extend the Page Limitation for this Memorandum filed June 6, 2017, 46 pages.	
	A207	Plaintiffs' Initial Claims Construction Memorandum filed July 31, 2017.	
	A208	Plaintiffs' Memorandum of Law in further Opposition to Defendant's Motion to Dismiss Certain of Plaintiffs' Claims filed November 19, 2015, 19 pages.	
	A209	Plantar Fascia, http://en.wikipedia.org/wiki/Plantar_fascia, March 3, 2010, 3 pages.	

Examiner Signature		Date Considered	

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	A210	Reply in Opposition to D126 filed November 6, 2015 and Exhibits A and B.	
	A211	Reply Memorandum of Law in Further Support of Plaintiffs' Motion for Leave to Amend the Second Amended Complaint filed July 7, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 13 pages.	
	A212	Response in Opposition re [117] First Motion to Amend Second Amended Complaint filed July 7, 2015, 2 pages.	
	A213	Response in Opposition to [110] Motion to Amend-Corret-Supplement filed June 15, 2015, 2 pages.	
	A214	Revised Answer to Counterclaims filed December 12, 2014 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 5 pages.	
	A215	ROSS ET AL., The Effects of Treadmill Sprint Training and Resistance Training on Maximal Running Velocity and Power, National Strength and Conditioning Association, March 2009, 10 pages.	
	A216	Rule 56.1 Counter-Statement by Plaintiffs Speedfit LLC, and Aurel A. Astilean filed June 6, 2017, 13 pages.	
	A217	Second Amended Complaint filed February 17, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc., 18 pages.	
	A218	SIROTIC ET AL., Physiological and Performance Test Correlates of Prolonged, High-Intensity, Intermittent Running Performance in Moderately Trained Women Team Sport Athletes, Journal of Strength and Conditioning Research, 2007, 7 pages.	
	A219	SIROTIC ET AL., The Reliability of Physiological and Performance Measures During Simulated Team-Sport Running on a Non-Motorised Treadmill, Journal of Science and Medicine in Sport, April 11, 2007, 10 pages.	
	A220	Soccer International, The Red Devil's in the Details, dated June 2010, 4 pages.	
	A221	Speedfit LLC's Opening Claim Construction Brief, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, March 26, 2018, 9 pages.	
	A222	SPEEDFIT, video produced to Woodway at least by November 10, 2014 in litigation, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., No. 2:13-cv-01276-KAM-AKT, 21 pages of screenshot excerpts.	
	A223	SPEEDFIT, video produced to Woodway at least by November 10, 2014 in litigation, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., No. 2:13-cv-01276-KAM-AKT, 23 pages of screenshot excerpts.	
	A224	Supplemental Complaint filed February 10, 2017 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc.	
	A225	Supplemental Declaration of Kadie M. Jelenchick filed June 6.	
	A226	The Australian Competition & Consumer Commission's Mandatory Safety Standard For Treadmills (Supplier Guide), 2009, 20 pps.	

Examiner Signature		Date Considered	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

PTO/SB/08 (modified)

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Sheet	10	of	11	Attorney Docket Number	097208-0226

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	A227	The Woodway Force Brochure, The Best Way to Train for Speed & Athletic Power, dated May 5, 2005, 2 pages.	
	A228	Third Amended Complaint filed October 23, 2015 between Speedfit LLC and Aurel Astilean versus Woodway USA, Inc. and Exhibits A - H.	
	A229	Woodway USA, Inc.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiffs' First Amended Complaint filed October 24, 2014 and Exhibits 1 and 2.	
	A230	Woodway USA, Inc.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiffs' Second Amended Complaint filed March 6, 2015, 17 pages.	
	A231	Woodway USA, Inc.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiffs' Supplemental Complaint filed February 24, 2017, 18 pages.	
	A232	Woodway USA, Inc.'s List of Claim Terms to be Considered and Proposed Constructions, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, Exhibit D, March 26, 2018, 4 pages.	
	A233	Woodway USA, Inc.'s Memorandum in response to Plaintiffs' Motion for Leave to Amend the Second Amended Complaint filed July 7, 2015, 16 pages.	
	A234	Woodway USA, Inc.'s Memorandum in Response to Plaintiffs' Motion Under 35 USC 256 to Correct Inventorship of USPN 8,308,619 and USPN 8,342,016 filed June 15, 2015, 20 pages.	
	A235	Woodway USA, Inc.'s Memorandum of Law in Support of Its Motions for Summary Judgment of Invalidity of US Patent Nos. 8,308,619 and 8,343,016 and Opening Claim Construction Brief filed June 6, 2017, 38 pages.	
	A236	Woodway USA, Inc.'s Opening Claim Construction Brief, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, March 26, 2018, 15 pages.	
	A237	Woodway USA, Inc.'s Patents, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, Exhibit B, March 26, 2018, 3 pages.	
	A238	Woodway USA, Inc.'s Reply Claim Construction Brief, Speedfit LLC and Aurel A. Astilean v. Woodway USA, Inc., Docket No. 2:17-cv-00768-KAM-AKT, March 26, 2018, 9 pages.	
	A239	Woodway USA, Inc.'s Reply Memorandum in Support of Its Motion to Dismiss filed November 25, 2017, 24 pages.	
	A240	Woodway USA, Inc.'s Responsive Claim Construction Brief filed July 28, 2017, 19 pages.	
	A241	Woodway, Curve 3.0 Specification, May 25, 2011, 1 page.	
	A242	Woodway, Curve Specification, May 24, 2011, 1 page.	
	A243	Woodway, Curve Specification, May 25, 2011, 1 page.	

Examiner Signature		Date Considered	

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PTO/SB/08 (modified)

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Date Submitted: April 20, 2018				**Filing Date**	Herewith
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				Art Unit	Not yet assigned
(use as many sheets as necessary)				Examiner Name	Not yet assigned
Sheet	11	of	11	Attorney Docket Number	097208-0226

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	A244	Woodway, Curve XL Specification, May 18, 2011, 1 page.	
	A245	Woodway, Force Specification, April 8, 2008, 1 page.	
	A246	Woodway, Force Specification, May 2, 2011, 1 page.	
	A247	Woodway, Force Specification, May 2, 2012, 1 page.	
	A248	Woodway's USA, Inc.'s Reply in Support of its Motion for Summary Judgment of Invalidity of US Patent Nos. 8,308,619 and 8,343,016 and Reply Claim Construction Brief filed June 6, 2017, 16 pages.	
	A249	Woodway's Opposition to Defendant's Notice of Motion and Motion to Dismiss Case and Transfer Litigation to EDNY, Woodway USA, Inc. v. Aurel A. Astilean, Civ. Dkt. No. 2:13-cv-00681-WERC (E.D. WI), October 18, 2013, 22 pages.	
	A250	Woodways USA, Inc.'s Supplemental Rule 56.1 Statement of Undisputed Material Facts and Responses to Rule 56.1 Counterstatement by Plaintiffs Speedfit LLC and Aurel A. Astilean filed June 6, 2017, 20 pages.	

Examiner Signature	/JENNIFER M DEICHL/	Date Considered	07/11/2018

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15958339	BAYERLEIN ET AL.
	Examiner	Art Unit
	JENNIFER M DEICHL	3764

CPC- SEARCHED		
Symbol	Date	Examiner
A63B22/02-0228	07/11/2018	JD

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
reviewed family applicaiton history	07/11/2018	JD
EAST text search	07/11/2018	JD

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/JENNIFER M DEICHL/ Examiner.Art Unit 3764	

CD Rom

Atty. Dkt. No. 097208-0226

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3764
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. PCT/US10/27543, filed 3/16/2010; application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

LIFECORE Ex. 1026, p. 154

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

CONCISE EXPLANATION OF RELEVANCE

Regarding item A21, there appear to be two available versions of the Wreckreation Video. One version which is currently commercially available from Amazon and was previously submitted to the Patent Office in the form of multiple PDF still shots of the video and a second, slightly different version provided to the Applicant by a third party and which is being submitted in video format as part of the present SB-08. However, Applicant cannot confirm that the entirety of the video of item A21 was publicly broadcast. Applicant has reason to believe that the video from 0:00 to approximately 8:13 was publicly broadcast on February 24, 2009, but cannot confirm that the remainder of this video was ever publicly broadcast.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), within three (3) months of the filing date of the application.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

LIFECORE Ex. 1026, p. 155

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

Atty. Dkt. No. 097208-0226

Respectfully submitted,

Date /6-15-2018/

By /Alexander J. Neuworth/

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LIFECORE Ex. 1026, p. 156

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PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
Date Submitted: June 15, 2018				**Filing Date**	4/20/2018
				First Named Inventor	Douglas G. Bayerlein
(use as many sheets as necessary)				Art Unit	3764
				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

USPTO MAIL JUN 15 2018 PATENT & TRADEMARK OFFICE

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	2007/0021278	01-25-2007	PAN ET AL.	
	A2	2007/0298935	12-27-2007	BADARNEH ET AL.	
	A3	2008/0119332	05-22-2008	ROMAN, MAURIZIO	
	A4	2009/0156363	06-18-2009	GUIDI ET AL.	
	A5	2012/0264569	10-18-2012	ESCOBEDO ET AL.	
	A6	2014/0171272	06-19-2014	HAWKINS ET AL.	
	A7	2015/0119202	04-30-2015	HENDRICKSON ET AL.	
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	A9	5,031,901	07-16-1991	SAARINEN, SULEVI	
	A10	5,094,447	03-10-1992	WANG, LEAO	
	A11	5,145,480	09-08-1992	WANG, KUO-LIANG	
	A12	5,310,392	05-10-1994	LO, PETER K.	
	A13	7,862,483	01-04-2011	HENDRICKSON ET AL.	
	A14	8,585,561	11-19-2013	WATT ET AL.	
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	A16	9,044,635	06-02-2015	LULL, ANDREW P.	
	A17	9,233,272	01-12-2016	VILLANI ET AL.	
	A18	9,254,409	02-09-2016	DALEBOUT ET AL.	
	A19	9,314,667	04-19-2016	PUERSCHEL, BERND	
	A20	9,974,997	05-22-2018	CEI, DANIELE	

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[6]
	A21	SPEEDFIT, video produced to Woodway at least by April 28, 2015 in litigation, a copy of which is submitted herewith on DVD, Speedfit LLC et al. v. Woodway USA, Inc., Docket No. 2:13-cv-01276-KAM-AKT.	
	A22	Minute Order Regarding Claim Construction, Speedfit LLC v. Woodway, Docket No. 2:17-cv-00768-KAM-AKT, June 13, 2018, 2 pages.	

Examiner Signature	/JENNIFER M DEICHL/	Date Considered	07/11/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

OPAP AKIMA
JUN 15 2018
PATENT & TRADEMARK OFFICE

From: ecf_bounces@nyed.uscourts.gov
To: nobody@nyed.uscourts.gov
Subject: Activity in Case 2:17-cv-00768-KAM-AKT Speedfit LLC v. Woodway USA, Inc. Markman Hearing
Date: Wednesday, June 13, 2018 10:44:19 AM

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U.S. District Court

Eastern District of New York

Notice of Electronic Filing

The following transaction was entered on 6/13/2018 at 11:43 AM EDT and filed on 6/13/2018

Case Name: Speedfit LLC v. Woodway USA, Inc.
Case Number: 2:17-cv-00768-KAM-AKT
Filer:
Document Number: No document attached

Docket Text:
Minute Entry and Order for proceedings held before Judge Kiyo A. Matsumoto:*Markman* Hearing held on 6/13/2018. Appearances: for plaintiff, John F. Vodopia, Esq.; for defendant, Kadie M. Jelenchick, Esq. The parties presented argument as to the meaning of the term "coupled" in U.S. Patent No. 9,114,276 (the "276 Patent"). Plaintiff conceded on the record that defendant's proposed construction is proper. The court ORDERED as follows: for the reasons stated on the record at the hearing, the term "coupled," as recited in the '276 Patent, shall be construed as "the joining of two members directly or indirectly to one another." The parties are respectfully directed to proceed with discovery pursuant to the scheduling order entered by the Honorable A. Kathleen Tomlinson, United States Magistrate Judge, and under Judge Tomlinson's supervision. Following the close of discovery, the court will hold a hearing regarding inventorship of the patents-in-suit. Ordered by Judge Kiyo A. Matsumoto on 6/13/2018. (Court Reporter Anthony Mancuso.) (Flores, Diego)

2:17-cv-00768-KAM-AKT Notice has been electronically mailed to:

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

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2:17-cv-00768-KAM-AKT Notice will not be electronically mailed to:

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D/

Bibliographic Data

Application No: 15/958,339

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /JENNIFER M DEICHL/ Examiner's Signature | Initials

Title: MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
04/20/2018	482	3764	097208-0226
RULE			

APPLICANTS

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CONTINUING DATA

This application is a CON of 14832708 08/21/2015

14832708 is a CON of 14076912 11/11/2013 PAT 9114276

14076912 is a CON of 13235065 09/16/2011

13235065 is a CIP of PCT/US10/27543 03/16/2010

PCT/US10/27543 has PRO of 61161027 03/17/2009

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

05/14/2018

**** SMALL ENTITY ****

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UNITED STATES

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$3,585

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	54	("20040018917" | "20060287165" | "20090170666" | "3968543" | "4614337" | "7717828" | "D736866" | "20060003871" | "5897461" | "20090280960" | "20120231934" | "5887579" | "7090620" | "8308619" | "8690738" | "5411455" | "20090215589" | "5538489" | "5709632" | "6095952" | "20030045403" | "6923746" | "20120157267" | "5470293" | "6053848" | "6740009" | "8734300" | "1211765" | "20080287266" | "20140011642" | "0219439" | "4334676" | "5411279" | "6042514" | "6146315" | "6348025" | "6500097" | "3642279" | "20020147079" | "20060003872" | "20110266091" | "3637206" | "5162988" | "5577598" | "6642279" | "8343016" | "20120270705" | "4635928" | "4726581" | "5548405" | "7560822" | "9005085").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:36
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S3	27	S2 and height with threaded	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:45
S4	8	S2 and (crank same pinion)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:51
S5	11	treadmill and deichl.xa.	US-PGPUB; USPAT	OR	OFF	2017/05/01 20:22
S6	7	("20060052728" | "5089960" | "5913684" | "5980256" | "6152854" | "7166064" | "7980856").PN. OR ("8968161").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:24
S7	80	("3451526" | "3550756" | "4868682" | "5186270" | "5229756" | "5238099" | "5314391" | "5385519" | "5490784" | "5495576" | "5562572" | "D340342").PN. OR ("6152854").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:25
S8	25	("1211765" | "20040082890" | "2820454" | "2842365" | "3711090" | "4204673" | "4509510" | "4603851" | "5108094" | "5383828" | "5470293" | "5951441" | "6071354" | "6152854" | "6180210" | "6455123" | "8002674" | "8033387" | "8162769" | "8206801" | "8308592" | "8439807").PN. OR ("8714346").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:30
S9	17	("3641601" | "3659845" | "3689066" | "3711090" | "4509510" | "5018722").PN. OR ("6180210").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:31
S10	23	(US-0009668-$ | US-0020907-$ | US-	US-PGPUB;	OR	OFF	2017/05/01

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S11	1	("9352188").PN.	US-PGPUB; USPAT	OR	OFF	2017/05/01 20:43
S12	2319	A63B22/02-0292.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/02 09:42
S13	105	S12 and @pd>="20161015"	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/02 09:42
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S15	17	("3641601" | "3659845" | "3689066" | "3711090" | "4509510" | "5018722").PN. OR ("6180210").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/02 09:47
S16	8	(US-20040077465-$ | US-4659074-$ | US-5290205-$ | US-5431612-$ | US-5856736-$ | US-7179205-$ | US-7618345-$ | US-7789800-$).DID.	US-PGPUB; USPAT; USOCR	OR	ON	2017/07/11 13:28
S17	8	((("20040077465") or ("4,659,074") or ("5,290,205") or ("5,431,612") or ("5,856,736") or ("7,179,205") or ("7,618,345") or ("7,789,800")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/03 12:54
S18	21	((("20050209059~") or ("20140087922") or ("20160263429") or ("20170182356") or ("4,886,266") or ("4,938,469") or ("5,242,339") or ("5,368,532") or ("5,643,144") or ("5,683,332") or ("6,152,854") or ("6,334,839") or ("6,824,502") or ("6,837,830") or ("7,410,449") or ("7,780,573") or ("7,806,805") or ("8,241,187") or ("8,864,627") or ("8,920,347") or ("9,429,511")).PN. or (2006/0122035).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/12/08 11:01
S19	2	((("8308619") or ("8343016")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/03 10:07
S20	35	("1211765" | "20120010048" | "20120010053" | "20120157267" | "3489408" | "3637206" | "3642279" | "3669238" | "4614337" | "5470293" | "5577598" | "5709632" | "6053848" | "6146315" | "6348025").PN. OR ("8343016").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/03 10:11
S21	5	("3489408").URPN.	USPAT	OR	ON	2018/05/03 10:32
S22	13	("0219439" | "1895285" | "3489408" | "3536324" | "4423864" | "5387159").PN. OR ("7513832").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/03 10:32

S23	3	(("20030186787") or ("20120019973") or ("20140080679")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/03 10:36
S24	12	(("5,031,901") or ("5,094,447") or ("5,145,480") or ("5,310,392") or ("7,862,483") or ("8,585,561") or ("8,876,668") or ("9,044,635") or ("9,233,272") or ("9,254,409") or ("9,314,667") or ("9,974,997")).PN. or ((2007/0021278) or (2007/0298935) or (2008/0119332) or (2009/0156363) or (2012/0264569) or (2014/0171272) or (2015/0119202) or (2017/0113093)).CCLS.	USPAT; USOCR	OR	OFF	2018/07/06 13:17
S25	108	(US-20160150084-$ | US-0003871-$ | US-0003872-$ | US-0007886-$ | US-0009668-$ | US-0011642-$ | US-0018917-$ | US-0019973-$ | US-0020907-$ | US-0023039-$ | US-0077465-$ | US-0080679-$ | US-0087922-$ | US-0096064-$ | US-0122035-$ | US-0123396-$ | US-0147079-$ | US-0150084-$ | US-0157267-$ | US-0166877-$ | US-0170666-$ | US-0182356-$ | US-0186787-$ | US-0209059-$ | US-0215589-$ | US-0216607-$ | US-0231934-$ | US-0263429-$ | US-0266091-$ | US-0270705-$ | US-0280960-$ | US-0287165-$ | US-0287266-$ | US-0296789-$ | US-0306456-$ | US-0367175-$ | US-0367851-$ | US-1211765-$ | US-2117957-$ | US-2842365-$ | US-20020147079-$ | US-20030186787-$ | US-20040018917-$ | US-20040077465-$ | US-20050009668-$ | US-20050209059-$ | US-20060003871-$ | US-20060003872-$ | US-20060122035-$ | US-20060287165-$ | US-20070123396-$ | US-20080020907-$ | US-20080287266-$ | US-20090170666-$ | US-20090215589-$ | US-20090280960-$ | US-20100216607-$ | US-20110266091-$ | US-20120019973-$ | US-20120157267-$ | US-20120231934-$ | US-20120270705-$ | US-20140011642-$ | US-20140080679-$ | US-20140087922-$ | US-20150306456-$ | US-20150367175-$ | US-20160023039-$ | US-20160096064-$ | US-20160166877-$ | US-20160263429-$ | US-20160296789-$ | US-20160367851-$ | US-20170007886-$ | US-20170182356-$ | US-2860541-$ | US-3637206-$ | US-3642279-$ | US-3968543-$ | US-3148743-$ | US-3201120-$ | US-4334676-$ | US-4389047-$ | US-4544152-$ | US-4548405-$ | US-4576352-$ | US-4614337-$ | US-4635928-$ | US-4659074-$ | US-4726581-$ | US-4886266-$ | US-4938469-$ | US-5162988-$ | US-5242339-$ | US-5290205-$ | US-5368532-$ | US-5411279-$ | US-5411455-$ | US-5431612-$ | US-5470293-$ | US-5538489-$ | US-5575740-$ | US-5577598-$ | US-5643144-$ | US-5669856-$ | US-5683332-$ | US-5709632-$ | US-5856736-$ | US-5887579-$ | US-5897461-$ | US-6042514-$ | US-6053848-$ | US-6095952-$ | US-6146315-$	USPAT	OR	OFF	2018/07/06 13:19

		| US-6152854-$ | US-6180210-$ | US-6334839-$ | US-6348025-$ | US-6500097-$ | US-6740009-$ | US-6824502-$ | US-6837830-$ | US-6893382-$ | US-6923746-$ | US-7090620-$ | US-7179205-$ | US-7410449-$ | US-7560822-$ | US-7618345-$ | US-7717828-$ | US-7780573-$ | US-7789800-$ | US-7806805-$ | US-8241187-$ | US-8308619-$ | US-8343016-$ | US-8690738-$ | US-8734300-$ | US-8864627-$ | US-8920347-$ | US-9005085-$ | US-9352188-$ | US-9429511-$ | US-D736866-$).DID.				
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S28	0	("20060287165").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:32
S29	0	("200600287165").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:32
S30	1	("20060287165").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:33
S31	1	("6095952").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:35
S32	33	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-3489408-$).did.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:36
S33	19	S32 and (resistance brak$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:36
S34	2765	A63B22/02-0292.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:39
S35	644	S34 and manual	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:39
S36	451	S35 and (resistance brak$3)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/07/06 13:39

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S37	1956	A63B22/02-0228.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:45
S38	324	S37 and manual and (resistance brak$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S39	888	S37 not motor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S40	383	S37 and resistance not motor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S41	264	S37 and "one way"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:54
S42	40	S37 and slat	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:56
S43	43	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$ or US-20160263429-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-5104120-$ or US-3554541-$ or US-4363480-$ or US-4625962-$ or US-5110117-$ or US-	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:59

		5429563-$ or US-4334676-$).did. or (US-3489408-$ or US-3332683-$).did.				
S44	12	S43 and plastic	USPAT	OR	OFF	2018/07/06 14:00
S45	119	S37 and resistance with rear	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:02
S46	34	S37 and resistance with rear with (pulley roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:02
S47	21	S37 and resistance same (flywheel friction$4) with rear with (pulley roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:03
S48	54	S37 and flywheel with rear	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:09
S49	68	("1211765" | "3554541" | "3642279" | "4389047" | "4616822" | "4938473" | "5100127" | "5125361" | "5391129" | "5431612" | "5575740").PN. OR ("5709632").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:17
S50	38	("1211765" | "20120010048" | "20120010053" | "20120157267" | "3489408" | "3637206" | "3642279" | "3669238" | "4614337" | "5470293" | "5577598" | "5709632" | "6053848" | "6146315" | "6348025").PN. OR ("8343016").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:24
S51	11	S43 and height with adjust$4	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:29
S52	1	("4023795").PN.	USPAT; USOCR	OR	OFF	2018/07/07 15:24

7/ 11/ 2018 10:42:57 AM
C:\ Users\ jdeichl\ Documents\ EAST\ Workspaces\ 15958339.wsp

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United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226

CONFIRMATION NO. 4765

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PUBLICATION NOTICE

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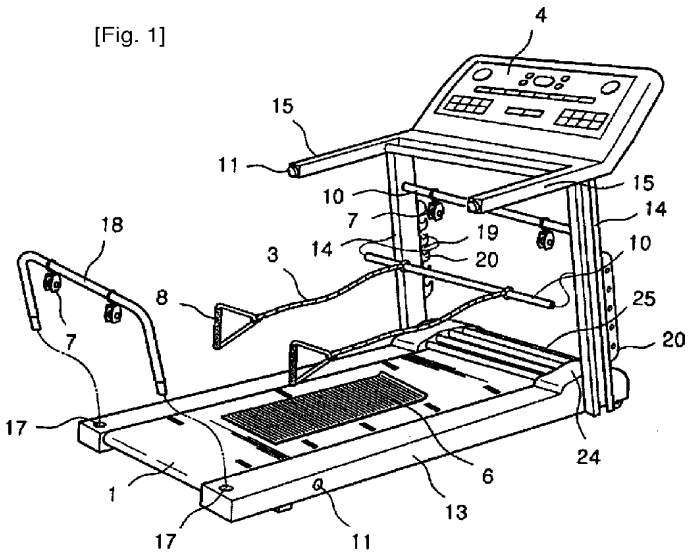
(54) **Title:** A WEIGHT TRAINING TREADMILL AND ITS CONTROLLING METHOD

[Fig. 1]



(57) **Abstract:** The present invention relates to a weight training treadmill and a method of controlling the same. The present invention more particularly relates to a weight training treadmill which includes a running belt, a motor for driving the running belt, a motor driver, sensors for controlling the running belt and the motor, and a controller, and further includes means for allowing the weight training to be carried out. And a method of controlling the treadmill is also provided, which allows the motor to act as a brake having a braking power when the running belt moves for a predetermined distance, stops and then moves backward by an external power. Therefore, according to the present invention, an operator's external power for moving the running belt backward after the running belt moves for a predetermined distance and stops leads to weight training by means of a braking power generated from the motor.

WO 2009/014330 A1

Description

A WEIGHT TRAINING TREADMILL AND ITS CONTROLLING METHOD

Technical Field

[1] The present invention relates to a weight training treadmill and a method for controlling the same. The present invention more particularly relates to a weight training treadmill which includes a running belt, a motor and a motor driver for driving the running belt, sensors for controlling the running belt and the motor, and a controller, and further includes means for allowing the weight training to be carried out. In addition, a method for controlling the treadmill is also provided, which allows the motor to act as a brake having a braking power when the running belt moves backward by an external power after the running belt had been moved for a pre-determined distance and then stopped.

[2] Therefore, according to the present invention, an operator applying his/her power to the running belt for moving the running belt backward after the running belt had moved for a predetermined distance forward and then stopped can be led to experience a weight training by means of a braking power generated from the motor.

Background Art

[3] Cited document 1: U.S. patent publication No. US 2006/0135322 A1, 2006.06.22

[4] Cited document 2: U.S. patent publication No. US 2006/0276306 A1, 2006.12.07

[5] Cited document 3: International publication No. WO/2002/083251, 2002.10.24

[6] Cited document 4: Korean patent registration No. 10-0701456, 2007.03.23

Disclosure of Invention

Technical Problem

[7] In general, a treadmill also known as a running machine in Korea has a running belt wound around two rotating axes spaced apart from each other at predetermined distance for limitless orbit rotation. Any one of the axes is connected to a motor by a belt or the like so that a rotating movement is delivered, and the running belt, the rotating axes, and the motor are disposed in a bottom frame playing role of an external casing. A support frame is disposed on the bottom frame, and a controller such as an instrument board is disposed at the support frame.

[8] Such a treadmill allows the controller to set or select a rotating speed and time of the running belt and to drive the running belt, while an operator walked or ran on the running belt. Accordingly, the conventional treadmill only allowed walking and running exercises. For physical strength training such as weight training, separated equipment should be required.

[9] According to cited document 4, it discloses a multi-functional running machine and a method for controlling the same, which allows a running belt to move reciprocally for a predetermined distance. That is, as both of the forward and backward rotations of the motor can be driven, an operator can enjoy the physical strength training such as stretching, bending, twisting, pushing, relaxation, contraction in addition to the treadmill exercise. However, it was limited to create various methods for intensively carrying out weight training.

[10] The multi-functional running machine only allows the runnung belt to move reciprocally for a predetermined distance using a driving power of the motor, so that it is limited to experience weight training exercises applying an operator's power.

[11] In addition to yoga, there is an apparatus called reformer, which relaxes or contracts muscles to strengthen the muscle power. The reformer for doing pilates exercise includes a rope supported by a frame, a rope grip, a spring, a panel moving along a rail, and a rope guide roller so that an operator usually holds the rope with his/her hands or feet to use the reformer, which is disclosed in cited document 3.

[12] The reformer for the pilates exercise is the athletic apparatus moving along the rail by the force of operator against the braking power of the spring so that the operator can exercise only using his/her muscle power on the panel without using a motor. Accordingly, an effect of the training can be significantly large, but the size of the movable panel is small to limit the training posture and method. Further, the spring and the rail are exposed due to a property of the reformer to cause a restoring power of the spring when the operator let go of the rope by accident so that the rapidly moving panel is not safe to the operator. In addition, it is burdensome to individually hang the spring in such a reformer for pushing or pulling exercise, and it is difficult for the operator to have interest in terms of the passive exercise.

Technical Solution

[13] In order to solve the foregoing and/or other problems, it is an objective of the present invention to provide a treadmill as described in the following embodiments.

[14] The present invention provides a method for allowing weight training to be carried out using a treadmill including a motor for generating a driving power and a braking power by means of a motor driver, a running belt driven by the motor and a controller for controlling the motor driver, wherein the running belt moves for a predetermined distance in a predetermined direction (forward direction) and then stops, and moves backward by means of an operator's power, and a forward driving power of the motor is removed to have only a motor load resistance so that the braking power of the motor acts on the running belt when the running belt moves backward.

[15] The weight training can be more variously carried out by using a load cell for

recognizing a weight. That is, a power applied by the operator is input to the controller through the load cell, and the input power is determined to change the driving power and the braking power of the motor according to various setting conditions, so that a power such as spring tension which has been generated in the reformer for pilates exercise can be adjusted more finely to allow various safe and interesting weight trainings to be carried out.

[16] In one aspect, the invention is directed to a weight training treadmill, which includes: a driving motor controlled by a motor driver; a running belt wound around two rotatable axes and for rotation; a bottom frame where the running belt is mounted; and a controller disposed in a vertical frame supported by the bottom frame for controlling the motor driver, wherein the running belt moves for a predetermined distance in a predetermined direction (forward direction) and then stops, and moves backward by means of an operator's power, and a forward driving power of the motor is removed to have only a load resistance that acts as a weight training load when the running belt moves backward.

Advantageous Effects

[17] According to the present invention as described above, when the running belt moves for a predetermined distance in a predetermined direction by a motor and then stops and then moves backward by an operator, a braking voltage of the motor is generated to cause the operator's power to act on the weight training. This allows a weight training function to be added to the existing treadmill function so that various trainings can be done in one apparatus.

[18] In addition, the controller that receives the operator's power as a signal by the load cell changes the braking power and the driving power of the motor according to the operator's power, so that the weight training can be properly done in a range that can draw a distinction of the training and does not apply an excessive power to the physical muscle.

Brief Description of the Drawings

[19] The foregoing and other objects, features and advantages of the invention will be apparent from the more particular description of preferred embodiments of the invention, as illustrated in the accompanying drawings. The drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the invention.

[20] FIG. 1 is a whole perspective diagram of the present invention.

[21] FIG. 2 is a configuration diagram of a marking and a belt sensor.

[22] FIG. 3 is a configuration diagram of a conventional rotating axis sensor.

[23] FIG. 4 is a diagram of a base plate and an anti-rolling base plate.

[24] FIG. 5 is a configuration diagram of a configuration of a rope.

[25] FIG. 6 is a diagram of a long pull training method.

[26] FIG. 7 is a diagram of a vertical fly training method.

[27] FIG. 8 is a diagram of an arm curl training method.

[28] FIG. 9 is a diagram of a high lat pull training method.

[29] FIG. 10 is a diagram of a chest press training method.

[30] FIG. 11 is a diagram of a dipping training method.

[31] FIG. 12 is a diagram of a leg press training method.

[32] FIG. 13 is a diagram of a leg curl training method.

[33] FIG. 14 is a diagram of a total hip training method.

[34] FIG. 15 is a diagram of a chest weight training method.

[35] FIG. 16 is a diagram of an abdominal training method.

[36] FIG. 17 is a diagram of a barbell up training method.

[37] FIG. 18 is a diagram of a dumbbell and barbell training method.

[38] FIG. 19 is a diagram of a pull over training method.

[39] FIG. 20 is a diagram of a leg squat training method.

[40] FIG. 21 is a diagram of an inner thigh training method.

[41] FIG. 22 is a diagram of a whole body exercise using a rope guide roller and a rope.

[42] FIG. 23 is a diagram of a mounted load cell engagement rod.

[43] FIG. 24 is a diagram showing a running belt training.

[44] FIG. 25 is a flow chart of a general weight training mode.

[45] FIG. 26 is a flow chart of a motion copy weight training mode.

[46] FIG. 27 is a flow chart of a weight recognition weight training using a load cell.

Mode for the Invention

[47] Hereinafter, the present invention will be described with reference to the accompanying drawings.

[48] The present invention is mainly classified into two modes.

[49] The first mode is a control method mode that signals of a load cell 30 are not recognized by a controller 4 at the time of weight training, and the second mode is a control method mode that the signals of the load cell 30 are recognized by the controller 4 at the time of weight training.

[50] The first mode of the apparatus according to the present invention will be described with reference to an apparatus, as follows. The present invention is not for controlling the running belt 1 in one direction, reverse direction, or reciprocating movement for a predetermined distance in the conventional treadmill. That is, the present invention differs from the conventional treadmill due to the characteristics in that a motor 2 that moves in any one direction for a predetermined angle of the running belt 1 and stops, a

running belt 1 that moves for a predetermined distance (not greater than 1.5 meter) and stops by the motor 2 and moves backward to the original position by an operator's power, and a rope 3 and a pipe 18 that help to exert power from the operator when the running belt 1 needs to move backward are employed. And it also differs from the conventional treadmill in that a braking power is applied to the motor 2 when the operator tries to return to the original position.

[51] In particular, the present invention provides a treadmill, which derives anaerobic weight training on the running belt 1 from a braking power of the motor 2 generated when the operator tries to move the running belt 1 backward on the running belt 1 driven by the motor 2. Accordingly, the treadmill for the weight training according to the present invention includes: a motor 2 whose braking power is controllable; a controller 4 for controlling a movement speed, a movement direction, a movement distance, and so on of the running belt 1; a bench 5, a base plate 6 or an anti-rolling base plate 34 for aiding the training on the running belt 1; a rope 3, a rope guide roller 7, a rope grip 8, a rope rod 9, and an engagement rod 10 for allowing the operator to exert his/her power; and a plurality of adjustment buttons 11 for allowing the operator to readily adjust a training intensity while doing the training.

[52] Such a structure will be described with reference to FIGS. 1 to 5. The present invention, as shown in FIG. 1, provides a treadmill, which includes a motor 2 having a decelerating function controlled by a motor driver 12, a running belt 1 driven by the motor 2, a bottom frame 13 where the running belt 1 is mounted, and a vertical frame 14 vertically disposed on the bottom frame 13 and having a controller 4 for controlling the motor driver 12.

[53] The present invention is characterized in that a forward driving power of the motor 2 is removed but a backward load resistance of the motor is generated when the running belt 1 moves for a predetermined distance in a predetermined direction (forward direction) and then stops and moves backward by means of the operator's power, so that a braking power of the motor 2 acts as a weight when the operator tries to move the running belt 1 backward, thereby allowing the weight training to be carried out by the operator.

[54] The controller 4 receives signals corresponing to a movement distance, a movement speed, a movement direction, and the number of movement of the running belt 1, and a magnitude of the braking power from the operator. In addition, the running belt 1 operates in accordance with contents input to the controller 4 so that all information resulting from the movement of the running belt 1 is displayed in the controller 4 at the time of training.

[55] The braking power of the motor 2 is varied by the motor driver 12 to cause the operator's power to be changed at the time of weight training.

[56] The controller 4 already has various programs in combination of movement distance, the movement speed, the movement direction, and a movement time of the running belt 1, and the braking power of the motor 2, so that the operator selects any one of the various programs.

[57] The controller 4 operates a sound and a lamp according to the control information of the motor 2 and the operating state of the running belt 1 moving for a predetermined distance (or section). At this time, sounds generated from counting of reciprocating movement for safety according to the information of the controller are informed by a speaker so that the operator can concentrate more on the respiration and training posture.

[58] FIG. 24 illustrates the controlling examples of the running belt 1 moved within a predetermined section by the motor 2, in which the predetermined section ranges from A to Z, for example. A solid line and a dotted line are present between A and Z, wherein the solid line represents a direction of the running belt 1 driven by the motor 2 only, and the dotted line represents a direction of an operator's power movement only. When the running belt 1 moves backward by means of the operator's power, a braking power of the motor 2 is applied in the moving section and it can be also varied. Further, a driving voltage of the motor 2 can be changed also in the moving section where the running belt 1 moves forward for a predetermined distance so that the velocity of the running belt 1 may be changed. This corresponds to FIG. 24 (d) and (e). That is, thick solid lines of (d) denote changes in magnitude of the driving voltage, and thick dotted lines of (e) denote changes in braking voltage of the motor 2.

[59] The running belt 1 may be configured to have a pause period at least one time in a section where the running belt moves forward for a predetermined distance by means of the motor 2. That is, the motor 2 is forced to stop even when the operator's power acts backward so that the running belt is controlled to have the pause period at least one time within the training section. Examples of the pause period within the training section are illustrated in FIG. 24(f) and (g). In the drawing, the pause period is shown as dots.

[60] In addition, the running belt 1 may be controlled by the controller 4 to have the pause period varying from 1 to 6 seconds at an end of the predetermined distance desired by the operator's power and at an end of the predetermined distance moved by the driving voltage of the motor 2. This corresponds to of FIG. 24(b) and (c), and is shown as large dots.

[61] Referring to (a) of FIG. 24, the driving voltage of the motor 2 is uniform within the section by the already input value, and the backward braking voltage is also constantly kept within the predetermined section depending on what was input by the controller 4. Accordingly, FIG. 24(a) shows the example in which the uniform speed and braking

power of the motor 2 are presented. However, the speed and the braking power are not restricted with each other to be mutually effected.

[62] The braking power of the motor 2, the movement speed and the movement distance of the running belt 1 may be adjusted by several adjustment buttons 11 disposed in the treadmill. That is, the adjustment buttons 11 may be disposed at a proper position of the bottom frame 13 where the running belt 1 is disposed, at a proper position of the vertical frame 14 vertically disposed in the bottom frame 13 and having the controller 4, or a proper position such as an end of the knob 15 disposed above the vertical frame 14.

[63] An engagement rod 10 is disposed across the vertical frame 14, and the separated engagement rod 10 may be inserted into multi grooves 19 of an engagement unit 20 for facilitating insertion by the operator.

[64] The engagement rod 10 is disposed to allow the rope 3 to be hung on. The engagement unit 20 having the multi grooves 19 may be disposed to allow the mounted position of the engagement rod 10 to be detachably changed in the vertical frame 14.

[65] A bench 5, a base plate 6, or an anti-rolling base plate 34 may be disposed on the running belt 1.

[66] Pipe insert holes 17 are formed at both sides of the bottom frame 13, and both ends of the "∩"-shaped pipe 18 having the rope guide rollers 7 may be inserted into the pipe insert holes 17.

[67] Markings 29a and 29b as means for recognizing a movement distance are disposed at both edges of the running belt 1 at regular intervals, belt sensors 23a and 23b are disposed at positions allowing the markings 29a and 29b to be recognized, so that the movement distance and speed of the running belt 1 can be accurately measured. That is, the markings 29a are disposed at one edge of the running belt 1 with equal intervals, and the markings 29b are disposed at the other edge at equal intervals, wherein the interval of the marking 29a is different from the interval of the marking 29b. Accordingly, the controller 4 of the present invention has a built-in program for calculating a movement distance of the running belt 1 using the belt sensors 23a and 23b only without employing a rotating axis sensor 22 disposed in the rotating axis 21a, so that the information of the running belt 1 can be extracted even when errors of the rotating axis sensor 22 occur.

[68] The controller 4 calculates the voltage of the motor driver 12 and the time when the voltage was output to calculate the movement distance of the running belt 1. That is, the controller 4 may be configured to calculate the voltage of the motor driver 12 and the time when the voltage was output to calculate the movement distance of the running belt 1 without using the rotating axis sensor 22 for measuring the movement

distance of the running belt 1 that moves in a predetermined section.

[69] The running belt 1 may be configured to have a varying inclination degree by means of the controller 4 when the operator does the weight training on the running belt 1.

[70] A motor case 24 for covering the motor is disposed at one end of the bottom frame 13, and several rotating roller rods 25 are disposed above the motor case 24.

[71] The controller 4 may be configured to compare a movement distance of the running belt 1 run by the motor 2 with a movement distance of the running belt 1 run backward by the operator's power and to control the motor 2 to operate by an amount of error when the error results from the comparison so that the running belt 1 moves always by a constant distance.

[72] The present invention has set about 1:3 to 1:4 ratio of a belt pulley 26 of the motor 2 to the belt pulley 26 of the rotating axis 21a connected to the belt pulley by means of the belt 27.

[73] The present invention takes advantages of the response speed of the motor 2 that repeatedly moves after stopping and a low rpm range of the motor 2 so that a motor 2 wheel was not employed.

[74] The treadmill with an increased pulley ratio has a decreased rotating speed of the running belt 1 moving at a fast speed in a general running function, however, the decrease is cancelled off by the increased rpm of the motor 2 in control of the motor driver 12.

[75] According to the treadmill with an increased pulley 26 ratio of the rotating axis 21a, a friction power between the running belt 1 and the deck 32 pushed by the operator's weight acts to be added with the strong braking power of the motor 2 in control of the motor driver 12, thereby making the running belt 1 stop.

[76] The present invention has two fans outside the motor 2, which acts to have external cool air flow in and internal overheated air flow outside to prevent the motor 2 from being overheated due to repeat of the driving power and the braking power of the motor 2.

[77] A temperature sensor having a predetermined value is built in the motor 2 for preventing the motor from being overheated, so that the sensor controls the voltage of the motor 2 by means of the motor driver 12 at the time of overheating state.

[78] In addition, functions of the treadmill of the present invention are the same as those of a general treadmill. However, the functions of the general treadmill are not listed herein.

[79] The treadmill of the present invention meets the objectives such as walking or running of the general treadmill. Further the training method according to the present invention at the time of weight training is at least the same effect with the conventional pilates training method

[80] Change between the weight training treadmill of the present invention and the general treadmill is determined by the mode switching button of the controller 4, which is displayed by colors in up and down positions of the display of the controller 4.

[81] The present invention limits the speed of the running belt 1 to a range of pre-determined speed for safety of the weight training. The speed may change in a value not greater than 6 km/h.

[82] The rope 3, the rope grip 8, or the rope rod 9 is usually employed in the treadmill at the time of weight training.The base plate 6 may be used to enhance the feeling of cushion and contact between the body and the running belt 1 when the operator performs the weight training on the running belt 1, and several fine protrusions are formed on the bottom of the base plate 6 for preventing slipping with the running belt 1 so that the slipping can be decreased as much as possible when the operator applies a power on the running belt 1. Vertical plates 28 may be erected at both sides of the base plate for receiving the pushing power.

[83] A friction power is originally present between the deck 32 and the running belt 1 due to the operator's weight when the braking power of the motor 2 does not act on the weight training. Accordingly, the operator can do the weight training without the braking power of the motor 2, and the braking power of the motor 2 is controlled by more increasing the friction power.

[84] The motor driver 12 alternately carries out outputting voltage for the driving power of the motor 2 and outputting the DC voltage for the braking power used as a load resistance. When the braking voltage is high the motor 2 stops, and when the braking power is small the braking voltage of the motor 2 is 0 V.

[85] The braking voltage significantly varies from 0 V to high value by means of the controlled output of the motor driver 12 when the motor 2 acts for the braking power, so that the power of operator can be changed within wide range.

[86] In this case, the high value is an upper limit value that the running belt stops due to the high braking power. The upper limit value may be changed depending on the horse power of the motor.

[87] The variable braking power is combined with the number of trainings when the power increases or decreases at the time of weight training so that the weight training method becomes well-organized and phased.

[88] The motor 2 has a rotating driving power in one direction in the general treadmill, however, according to the present invention, the driving power of the motor 2 is used and the braking power of the motor 2 is also used as a load resistance.

[89] Training objects may be readily accomplished by well-known techniques for con-trollingthe running belt 1 in terms of braking power and driving power at the time of weight training without using an extremely accurate control method.

[90] To simply describe the braking power of the motor 2, the DC motor generates the braking power when to two poles are short-circuited backward, which may be divided by variable resistors or power elements and then applied to the rotating DC motor coil, thereby obtaining the varying braking power. In a case of three-phase AC motor, a constant voltage may be applied to any two phases of U, V and W phases to generate a DC voltage, which may be varied by a more or less amount and applied to the motor coil, thereby obtaining the varying control power according to the DC voltage. The DC voltage may be generated by pulse width modulation (PWM).

[91] Therefore, according to the present invention, when any one direction is selected to cause the running belt 1 to move by means of the motor 2 regardless of its direction, the braking power of the motor 2 is then required by the operator. The variable braking power may be already input in the controller 4 before doing the weight training, the operator may vary the braking power while doing his/her weight training, and separate adjustment buttons 11 for adjusting the magnitude of the braking power are disposed at a proper position. Accordingly, the degree of muscular tension and the intensity of exercise can be readily adjusted during the exercise. It is also possible for the adjustment buttons 11 to vary the braking power, the movement distance and the speed of the running belt 1.

[92] Sensors are employed to recognize the distance and calculate the length, of the running belt 1. It is required for the sensors to secure control of the movement distance of the running belt 1. Due to the characteristic that the braking power of the motor 2 varies while the operator does the weight training on the running belt 1, a slip occurs between the running belt 1 and the rotating axis 21a. Such phenomenon results from two different powers counteracting each other, i.e., the power for rotating the motor 2 and the operator's power opposite to the power for rotation.

[93] Accordingly, several markings 29a and 29b are printed at different intervals in both sides of an external surface of the running belt 1, and belt sensors 23a and 23b for recognizing the respective markings 29a and 29b are disposed close to the markings, so that the distance does not exceed the error range by means of the method of directly recognizing the length of the running belt 1 even when the slip occurs on the running belt 1.

[94] The movement distance of the running belt 1 is not accurately calculated by the rotating axis sensor 22 disposed in the rotating axis 21a of the motor 2, which occurs from the slip. Such an error results from the inner slip between the rotating axis 21a and the running belt 1.

[95] The rotating axis sensor 22 can have the accuracy of cm unit in recognizing the distance of the running belt 1, however, the accuracy is decreased due to the error occurring on the running belt 1 resulting from the slip of the running belt 1. However,

according to the present invention, an actual movement distance of the running belt 1 required for the exercise can be calculated even when the slip occurs on the running belt 1, which is accomplished by the markings 29a and 29b and the belt sensors 23a and 23b which are disposed at both edges of the running belt 1. In addition, the present invention allows the interval between the markings 29a and the interval between the markings 29b to be different from each other so that the information detected from the respective markings can be complemented for each other to perform accurate measurement.

[96] That is, the means for recognizing the movement distance of the running belt 1 was reinforced by the addition of the belt sensors 23a and 23b, and a photosensor interacts with the markings 29a and 29b printed on side surfaces of the running belt 1. Therefore, it has a structure of recognizing reflecting light in an embodiment.

[97] The belt sensors 23a and 23b may be any sensors, however, are preferably composed of photo sensors. That is, since the belt sensors receive the infrared light reflected at a predetermined distance, it is not subjected to an electrostatic phenomenon which often occurs in a cold weather.

[98] Several magnets and Hall-effect sensors may be employed at the position of the rotating axis sensor 22 of the belt pulley 26 in calculating the movement distance of the running belt.

[99] The belt sensors 23a and 23b act to complement each other in recognizing the distance of the running belt 1 controlled by the rotating axis sensor 22, and runs a program for recognizing the distance of the running belt 1 when errors occur on the rotating axis sensor 22, which thus gives the operator safety and reliability during his/her exercise.

[100] When the rotating axis sensor 22 runs the program for recognizing the distance of the running belt 1, the belt sensors 23a and 23b assist the rotating axis sensor 22. When assisting the rotating axis sensor, locations of the markings 29a and 29b of the running belt 1 are the central point notes.

[101] The controller 4 may have a program for calculating the distance of the running belt 1 only using the belt sensors 23a and 23b when the rotating axis sensor 22 fails to operate.

[102] Recognition of the length of the running belt 1 by means of the belt sensors 23a and 23b is different depending on the intervals and the number of the markings 29a and 29b. To accurately recognize the length, the number of the markings 29a and 29b needs to be increased.

[103] When the distance of the running belt 1 is recognized, the controller 4 may implement a program that compares the movement speed and the movement time of the running belt 1 without depending on the rotating axis sensor 22. The method of

calculating the movement distance of the running belt 1 calculates the voltage output to the motor and the time of the output voltage. The method of calculating the movement distance of the running belt 1 using the time corresponds to a method of recognizing the distance of the running belt when all of the rotating axis sensor 22 and the belt sensors 23a and 23b are out of order.

[104] At this time, any one of the belt sensors 23a and 23b acts as a central point of the running belt.

[105] The method of recognizing the movement distance of the running belt using the time is not as good as the method of measuring the distance of the running belt 1 using the rotating axis sensor 22. However, according to the present invention, the running belt 1 moves in a predetermined direction and then stops by means of the motor 2 and remains stopped when an external power is not applied to the running belt 1, so that the weight training treadmill of the present invention is safer than the general running machine for walking or running, and the movement distance of the running belt 1 using the time does not significantly exceed the range for accomplishing the training objective.

[106] The speed and the time of the motor 2 for rotating the running belt 1 are also delivered to the motor driver 12 in consideration of the operator's safety by the controller 4. Consequently, the driving power of the motor 2 operating in any one direction has a power-off state so long as the operator's external power is not applied to the central points of the belt sensors 23a and 23b.

[107] The weight training that the running belt 1 moves in a predetermined direction by the motor 2 and the user applies a power in a backward direction to make the running belt move is repeatedly done, and the running belt 1 stops at any time when the user does not move.

[108] A friction occurs between the deck 32 and the bottom surface of the running belt 1 when the operator does the weight training, and increases in proportion to the increased weight of the user when the operator is on the running belt 1. Accordingly, the user can do the training with his/her weight only without generating the braking power of the motor at all, so that the running belt 1 has a load resistance for the weight training. When the operator's power does not make the running belt 1 with the weight of the operator move, the inclination degree of the treadmill may be changed to derive an oblique angle of the running belt 1 and the friction of the gravity acting on the running belt 1 may be decreased to allow the weak operator to do his/her weight training.

[109] The oblique angle of the running belt 1 causes a stronger weight gravity to act on the operator on the running belt when the operator changes his/her training posture.

[110] The method of significantly increasing the gravity power instead of the braking power of the motor 2 adjusts an inclination of the treadmill, which thus allows the

weak operator to easily do his/her exercise and allows the intensity of the weight training to be varied.

[111] Such an inclination function for the treadmill is programmed in the controller 4, and an exercise effect becomes increased when the inclination of the treadmill is at high, medium, and low levels.

[112] Therefore, the weight training of the present invention can be accomplished by the inclination angle of the treadmill even without the braking power of the motor 2.

[113] In general, the general inclination angle of the treadmill is typically 25 degree or less, however, the weight training treadmill of the present invention allows the inclination angle to be increased to enhance the exercise effect as much as possible.

[114] When the weak operator does his/her exercise or the friction force of the running belt 1 with an operator's weight needs to be more decreased and the number of exercises needs to be increased, pipe insert holes 17 are formed near both side ends of the bottom frame 13 of the treadmill, and both ends of the "∩"-shaped pipe 18 are inserted into the pipe insert holes. Accordingly, the weight training can be done when the pipe 18 is inserted and an exercise for walking or running can be done when the pipe 18 is separated from the treadmill.

[115] The pipe 18 has the rope guide roller 7 for allowing legs or hands to be switched for exercise and the rope 3 to be hung on.

[116] The controller 4 of the present invention acts to control the motor driver 12 for driving the motor 2, display various information, receive information input from buttons pressed by the operator, receive sensor signals, share functions of the treadmill and process incoming or outgoing separate information required for the exercise.

[117] Several adjustment buttons 11 are separately disposed in addition to the buttons controlled by the controller 4 during the weight training, and the use of the several adjustment buttons is to avoid troublesome that the buttons connected to the controller 4 must be pressed after the operator stands up while doing his/her exercise.

[118] Therefore, the adjustment buttons 11 may be disposed anywhere, since the operator needs not to stand up to adjust the braking power of the motor 2 required for adjusting the backward exercise or the distance of the motor 2.

[119] Such an exercise allows the buttons to be controlled at the time that the running belt 1 moves by means of the motor 2 after the running belt 1 moves by means of the operator's braking power during his/her actual exercise, so that it allows the buttons to be controlled in a rest time during the weight training that causes pressure and rest to be alternately occur.

[120] Adjustment of the separate buttons 11 gives the operator continuity of the exercise to apply the power. Although not proposed by the present invention, the separate buttons 11 may be a remote control.

[121] In addition, according to the present invention, a method of allowing the speed of the running belt 1 moving for a predetermined distance to be changed in the predetermined distance is implemented in a program of the controller 4. The change in speed acts to increase the body reaction of the operator and enhance the muscle power of the operator when the running belt 1 moves in the predetermined section by means of the motor 2.

[122] In addition, according to the present invention, the change in braking power of the motor 2 also occurs in the predetermined section by means of the program of the controller 4. That is, the braking power of the motor 2 is not the same but changes when the running belt 1 moves by means of the operator's power. For example, a driver may rapidly or slowly step on the brake or does a double-brake.

[123] The treadmill of the present invention does not significantly differs from the general treadmill in terms of its structure, however, the weight training method of the present invention significantly differs from the existing general exercise method such as walking and running. The motor 2 mounted in the treadmill is designed to be the nearest to the ground, the motor case 24 covering the motor 2 is closest to the upper height of the running belt 1, and the rotating roller rod 25 is disposed above the motor case 24.

[124] The rotating roller rod 25 acts to allow the operator to smoothly slip even when the operator partially moves above the motor case 24 while the operator does his/her weight training, and acts to complement the drawback that the operator feels due to a short length of the running belt 1 when the operator does the weight training while lying or lying on his/her face. This rotating roller rod 25 gives rise to a massage effect at locations where the body contacts the rotating roller rod 25 while the rod moves by means of the motor 2.

[125] It is preferable to form the base plate 6 with its end having a curved surface upward so as to avoid overlapping of the base plate and the rotating roller rod 25 when the base plate 6 grazes upward along the rotating roller rod during the operator's weight training.

[126] To increase the exercise effect in addition to various features of the weight training, the controller 4 allows the change in speed of the motor 2 to occur within a pre-determined section, allows the braking power of the motor 2 to vary within the pre-determined section even whenthe operator applies a power in a backward direction, and allows the running belt 1 to have a pause period after it moves within the pre-determined section.

[127] A bench 5 is disposed for increasing the number of weight trainings. The bench 5 may be variously shaped. When the bench 5 is put on the running belt 1 and the operator sits on the bench to do the weight training, various body regions can be

physically strengthened by means of the roper guide roller 7 when the rope 3 is employed, which thus attributes to the exercise effect.

[128] Generation of the sound and lamp from the controller 4 is to prevent the operator from being in danger due to confusion with the existing general treadmill and to make the operator concentrate more on the respiration and exercise posture by counting the training number of weight trainings using a speaker.

[129] The rope rod 9 have concave grooves 16 that act to prevent detachment of the rope 3 and recognize the width of the rope rod 9 when the operator grasps the rope rod.

[130] When the operator does his/her weight training, a motion copy function program is implemented for facilitating adjustment of the buttons from the controller 4. A processing flow of the motion copy is illustrated in FIG. 26.

[131] The motion copy function refers to an action that receives, from the rotating axis sensor 22 and the belt sensors 23a and 23b, information of the distance of the running belt 1 that moved backward by the operator's power and makes the running belt 1 move forward again by the movement distance of the operator using the driving power of the motor 2.

[132] This motion copy function acts to allow the controller 4 to recognize the movement direction and movement speed information of the running belt 1 through the rotating axis sensor 22 and the belt sensors 23a and 23b after the operator first moves the running belt 1 in a predetermined direction, and acts to copy the information of the movement distance of the operator to the motor 2 to make the running belt 1 move to its original position when the motor 2 moves in a backward direction.

[133] The motion copy function is an easy method for simple weight training and for allowing the operator to use some buttons without use of complicated buttons.

[134] The motion copy mode is first input in the controller 4 and then the operator does his/her exercise to move on the running belt 1 according to his/her proper exercise posture involving hands, foots, elbows, a waist, etc. The running belt 1 does not move when the operator does not repeat any action, so that the safety is also secured.

[135] In the mode copy exercise mode, the driving power of the motor 2 may involve the backward movement speed of the running belt 1 moved by the operator's power, and a movement speed of 6 km/h or less that divides into three levels, i.e., high, medium, low. This corresponds to a case that the movement distance of the running belt 1 is copied to control the movement distance resulting from the driving power of the motor 2 without copying the movement speed of the running belt 1.

[136] When there is no button input from the controller 4 during the exercise, a default value among the classified speeds mentioned above is selected to cause a constant value to be output, thereby avoiding confusion for the operator. According to the weight training in the motion copy mode, the operator first changes the movement

distance of the running belt 1 to cause the next action to be generated by the motor 2, which thus facilitates using the weight training method of the beginner and enhances exercise safety. This is because various information of the complicated running belt 1 does not need to be individually input to the controller 4 and the running belt 1 does not move at all when the operator does not apply his/her power, so that the motion copy mode is safe and interesting.

[137] The foregoing has been described regarding the control method mode that does not allow the controller 4 to recognize signals of the load cell 30 when the weight training is done.

[138] A control method mode that allows the controller 4 to recognize the signals of the load cell 30 during the weight training will be now described.

[139] The apparatus is the same as the first mode, however, differs from the first mode in that the engagement rod 10 is replaced by load cell engagement rods 33a and 33b.

[140] This control method mode allows the controller 4 to receive the sensor signal of the load cell 30 and applies the signal to the driving power and the braking power of the motor 2. The processing flow is illustrated in FIG. 27.

[141] The first and the second modes mentioned above are common in that the driving power of the motor 2 is applied to any one direction without conditions and the braking power of the motor is applied to a direction opposite to the any one direction. However, the second mode differs from the first mode in that the controller 4 receives the power pushed or pulled by the operator in the first mode from the load cell 30 and varies the driving voltage and the braking voltage depending on the weight value of the load cell 30.

[142] The weight recognition weight training mode has a weight condition in addition to the first mode control method.

[143] The controller 4 in charge of adding the load cell 30 and the program receives the change in apparatus, changes it to the weight as a unit, and outputs the output voltage and the braking voltage of the motor 2 to the motor driver 12 depending on the weight condition.

[144] Load cell engagement rods 33a and 33b are disposed as additional devices which receive sensor signals of the load cell 30. The load cell engagement rod 33a has the load cell 30 engaged at a central position of the rod and allows an external rope to be hung on. The load cell engagement rod 33a acts only to extend the rope 3 after the rope is hung on the rod.

[145] The load cell engagement rod 33b has two load cells 30 disposed at both ends of the rod. Both ends of the load cell engagement rod 33b are inserted into the load cell housings 31 disposed in the vertical frame 14. At this time, the load cell 30 measures the pushing power and the pulling power according to the insertion direction. The load

cell engagement rod 33b is detachably disposed in the load cell housing 31.

[146] Accordingly, the controller 4 may receive the power pushed or pulled by the load cell engagement rods 33a and 33b, and the load cell 30 may be disposed at any place where the power of the rope 3 can act.

[147] As such, powers pushed or pulled by the load cell engagement rods 33a and 33b are changed to signals, which are then delivered to the controller 4. And the voltage of the delivered weight value is changed to the value in weight in the controller 4. The changed weight is associated with the program in the controller 4 to be used for controlling the driving power and the braking power of the motor 2.

[148] When the pulling power in weight is set to 30 kg while the operator does his/her weight training, the running belt 1 does not move due to the strong braking power of the motor 2 when the operator's pulling power is 30 kg or less. However, when the pulling power exceeds 30 kg, the braking power of the motor 2 is decreased to cause the running belt to move due to the operator's power. That is, the exercising power done by the operator is adjusted to 30 kg by the load cell 30.

[149] Such an action is implemented by reading the unit in weight using the load cell 30 in the controller 4. Comparison is made on whether the read data exceeds a set weight value selected by the operator to determine the driving power and the braking power of the motor 2. That is, the controller 4 receives an initial value as a weight training amount desired by the operator, receives an actual power applied to the running belt 1 using the load cell 30 by the user, and compares the initial value with the actual power to adjust the magnitude of the braking power of the motor 2 and the magnitude of the driving power of the motor 2, so that the actual power is adjusted to the initial value. And the controller 4 stops the operation of the treadmill to secure safety when the operator's power received from the load cell 30 and applied to the running belt 1 varies several times for a predetermined time. The controller 4 moves the running belt 1 by means of the driving power and the braking power of the motor 2 input from the load cell 30, and controls the running belt 1 depending on the braking voltage of the set button value without receiving an input from the load cell 30 in the case of backward direction. The controller 4 controls the running belt 1 so as to vary the braking power and the driving power only in a specific section within a predetermined section.

[150] The load cell 30 is connected to the load cell engagement rod 33a to measure the pulling power, however, the kind of the load cell 30 and the position where the load cell 30 is to be disposed may be changed to measure the operator's power in the manner of pushing power, and one embodiment thereof corresponds to the load cell engagement rod 33b.

[151] Accordingly, the weight training treadmill uses the power and the signal by means of the load cell 30, allows the controller 4 to process them, and allows the operator to adj

ust the power in weight unit applied to the motor 2, so that the exercise methods are creative based on the adjustment.

[152] The weight recognition weight training using the load cell 30 adds the method of controlling the weight recognition to the method of controlling the motor 2 using the driving power that moves for the predetermined distance in the predetermined direction and using the braking power for the motor that moves backward, so that resultant changes are as follows.

[153] The operator uses selection buttons to set the pulling or pushing weight by means of his/her body in the controller 4. And then the operator presses the start button, the controller 4 provides a braking power corresponding to the initially input weight value to the motor 2 to maintain the running belt 1 stopped. At this time, the running belt 1 can move only when the operator does his/her exercise with a power greater than the braking power of the motor 2.

[154] Whenever the power of the operator increases, the weight increase signal of the load cell 30 is transmitted to the controller 4 so that the controller 4 decreases the magnitude of the braking power in inverse proportion to the weight increase.

[155] This corresponds to the general weight training. When a barbell is lift up, a gravity acts on the barbell, and the barbell lift up has the same gravity. This may correspond to the case that the vertical gravity is changed to a horizontal weight.

[156] When doing an exercise, the motor 2 already has the selected weight (braking power) value, and the driving power of the motor 2 is not generated if the operator does not take any action. The running belt 1 moves when the operator's power is greater than the set weight value. At this time, the start point of the running belt 1 that starts to move is stored by the belt sensors 23a and 23b and the markings 29a and 29b. The running belt 1 returns to the stored first start point of the running belt 1 when the running belt moves for a predetermined distance and then the operator's power is smaller than the set weight value.

[157] The returning speed is the movement speed of the running belt 1, which is the driving power of the motor 2. Accordingly, when the driving power of the motor 2 occurs in any one direction in the weight recognition weight training using the load cell 30, the braking power necessarily occurs in a direction opposite to the any one direction.

[158] The power for returning to the first start point of the running belt 1 that has moved by the operator's power is responsible for the driving power of the motor 2, and the driving power that has exceeded the set value due to the operator's great power becomes the braking power to generate a voltage from the motor driver 12. Such every control is based on the set weight value and the operator's power.

[159] An embodiment thereof is as follows.

[160] 1. The operator selects a weight recognition mode button in the controller 4 mode.

[161] 2. The operator selects a sensor weight from buttons connected to the controller 4.

[162] 3. The operator sets a movement speed and a movement direction and presses an OK button.

[163] 4. The operator sits on the running belt 1 in a direction toward the controller 4 and pulls the rope 3.

[164] 5. At this time, when the operator's pulling power is not greater than the set value, the braking power of the motor 2 strongly acts to keep the running belt 1 stopped.

[165] 6. When the operator's power is greater than the set value, the braking power of the stopped motor 2 is decreased and the running belt 1 moves in a direction where the operator's power acts. At this time, a sensor signal by the amount of movement is transmitted to the controller 4. The transmitted sensor signal acts to recognize the position of the running belt that has first started and to allow the running belt 1 to return to the position backward by the distance that the running belt moved by the driving power of the motor 2.

[166] 7. When the operator's power is greater than the set weight value in item 6, the braking power of the motor 2 is decreased in inverse proportion to the operator's increased power, which leads to the increased speed of the running belt 1 due to the operator's power.

[167] 8. When the pulling power is smaller than the set weight value in item 6, the driving power of the motor 2 is added to move the running belt 1 toward the first start point during the exercise. At this time, the magnitude in movement speed of the running belt 1 is inverse proportion to the magnitude in operator's power of pulling the rope.

[168] According to the above described embodiment, the running belt 1 that acts like a spring can be controlled when the weight is sensed using the load cell 30.

[169] The running belt 1 that has moved by the operator pulling the rope 3 has a restoring property like an elastic band or spring. This is based on the fact that the controller 4 controls the motor driver 12 in terms of the operator's pulling power that is great or small. Accordingly, the weight training using the load cell 30 of the present invention uses a control method employing proportional control in the controller 4, which changes the driving voltage and the braking voltage of the motor 2 depending on the magnitude in operator's pulling or pushing power, which thus leads to changes in movement power, movement distance and braking power of the running belt 1 so that an effect of the weight training for the operator is increased.

[170] The elasticity depending on the weight when the running belt 1 moves may be associated not with the vertical gravity but with the horizontal gravity, so that the weight training methods may be various.

[171] The patterns of the horizontal reciprocating exercise of the running belt 1 may be varied as shown in (h), (i), (j), (k) and (l) of FIG. 24.

[172] The solid line arrows of FIG. 24 denote the movement of the running belt 1 by means of the driving power of the motor 2, and the dotted line arrows denote the movement of the running belt 1 by means of the operator's power exceeding the braking power of the motor 2.

[173] Examples of doing various weight trainings according to the present invention will now be described.

[174] First, the operator is in a start standby mode before doing his/her exercise. The operator inputs a control program for the running belt 1 that is suitable for the exercise by means of buttons. When the start button of the controller 4 is pressed, the program starts to run, the operator takes an exercise posture on the running belt 1 and waits for the movement of the running belt 1 in the standby time.

[175] The operator is informed of a start counter by means of a bell sound before 5 seconds the running belt 1 starts to move, the lamp operates to cause the running belt 1 to move in a predetermined distance. The movement speed is also selected by the program.

[176] The embodiment described below proposes common notes and predetermined direction for better understanding the present invention. A direction where the running belt 1 moves away from the controller 4 is the forward direction, and a direction where the running belt 1 moves toward the controller 4 is the backward direction. All exercise methods allow the motor 2 to move the running belt 1 in any one direction and allow the operator to act his/her power to move the running belt 1 in the opposite direction. Names of the exercise methods are arbitraily defined in terms of weight training equipment for better description of the present invention.

[177] Examples below correspond to ones that implement the first mode exercise method. The load cell 30 recognition weight mode is the same as the exercise methods below except that a condition regarding the weight is added, so that a description of the first mode exercise method will be sufficient. The rope rod 9 is illustrated in the examples below, however, the load cell engagement rods 33a and 33b instead of the rope rod 9 are used in other mode using the load cell 30.

[178] 1. LONG PULL

[179] The long pull exercise is illustrated in FIG. 6. The movement direction of the running belt 1 by means of the motor 2 is a forward direction. The operator grasps the rope rod 9 connected to the rope 3 with his/her both hands and keeps legs together on the running belt 1. When the running belt 1 moves, the body then moves, the length of the rope 3 is limited, so that the waist is bent. The running belt 1 stops after it moves for a predetermined distance due to the controller 4. The operator pulls the rope 3 at the point of the stop. The magnitude in pulling power changes depending on the adjusted braking power of the running belt 1.

[180] When the magnitude in weight needs to be adjusted during the exercise, adjustment

buttons separate from the key input device disposed in the controller 4 may be used for the same, and the operator may control the braking power of the running belt 1 without standing up from the running belt 1. That is, the speed, the braking power, and the direction of the running belt 1 may be changed according to the number of continuous pressing of the adjustment button 11. For example, one pressing may control the speed, two braking power, and so forth, and the right and left adjustment buttons 11 may be responsible for functions of decreasing or increasing the weight. Functions and operations of the adjustment buttons 11 are also the same in the following descriptions, so that they are omitted for simplicity.

[181] Therefore, after the thick solid line is changed to the double-dotted chain line, the running belt 1 moves in the thick solid line again by means of the operator's power, so that trapezius muscle, deltoid muscle, rhomboid muscle, and latissimus dorsi muscle can be strengthened.

[182] 2. VERTICAL FLY

[183] The vertical fly training is illustrated in FIG. 7. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator leans his/her back against the controller 4, grasps the rope 3 like grasping a steering wheel of a vehicle in front of the operator. At this time, when the running belt 1 moves for a predetermined distance in the forward direction, both arms of the operator are pulled back like spread wings.

[184] At the position where the running belt 1 has stopped, the operator strongly moves his/her arms that were pulled back like a circle and moves in a forward direction. The running belt 1 is rotated by the operator's arm power and then stop. At this time, the running belt 1 repeatedly moves again due to the motor 2. The braking power of the motor 2 is also properly controlled.

[185] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 7, the running belt 1 moves in the thick solid line again by means of the operator's power, so that deltoid muscle, pectoralis major muscle, and pectoralis minor muscle concentrated on the chest can be strengthened.

[186] 3. ARM CURL

[187] The arm curl exercise is illustrated in FIG. 8. A movement direction of the running belt 1 by means of the motor 2 is a forward direction. The operator sits on a bench 5 disposed on the running belt 1, and grasps the rope rod 9 with both hands with palms facing upward. The operator softly puts his/her elbows on knees and bends his/her both arms. At the position where the running belt 1 moves for a predetermined distance by means of the controller 4 and then stops, the operator uses bending powers of both arms to pull the rope rod toward his/her neck. The operator repeatedly does this exercise.

[188] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 8, the running belt moves in the thick solid line again by means of the operator's power, so that biceps muscle and brachial muscle can be strengthened.

[189] 4. HIGH LAT PULL

[190] The high lat pull exercise is illustrated in FIG. 9. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator lies on the running belt 1 and grasps the rope rod 9 connected to the rope 3. When the running belt 1 moves in a predetermined direction and then stops, arms are spread toward the head of the operator. At this time, the operator pulls his/her spread arms to do the weight training. The operator may do this weight training even if the operator lies on his/her stomach. In this case, the base plate 6 may be disposed between the operator and the running belt 1 to prevent slipping.

[191] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 9, the running belt moves in the thick solid line again by means of the operator's power, so that pectoralis major muscle, pectoralis minor muscle, biceps muscle, brachial muscle, rhomboid muscle, teres major muscle, and latissimus dorsi muscle can be strengthened.

[192] 5. CHEST PRESS

[193] The chest press exercise is illustrated in FIG. 10. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator sits on the bench 5 disposed on the running belt 1 with his back against the controller 4. The operator grasps the rope rod 9 connected to the rope 3 by a shoulder width and spreads his/her both arms straight at the chest height. Afterwards, when the running belt 1 moves forward, spread arms of the operator are bent and the rope rod 9 closely contacts the chest. At this time, the operator strongly pushes the rope rod 9 toward the controller direction so that the exercise can be repeatedly done in the direction where the running belt 1 moves.

[194] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 10, the running belt moves in the thick solid line again by means of the operator's power, so that pectoralis major muscle, deltoid muscle, and triceps brachii muscle can be strengthened.

[195] 6. DIPPING

[196] The dipping exercise is illustrated in FIG. 11. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator grasps the rope 3 by both hands and stands at attention on the running belt 1. When the running belt 1 moves forward, the operator's arms are bent, and the bent arms are pushed downward by means of the operator's power. This exercise is also repeatedly done. The braking power of the motor 2 is increased when the weight needs to be increased.

[197] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 11, the running belt moves in the thick solid line again by means of the operator's power, so that pectoralis muscle and biceps muscle can be strengthened.

[198] 7. LEG PRESS

[199] The leg press exercise is illustrated in FIG. 12. A movement direction of the running belt 1 by means of the motor 2 is the backward direction. The operator has his/her both legs supported by the engagement rod 10 toward the controller 4 and is in standby mode with his/her knees spread. At this time, the base plate 6 or the anti-rolling base plate 34 may be disposed for preventing slipping between the running belt 1 and the operator's back. Protrusions for increasing the fraction with the running belt 1 are formed on a bottom surface of the base plate 6, and vertical plates 28 for supporting both shoulders of the operator are formed at both sides of one end of the anti-rolling base plate 34. Accordingly, the whole body is supported through the operator's shoulders.

[200] The engagement rod 10 is disposed over the vertical frame 14 where the controller 4 is mounted. When the running belt 1 moves backward, legs are bent to cause the operator's hips to move toward the controller 4.

[201] The running belt 1 that has moved backward and then stopped makes the operator's legs bent, and the operator's power pushes the running belt 1 forward when the operator spreads out his/her legs toward the engagement rod 10. At this time, the running belt 1 is pushed away due to the squat power and the braking power may be added to repeatedly do a desired exercise.

[202] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 12, the running belt moves in the thick solid line again by means of the operator's power, so that adductor muscle, peroneus longus muscle, and peroneus longus muscle can be strengthened.

[203] 8. LEG CURL

[204] The leg curl exercise is illustrated in FIG. 13. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator lies on his/her stomach on the running belt 1, hangs two legs on the rope 3 with ankles closely pulled toward the hips, and waits for the operation of the motor 2.

[205] When the motor 2 operates to make the running belt 1 move forward, the two legs hung on the rope 3 are spread. When the operator strongly bends the running belt 1 with his/her two legs that have been spread, the two legs hung on the rope 3 are bent again like the first state. This is repeatedly done.

[206] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 13, the running belt moves in the thick solid line again by means of the operator's power, so that biceps femon's muscle, semimembranosus muscle, semitendinosus

muscle, and gastrocnemius muscle can be strengthened.

[207] 9. TOTAL HIP

[208] The total hip exercise is illustrated in FIG. 14. A movement direction of the running belt 1 by means of the motor 2 is the backward direction. The operator puts any one leg on the bottom surface next to any one side of the treadmill toward the controller 4 and puts the other leg straight behind the operator.

[209] When the running belt 1 moves for a predetermined distance and then stops due to the controller 4, the leg on the running belt 1 is bent, and the operator applies a power to the bent leg to move the running belt 1. This is repeatedly done.

[210] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 14, the running belt moves in the thick solid line again by means of the operator's power, so that gluteus muscle and iliotibial band can be strengthened.

[211] 10. CHEST WEIGHT

[212] The chest weight exercise is illustrated in FIG. 15. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator fixes the rope 3 to the upper end of the vertical frame 14, bends his/her knees, grasps the rope 3 with two arms and is in a standby mode with pulling the rope down the crotch.

[213] When the running belt 1 moves for a predetermined distance and then stops by means of the motor 2, arms are spread straight toward the controller 4. At this time, the operator pulls the rope 3 down the crotch. The running belt 1 moves backward due to the operator's pulling power and then stops, and the motor 2 causes the operator's posture to be changed forward. This is repeatedly done.

[214] Accordingly, after the thicksolid line becomes the double-dotted chain line in FIG. 15, the running belt moves in the thick solid line again by means of the operator's power, so that triceps muscle, biceps muscle, and deltoid muscle can be strengthened.

[215] 11. ABDOMINAL

[216] The abdominal exercise is illustrated in FIG. 16. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator pulls the rope 3 above the back and the head, grasps the rope 3 with two hands at the forehead position, and waits for the forward movement of the running belt 1 due to the motor 2.

[217] When the running belt 1 moves for a predetermined distance and then stops due to the motor 2, the rope 3 causes the operator's waist to be bent backward. At this time, when the operator exerts himself to the utmost to try bending by means of the waist power, the running belt 1 moves backward.

[218] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 16, the running belt moves in the thick solid line again by means of the operator's power, so that rectus abdominal muscle and obliquus externus abdominal muscle can be strengthened.

[219] 12. BARBELL UP

[220] The barbell up exercise is illustrated in FIG. 17. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator lying on the running belt 1 grasps the rope rod 9 connected to the rope 3, spreads his/her arms above the head, and puts legs on the motor case 24. Afterwards, when the running belt 1 moves for a predetermined distance and then stops due to the motor 2, the rope rod 9 is moved toward and above the head and the arms are bent. At this time, when the operator strongly pushes the bent arms above the head, the running belt 1 moves backward due to the operator's power. This is repeatedly done. In addition, although this exercise is not illustrated in the drawing, the effect of the barbell up exercise increases when the operator lies on his/her stomach on the running belt 1.

[221] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 17, the running belt moves in the thick solid line again by means of the operator's power, so that deltoid muscle and triceps brachii muscle can be strengthened.

[222] 13. DUMBELL/BARBELL

[223] The dumbell/barbell exercise is illustrated in FIG. 18. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator lies on the running belt 1, grasps the rope rod 9 connected to the rope 3 with two hands, and bends the arms. Afterwards, when the running belt 1 moves for a predetermined distance and then stops due to the motor 2, the rope rod 9 is moved down the lower body of the operator.

[224] At this time, when the operator pull his/her two arms, the running belt moves backward. This is repeatedly done.

[225] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 18, the running belt moves in the thick solid line again by means of the operator's power, so that biceps muscle can be strengthened.

[226] 14. PULL OVER

[227] The pullover exercise is illustrated in FIG. 19. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator stands his/her back against the controller 4, grasps the rope rod 9 connected to the rope 3 with two hands, and obliquely spreads both arms straight above the head. Afterwards, when the running belt 1 moves for a predetermined distance and then stops due to the motor 2, the operator bends only two elbows and fixes the upper body. The operator moves the running belt 1 only with his/her arm power at the position where the running belt 1 is stopped.

[228] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 19, the running belt moves in the thick solid line again by means of the operator's power, so that posterior-deltoid muscle, triceps, teres major muscle, and rectus

abdominal muscle can be strengthened.

[229] 15. LEG SQUAT

[230] The leg squat exercise is illustrated in FIG. 20. A movement direction of the running belt 1 by means of the motor 2is the backward direction. The operator lies on the running belt 1, and spreads straight ends of the foots against the engagement rod 10 mounted in the vertical frame 14. Afterwards, the operator bends the ankles as much as possible when the running belt 1 moves backward for a predetermined distance, and moves the running belt 1 only with the ankle power when the running belt 1 is stopped.

[231] Accordingly, after the thick solid line becomes the double-dotted chain line in FIG. 20, the running belt moves in the thick solid line again by means of the operator's power, so that tibialis anterior, peroneus longus muscle, and gastrocnemius muscle can be strengthened.

[232] 16. INNER THIGH

[233] The inner thigh exercise is illustrated in FIG. 21. A movement direction of the running belt 1 by means of the motor 2 is the forward direction. The operator sits on the bench 5 on the running belt 1 against the controller 4, hangs both legs on the rope 3 and keeps legs together forward. Afterwards, when the running belt 1 moves for a predetermined distance and then stops due to the motor 2, the operator moves the running belt 1 only with the power of keeping both legs together. This exercise is effective for women in terms of prevention of urinary incontinence, and adductor muscle, great adductor muscle, and brevi adductor muscle can be strengthened.

[234] 17. WHOLE BODY EXERCISE

[235] The whole-body exercise can be simply done using the rope guide roller 7 and the rope 3, which is illustrated in FIG. 22. Accordingly, the operator may push or pull legs and hands using the rope knob 8 disposed at both ends of the rope 3 so that the whole-body exercise is done, and the rope 3 is reciprocated along the rope guide roller 7 of the engagement rod 10 disposed in the vertical frame 14.

[236] Preferred embodiments of the present invention have been disclosed herein and, although specific terms are employed, they are used and are to be interpreted in a generic and descriptive sense only and not for purpose of limitation. Accordingly, it will be understood by those of ordinary skill in the art that various changes in form and details may be made without departing from the spirit and scope of the present invention as set forth in the following claims.

Claims

[1] A weight training treadmill comprising:
a driving motor 2 controlled by a motor driver 12;
a running belt 1 wound around two rotatable axes 21a and 21b for rotation;
a bottom frame 13 where the running belt 1 is mounted; and
a controller 4 disposed in a vertical frame 14 supported by the bottom frame 13 for controlling the motor driver 12,
wherein the running belt 1 moves for a predetermined distance in a pre-determined direction (forward direction) and then stops, and moves backward by means of an operator's power, and a forward driving power of the motor 2 is removed to have only a load resistance that acts as a weight training load when the running belt 1 moves backward.

[2] The treadmill according to claim 1, wherein the controller 4 receives, from the operator, a movement distance, a movement speed, amovement direction, the number of movements, of the running belt 1, and a magnitude of braking power, and the running belt 1 operates by means of contents input to the controller 4, so that all information according to the movement of the running belt 1 is displayed in the controller 4 when the operator does weight training.

[3] The treadmill according to claim 1, wherein the controller 4 already has various programs in combination of movement distance, the movement speed, the movement direction, a movement time, of the running belt 1, and the braking power of the motor 2, so that the operator selects any one of the various programs.

[4] The treadmill according to claim 1, wherein a braking power of the motor 2 varies to cause the operator to have a change in power when the operator does the weight training.

[5] The treadmill according to claim 1, wherein markings 29a and 29b as means for recognizing the movement distance are disposed at equal intervals at both edges of the running belt 1, and belt sensors 23a and 23b for accurately measuring the movement distance and the speed of the running belt 1 are disposed in positions that allow the markings 29a and 29b to be recognized.

[6] The treadmill according to claim 1, wherein the running belt 1 is forced to stop at both ends of a predetermined section of the running belt for 1 to 6 seconds by the braking power of the motor 2.

[7] The treadmill according to claim 1, wherein the controller 4 operates a sound and a lamp according to the control information of the motor 2 and the operating state of the running belt 1.

[8] The treadmill according to claim 1, wherein the braking voltage of the motor 2 varies in magnitude in a specific portion of a predetermined section of the running belt when the running belt 1 moves by means of the operator's power.

[9] The treadmill according to claim 1, wherein the driving voltage of the motor 2 varies in magnitude in a specific portion of a predetermined section of the running belt when the running belt 1 moves.

[10] The treadmill according to claim 1, wherein the running belt 1 has a pause period while a strong braking power of the motor 2 is applied to the running belt 1 one to ten times in a section where the running belt moves forward or backward.

[11] The treadmill according to claim 1, wherein the braking power of the motor 2, the movement distance and the movement speed of the running belt 1 are adjusted by several control buttons 11 disposed in the treadmill.

[12] The treadmill according to claim 1, wherein an engagement rod 10 or load cell e ngagement rods 33a and 33b are disposed across the vertical frame 14, and a rope 3 is engaged with the engagement rod 10 or the load cell engagement rods 33a and 33b.

[13] The treadmill according to claim 12, wherein the rope 3 has a rope grip 8 or a rope rod 9.

[14] The treadmill according to claim 1, wherein pipe insert holes 17 are disposed at both sides of the bottom frame 13, and both ends of a pipe 18 are inserted into the pipe insert holes 17.

[15] The treadmill according to claim 1, wherein an engagement unit 20 that has several grooves 19 for detachably changing the position of the mounted engagement rod 10 is disposed in the vertical frame 14.

[16] The treadmill according to claim 12, wherein the rope rod 9 have several concave grooves 16 for preventing the rope 3 from being detached when the rope 3 is hung on the groove.

[17] The treadmill according to claim 1, wherein the controller 4 stores information including the movement distance, the movement speed and the movement direction, of the running belt 1 by means of a rotating axis sensor 22 when the running belt 1 was moved by the operator's power, and causes a motion of the running belt 1 to be copied in a backward direction by driving the motor 2 again so as to make the running belt 1 move backward based on the stored movement information of the running belt 1.

[18] The treadmill according to claim 1, wherein the controller 4 stores information including the movement distance, the movement speed and the movement direction, of therunning belt 1 by means of a rotating axis sensor 22 when the running belt 1 was moved by the operator's power, and causes a motion of the

running belt 1 to be copied in a backward direction based on the stored movement information of the running belt 1 while maintaining the movement speed of the running belt 1 at a speed input from a button of the controller 4.

[19] The treadmill according to claim 1, wherein the controller 4 has a program for calculating a distance of the running belt 1 by means of a rotating axis sensor 22 and belt sensors 23a and 23b.

[20] The treadmill according to claim 1, wherein the controller 4 calculates a voltage of the motor driver 12 and a time when the voltage was output to calculate the movement distance of the running belt 1.

[21] The treadmill according to claim 1, wherein an inclination degree of the running belt 1 varies by means of the controller 4 when the operator does weight training on the running belt 1.

[22] The treadmill according to claim 1, wherein a motor case 24 for covering the motor 2 is disposed at one end of the bottom frame 13, and several rotation roller rods 25 are disposed above the motor case 24.

[23] The treadmill according to claim 1, wherein the controller 4 compares a movement distance of the running belt 1 run by the motor 2 with a movement distance of the running belt 1 run backward by the operator's power, and controls the motor 2 to operate by an amount of error when the error results from the comparison so that the running belt 1 moves always by a constant distance.

[24] The treadmill according to claim 12, wherein a load cell 30 for detecting a weight acting on the rope 3 from the operator is disposed between the load cell engagement rod 33a and the rope 3, and the controller 4 uses the information detected by the load cell 30 to variably control a braking power of the motor 2.

[25] The treadmill according to claim 12, wherein load cells 30 for detecting a weight acting on the rope 3 from the operator are disposed at both ends of the load cell engagement rod 33b, and the controller 4 uses the information detected by the load cells 30 to variably control a braking power of the motor 2.

[26] The treadmill according to claim 12, wherein a load cell housing 31 is disposed in the vertical frame 14, a load cell 30 disposed at an end of the load cell engagement rod 33b is inserted into the load cell housing 31, and information regarding the magnitude of a power when the power is applied to the engagement rod 10 is transmitted to the controller 4 so that a braking power and a driving power of the motor 2 are variably controlled by the controller.

[27] The treadmill according to claim 1, wherein a bench 5, a base plate 6 or an anti-rolling base plate 34 is disposed on the running belt 1.

[28] The treadmill according to claim 27, wherein vertical plates 28 are disposed at both sides of one end of the anti-rolling base plate 34 to facilitate tight contact

and power action, of the operator.

[29] A method of allowing weight training to be carried out using a treadmill including a driving motor 2 controlled by a motor driver 12, a running belt 1 driven by the motor 2 and a controller 4 for controlling the motor driver 12, the method comprising:

moving the running belt 1 at a predetermined speed and a predetermined direction (forward direction) for a predetermined distance and stopping the running belt;

removing a driving power of the motor 2 to cause the running belt 1 to move backward by means of an operator's power;

generating a braking power of the motor 2 to make the braking power of the motor 2 act as a weight training load when the running belt 1 moves backward; and

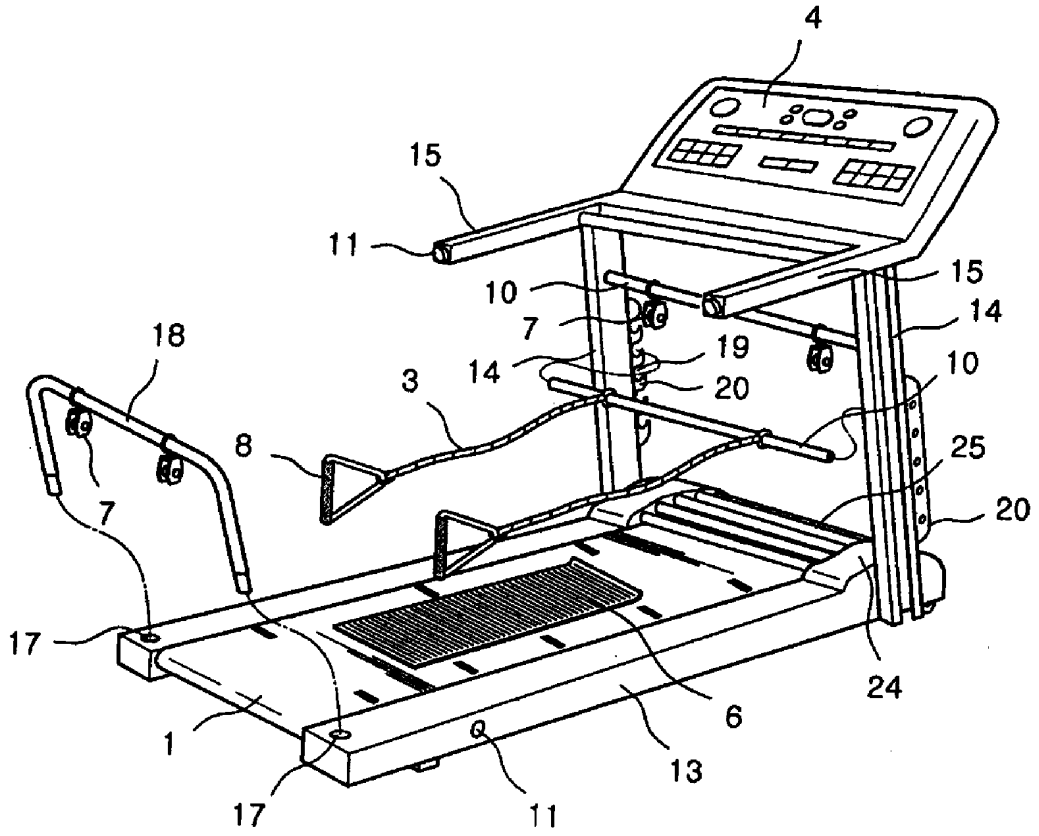
repeating the above described steps when the running belt 1 moves to the original position.

[30] The method according to claim 29, wherein when therunning belt 1 moves backward, the controller 4 varies the braking power of the motor 2 to allow several weight apparatuses to be used for training for one movement of the running belt.

[31] The method according to claim 29, wherein the controller 4 moves the running belt 1 by means of a driving voltage of the motor 2 generating from a button set value, and receives the operator's power to control the braking power of the motor 2 when the power acts backward.

[32] The treadmill according to claim 12, wherein a rope guide roller 7 for allowing the rope 3 to be hung and reciprocated is disposed in the engagement rod 10.

[Fig. 1]


4
15
11
10
7
19
14
20
18
3
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8
25
7
20
17
24
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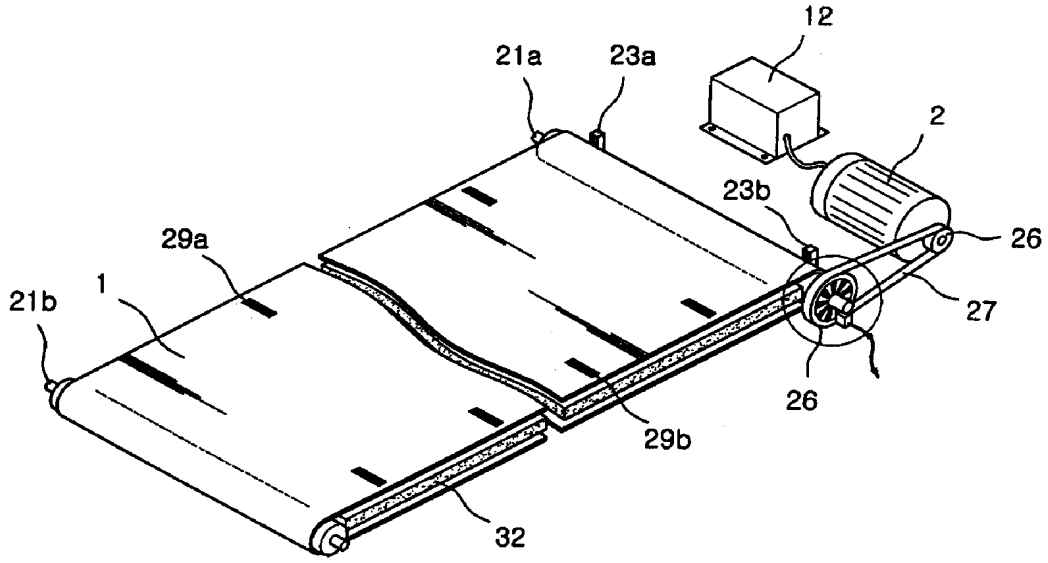
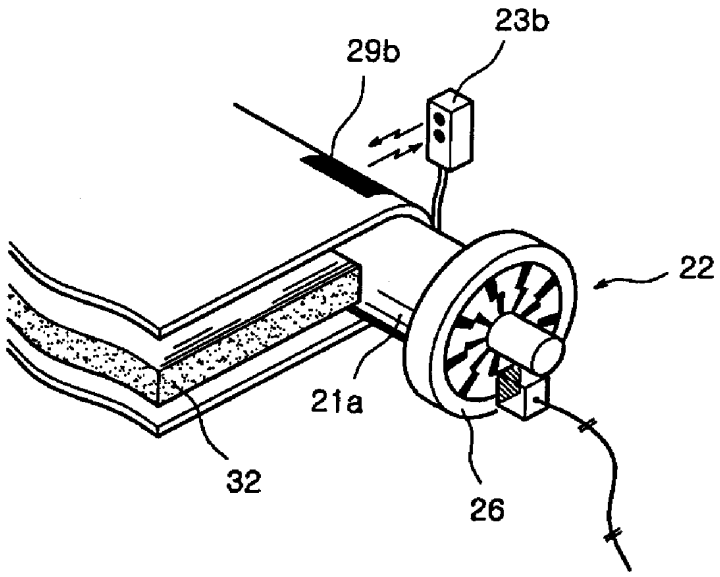
1
13
17
11

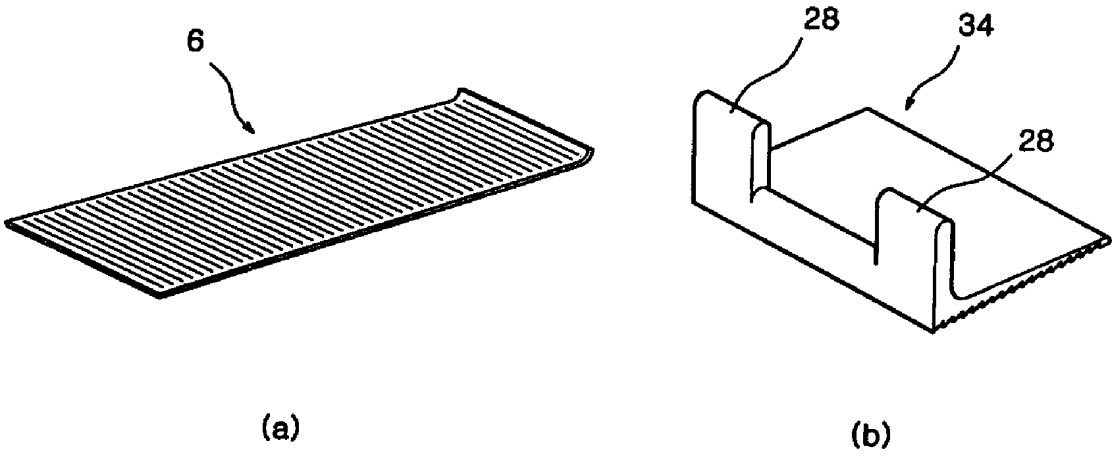
[Fig. 2]


12
21a
23a
2
23b
26
29a
1
21b
27
26
29b
32

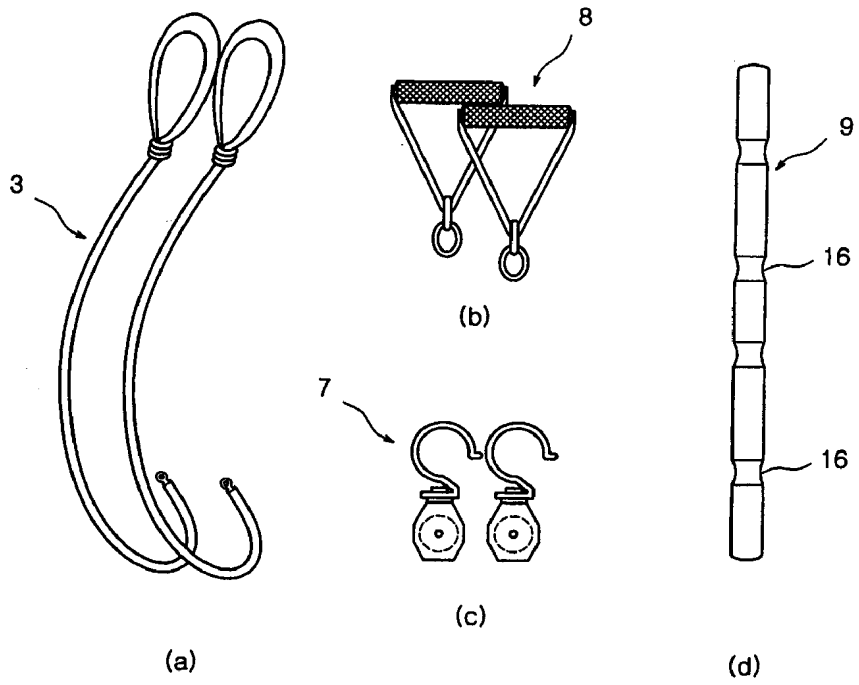
[Fig. 3]



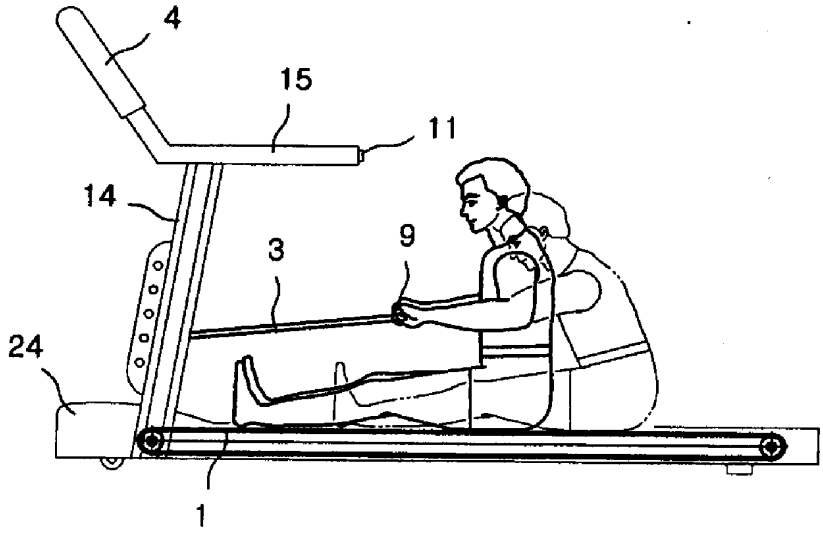
[Fig. 4]



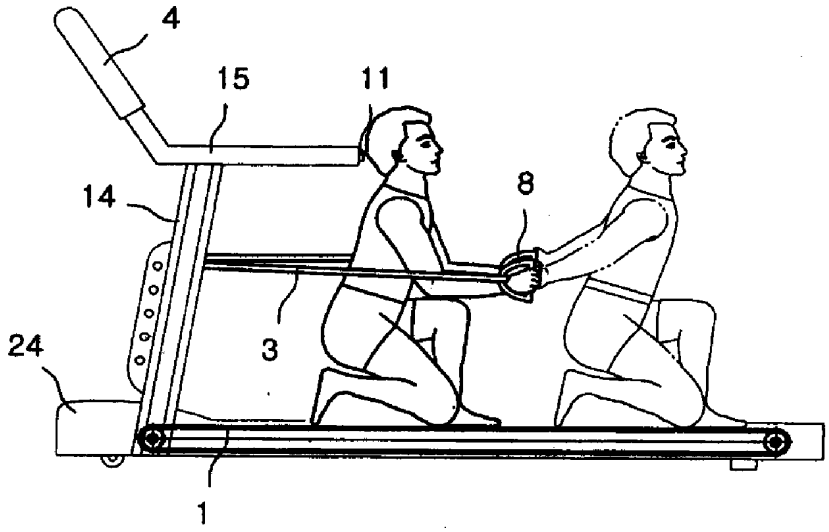
[Fig. 5]



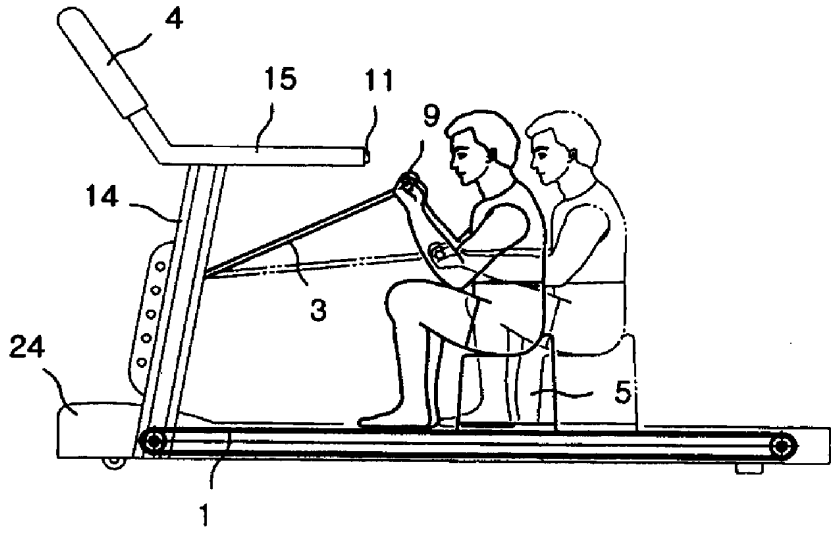
[Fig. 6]



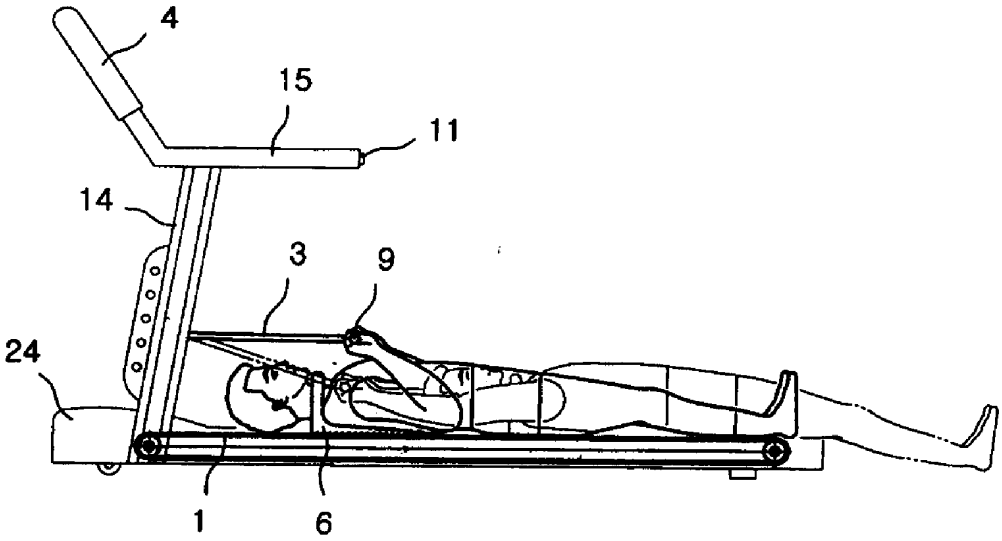
[Fig. 7]



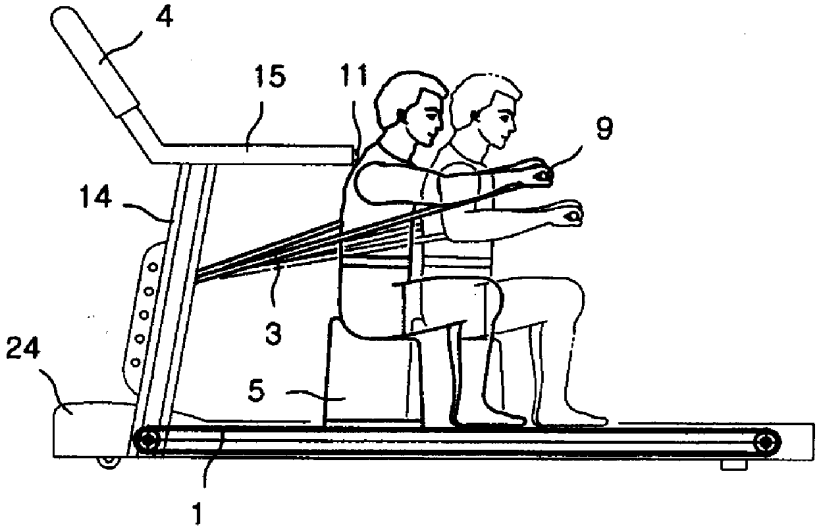
[Fig. 8]



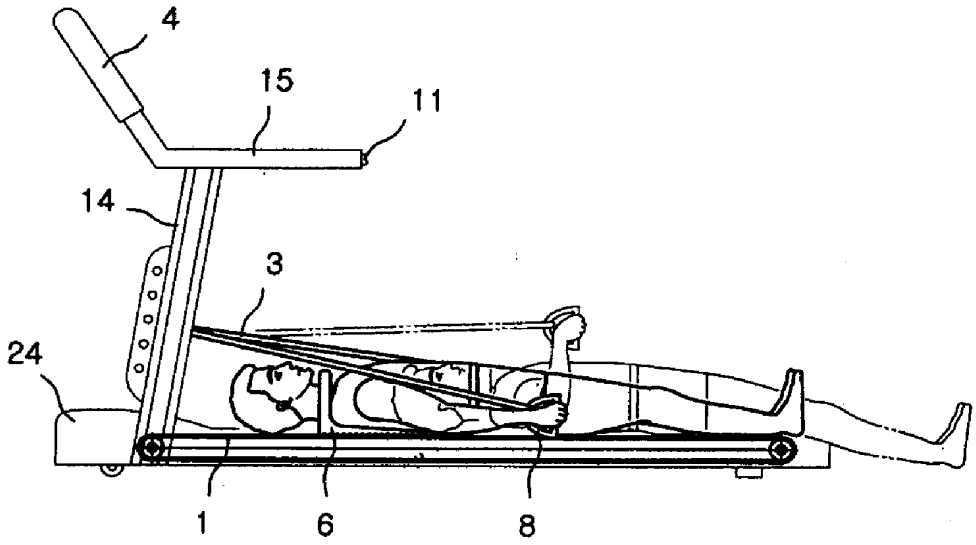
[Fig. 9]



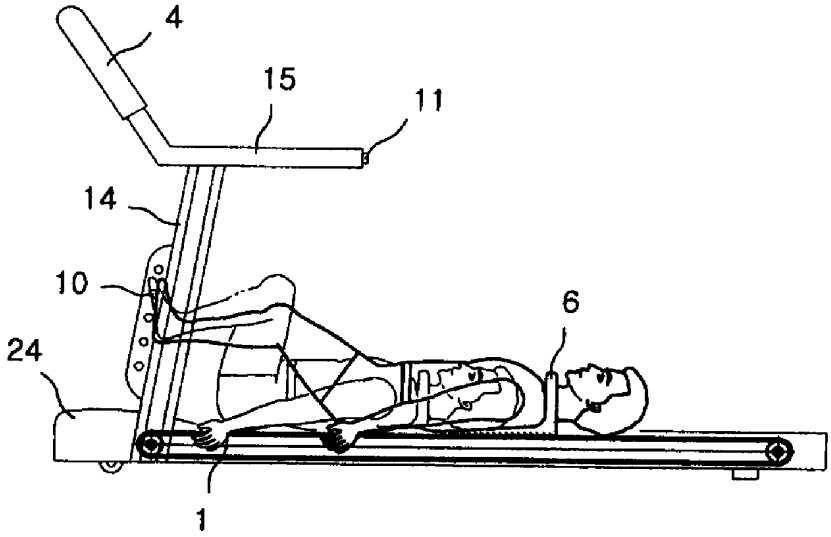
[Fig. 10]



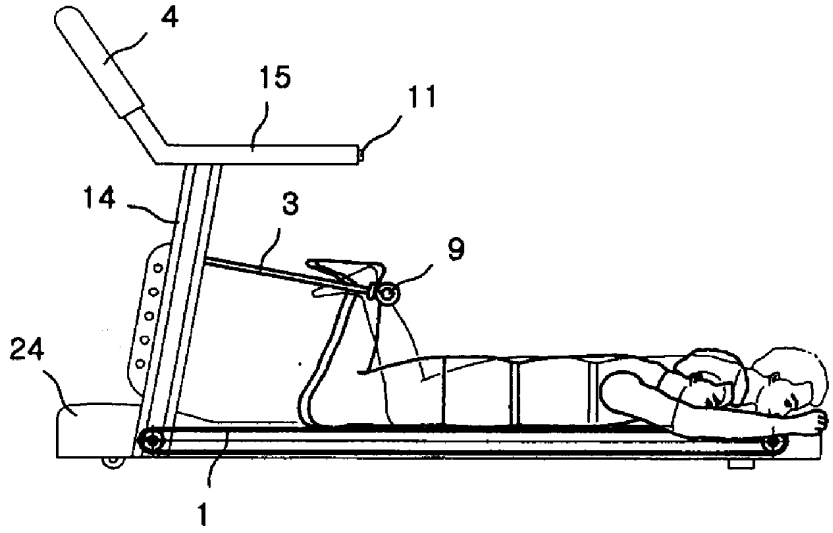
[Fig. 11]



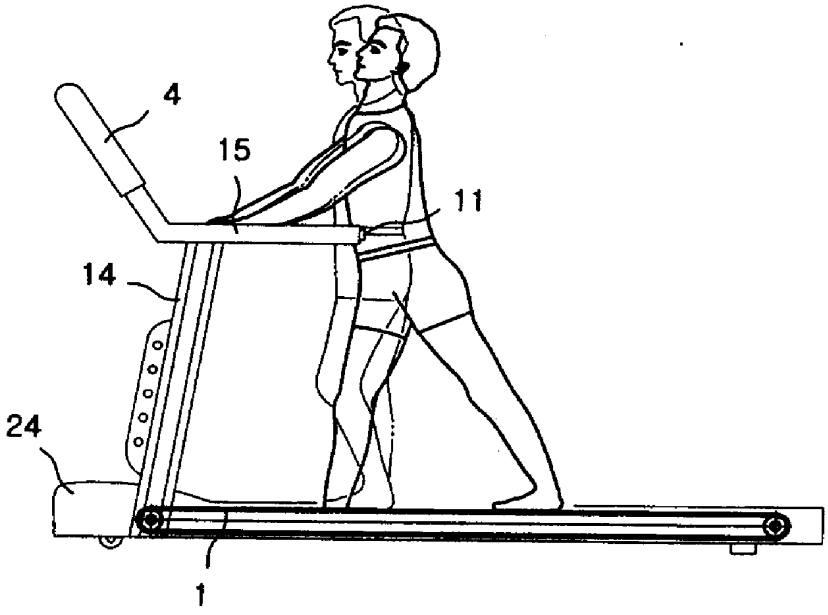
[Fig. 12]



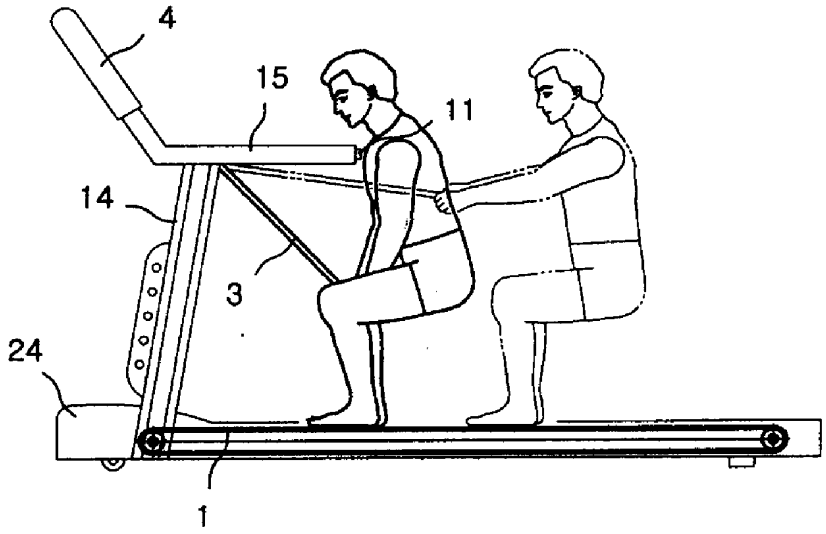
[Fig. 13]



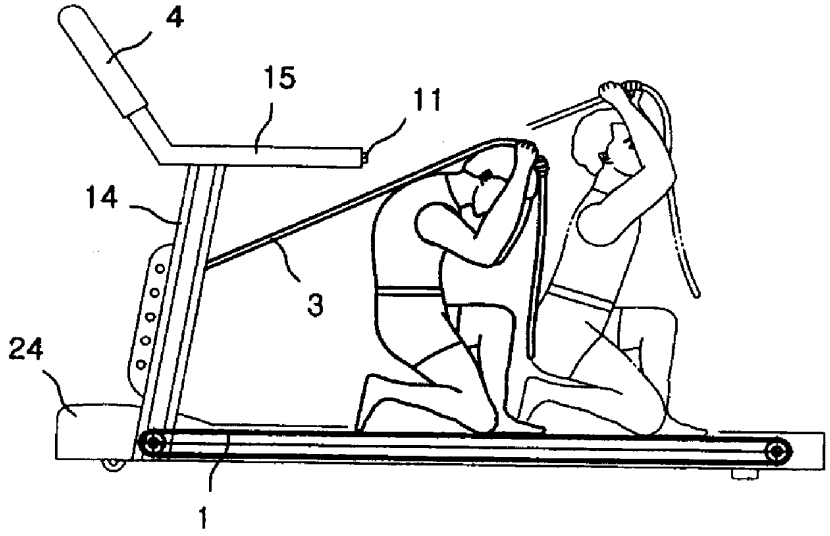
[Fig. 14]



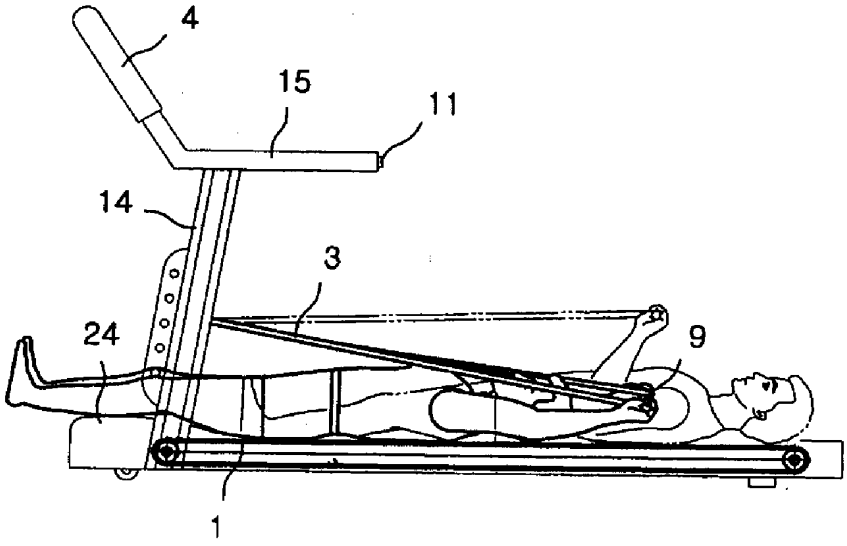
[Fig. 15]



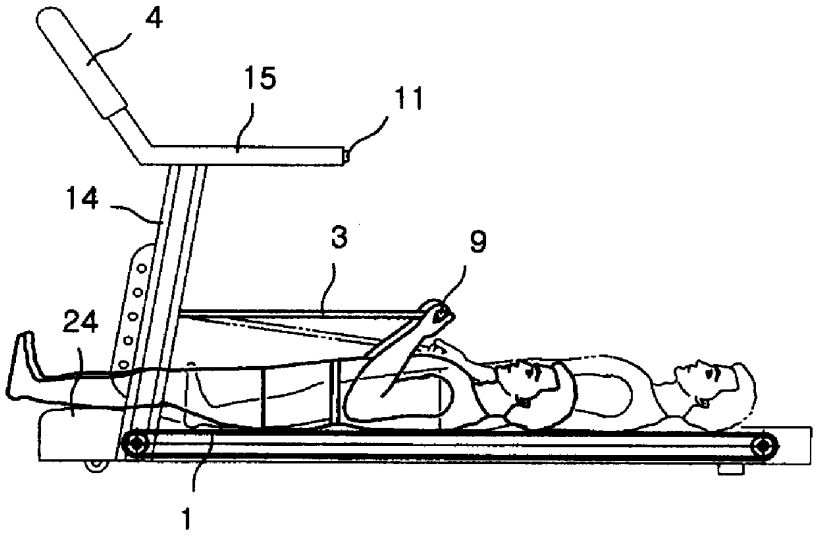
[Fig. 16]



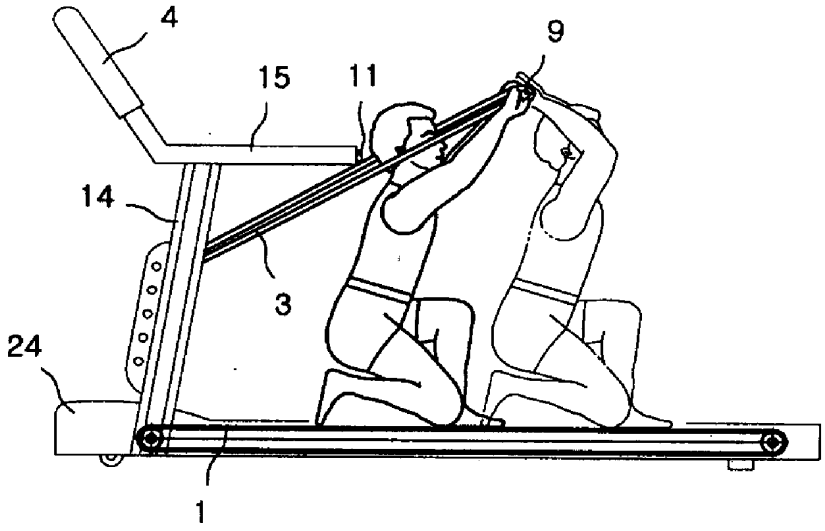
[Fig. 17]



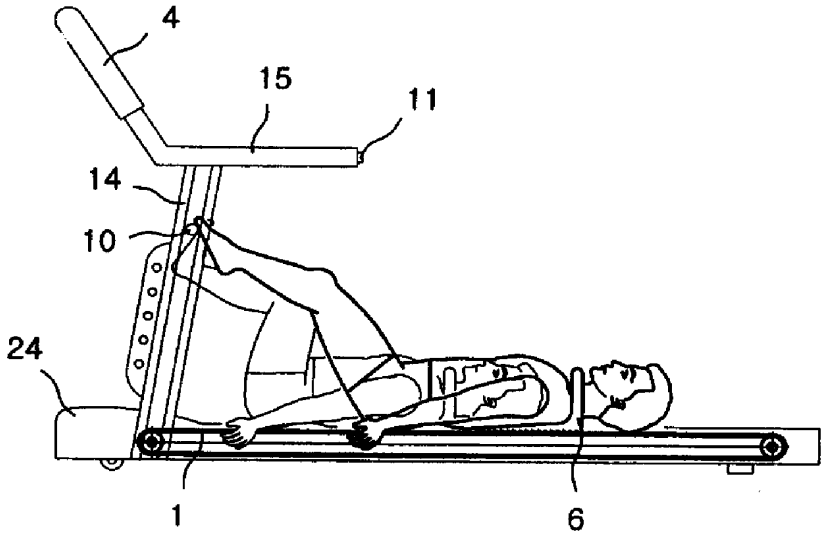
[Fig. 18]



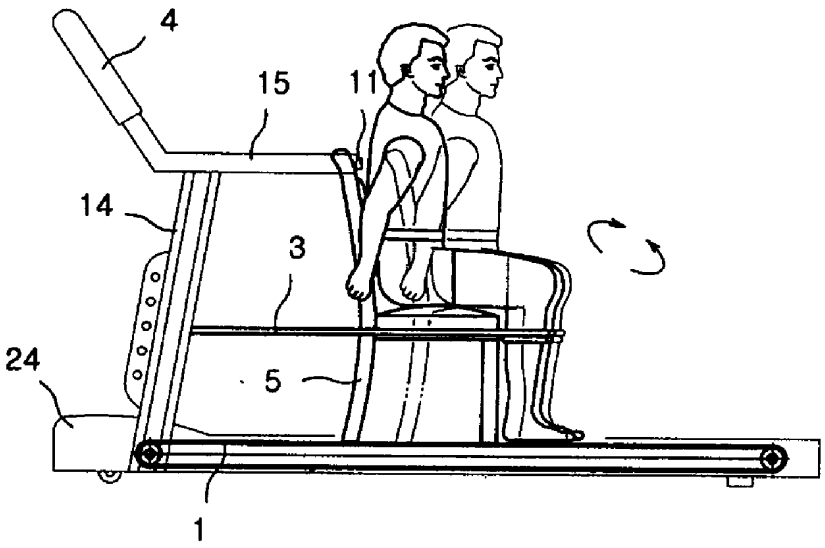
[Fig. 19]



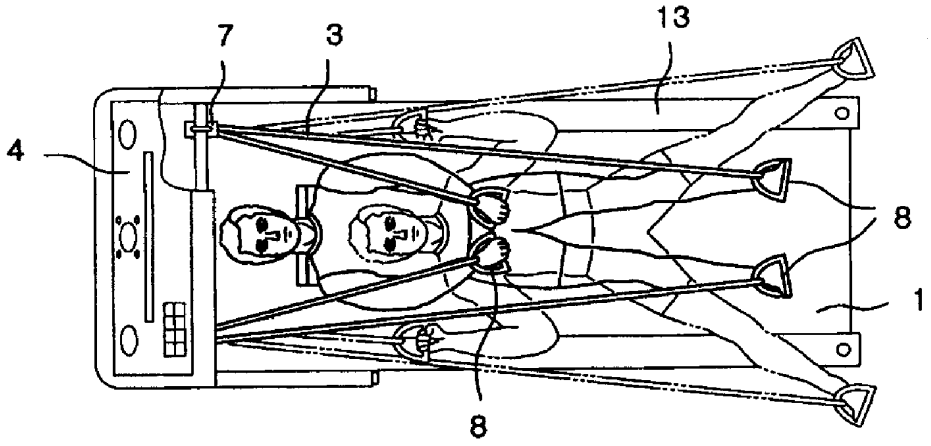
[Fig. 20]



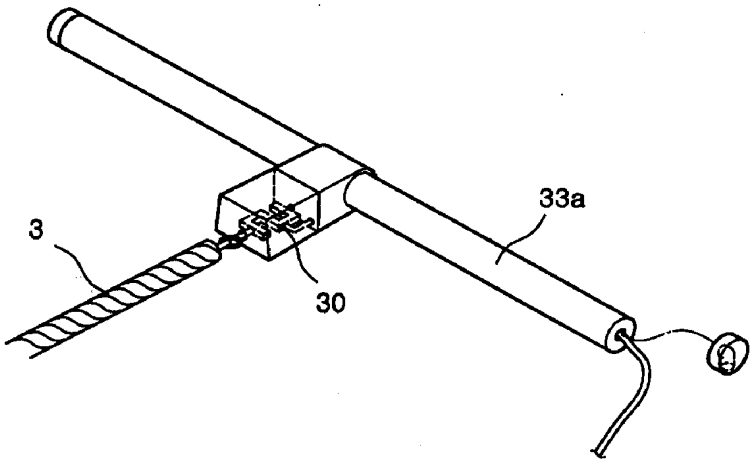
[Fig. 21]



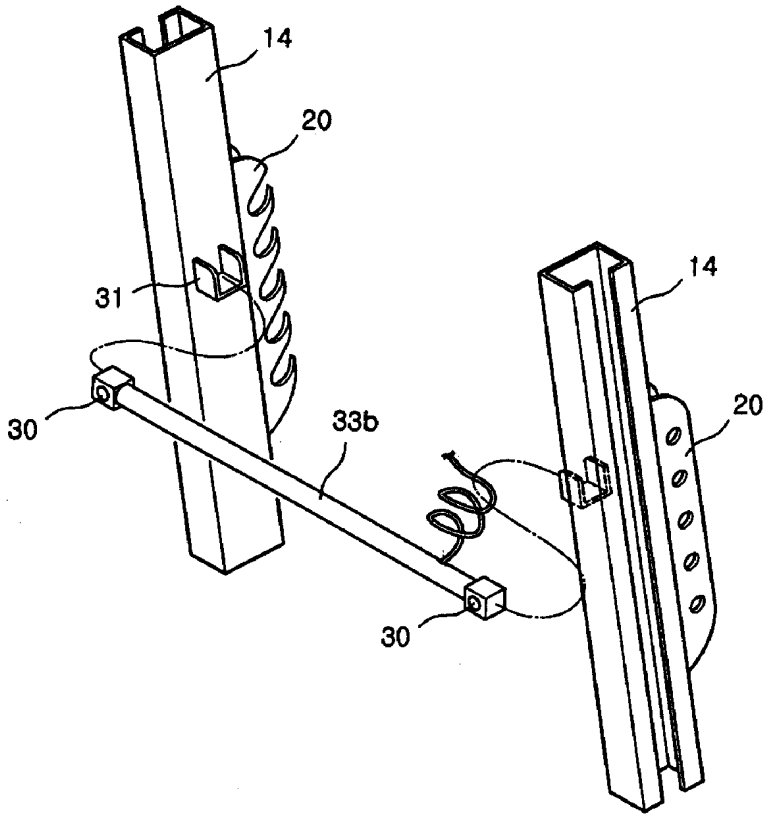
[Fig. 22]



[Fig. 23]

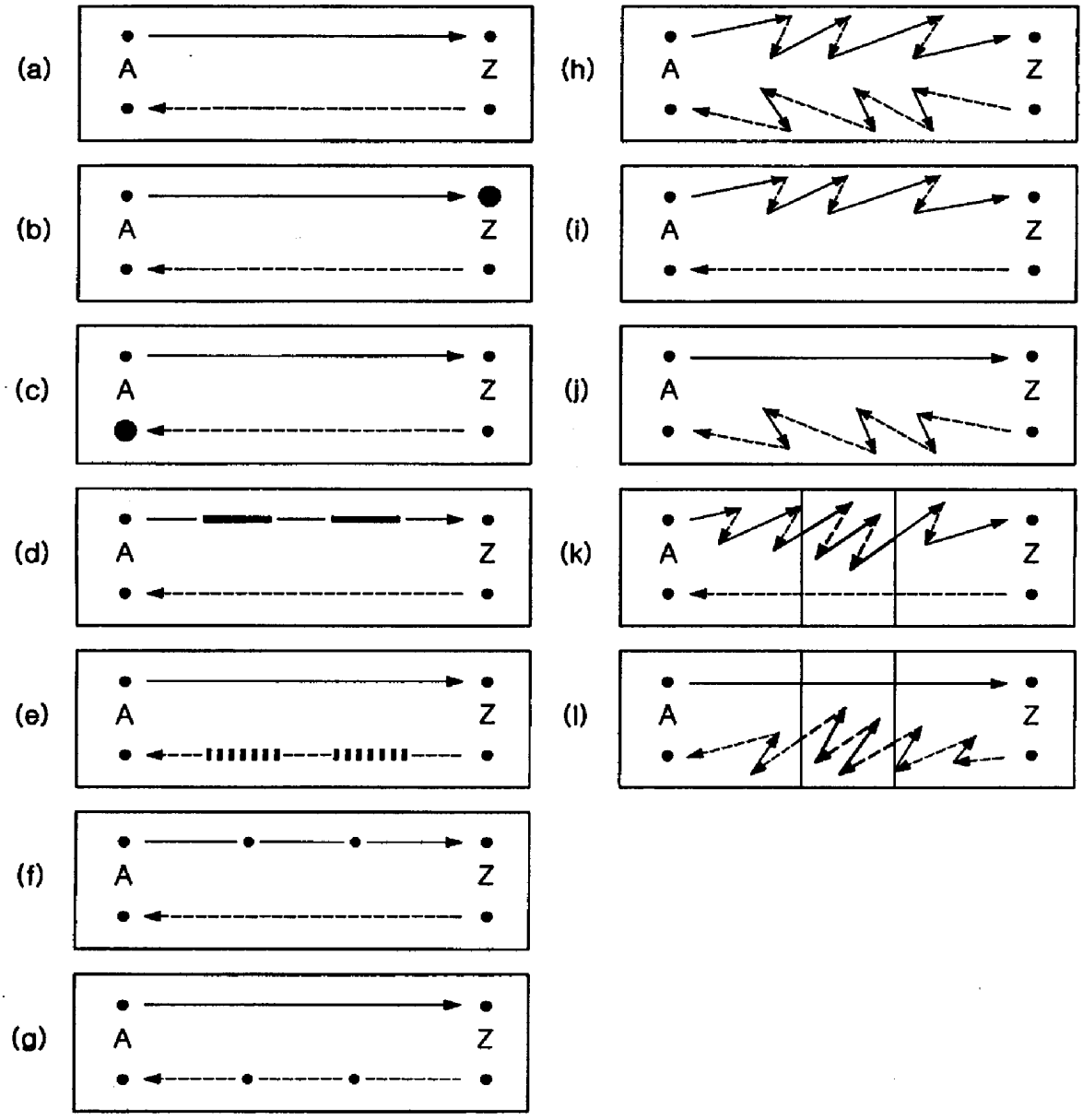


(a)

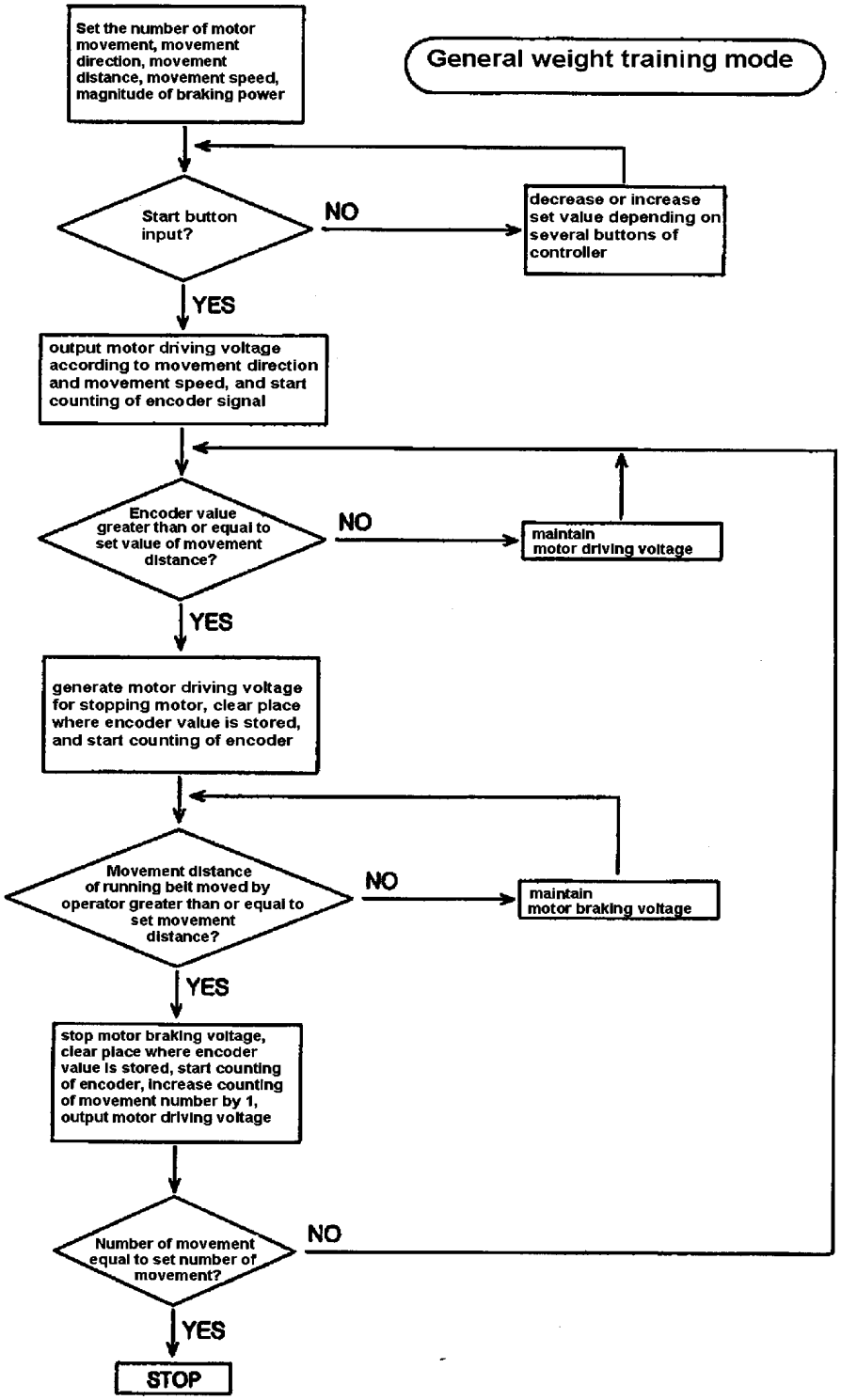


(b)

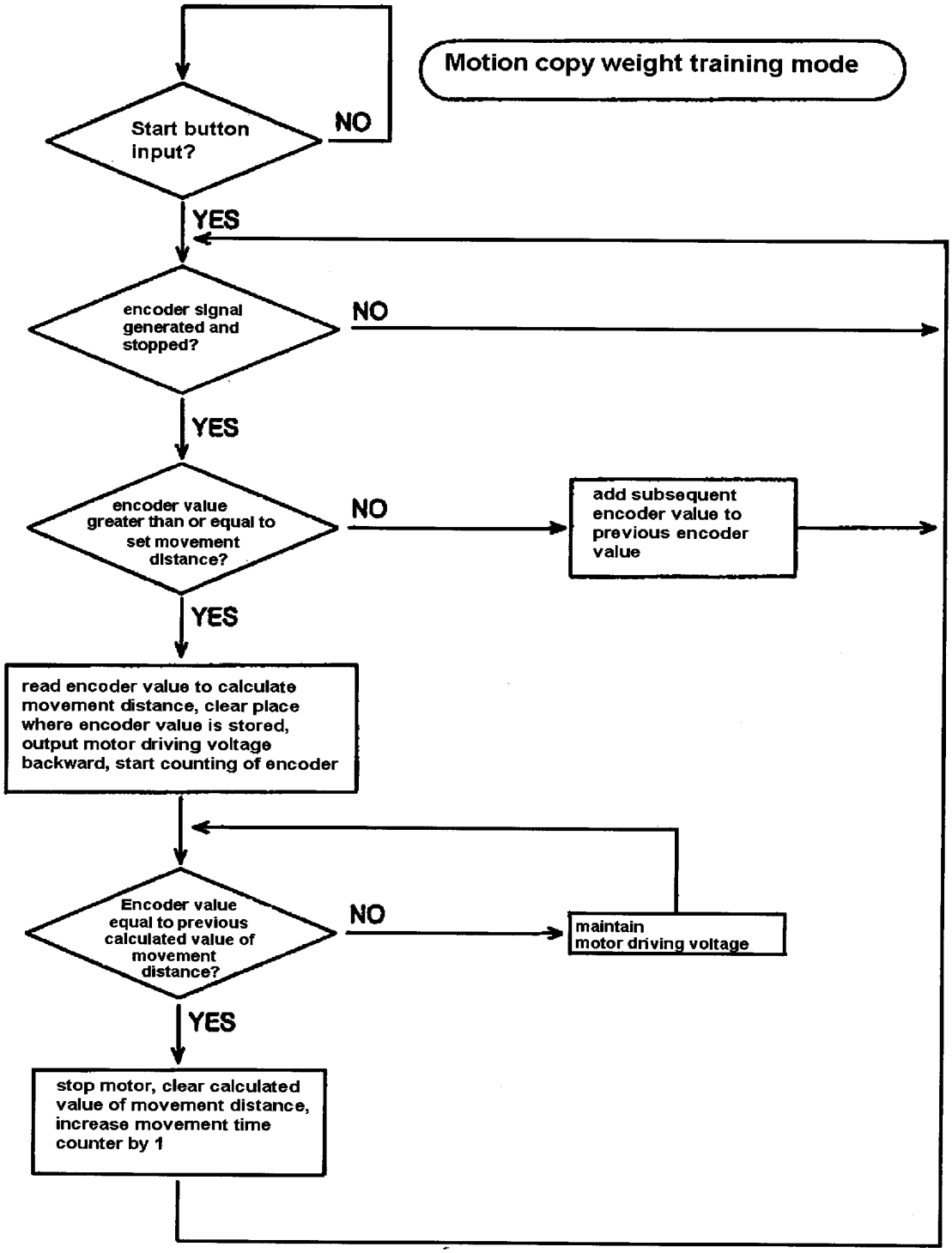
[Fig. 24]



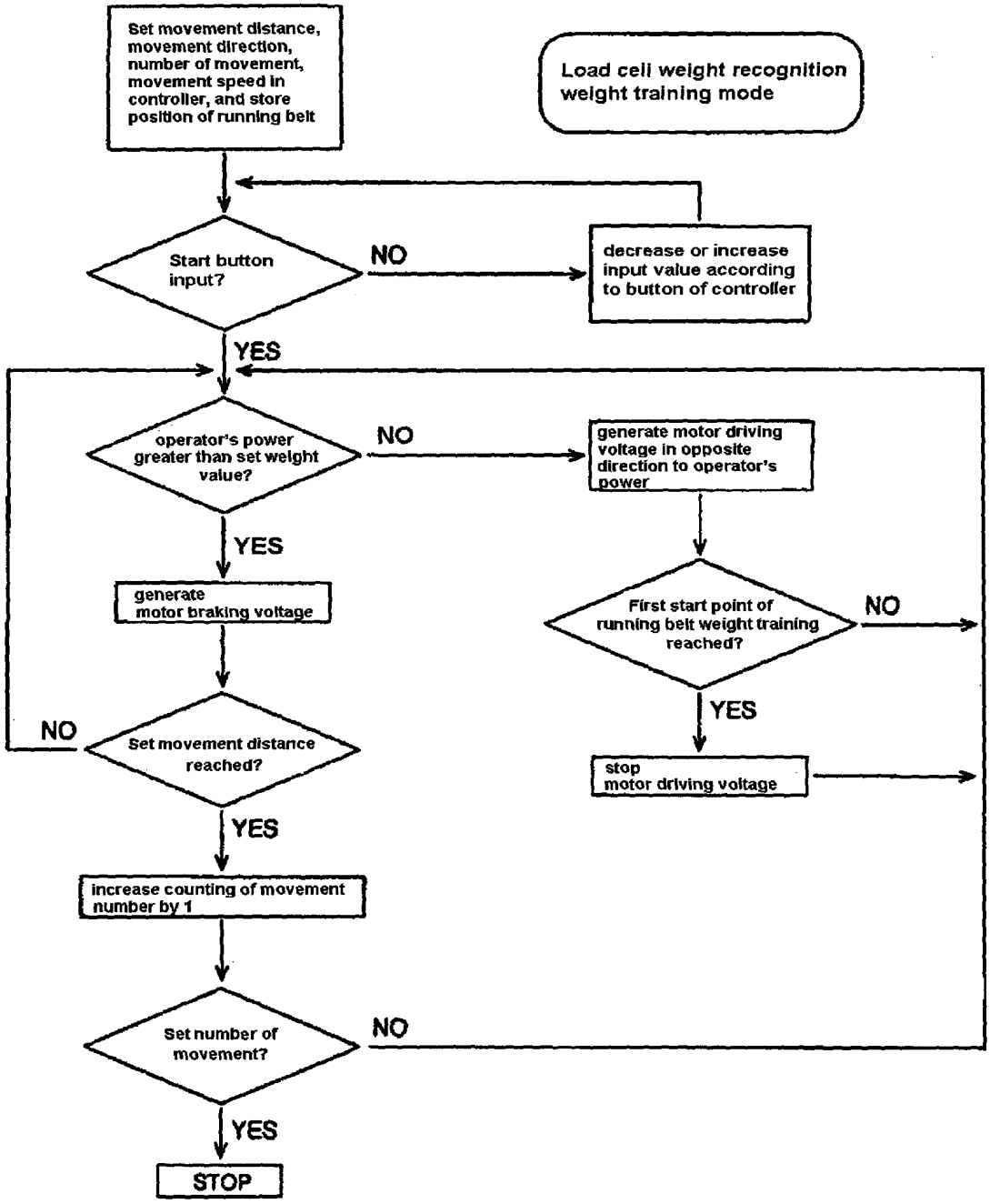
[Fig. 25]


General weight training mode
Set the number of motor movement, movement direction, movement distance, movement speed, magnitude of braking power
Start button input?
NO
decrease or increase set value depending on several buttons of controller
YES
output motor driving voltage according to movement direction and movement speed, and start counting of encoder signal
Encoder value greater than or equal to set value of movement distance?
NO
maintain motor driving voltage
YES
generate motor driving voltage for stopping motor, clear place where encoder value is stored, and start counting of encoder
Movement distance of running belt moved by operator greater than or equal to set movement distance?
NO
maintain motor braking voltage
YES
stop motor braking voltage, clear place where encoder value is stored, start counting of encoder, increase counting of movement number by 1, output motor driving voltage
Number of movement equal to set number of movement?
NO
YES
STOP

[Fig. 26]


Motion copy weight training mode
Start button input?
NO
YES
encoder signal generated and stopped?
NO
YES
encoder value greater than or equal to set movement distance?
NO
add subsequent encoder value to previous encoder value
YES
read encoder value to calculate movement distance, clear place where encoder value is stored, output motor driving voltage backward, start counting of encoder
Encoder value equal to previous calculated value of movement distance?
NO
maintain motor driving voltage
YES
stop motor, clear calculated value of movement distance, increase movement time counter by 1

[Fig. 27]


Set movement distance, movement direction, number of movement, movement speed in controller, and store position of running belt
Load cell weight recognition weight training mode
Start button input?
NO
decrease or increase input value according to button of controller
YES
operator's power greater than set weight value?
NO
generate motor driving voltage in opposite direction to operator's power
YES
generate motor braking voltage
First start point of running belt weight training reached?
NO
YES
stop motor driving voltage
NO
Set movement distance reached?
YES
increase counting of movement number by 1
Set number of movement?
NO
YES
STOP

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2008/004064

A. CLASSIFICATION OF SUBJECT MATTER

A63B 22/02(2006.01)i

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 8 : A63B 22/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal) & keywords: treadmill, weight training, backward

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2006/062319 A1 (KIM, J. C.) 15 June 2006 See abstract; Claims 1, 5; Figures 1, 4-9	1-32
A	US 6,334,839 B1 (LIM, J. S.; Lee, B. D.) 01 January 2002 See abstract; Claim 1; Figures 1, 2	1-32
A	US 7,048,676 B1 (WU, S. Y.) 23 May 2006 See abstract; Claim 1; Figure 2	1-32
A	JP 17-000326 A (SHIMANE UNIV.; ZENKIN METAL) 06 January 2005 See abstract; Claims 1-4; Figure 1	1-32
A	JP 51-059662 U (HITACHI LTD.) 11 May 1976 See the whole document; Figures 1, 3	1-32

☐ Further documents are listed in the continuation of Box C.

☒ See patent family 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 application or patent 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 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	Date of mailing of the international search report
29 OCTOBER 2008 (29.10.2008)	**30 OCTOBER 2008 (30.10.2008)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

Choi, Bong Don

Telephone No. 82-42-481-8166

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2008/004064

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006/062319 A1	15.06.2006	CN 1933878 A	21.03.2007
		EP 1718375 A1	08.11.2006
		JP 2007-525301	06.09.2007
		KR 10-2005-0118143 A	15.12.2005
		US 2007-0167290 A1	19.07.2007
US 6,334,839 B1	01.01.2002	DE 19962761 A1	12.04.2001
		DE 19962761 B4	31.10.2007
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		KR 10-2000-0000438 A	15.01.2000
		KR 20-0184373 Y1	01.06.2000
US 7,048,676 B1	23.05.2006	NONE	
JP 17-000326 A	06.01.2005	NONE	
JP 51-059662 U	11.05.1976	NONE	

Electronic Patent Application Fee Transmittal

Application Number:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

Electronic Acknowledgement Receipt

EFS ID:	33852383
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	27-SEP-2018
Filing Date:	20-APR-2018
Time Stamp:	16:30:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	092818INTEFSW16305900
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	Transmittal Letter	097208-0226_IDS.pdf	101503 0fe7c38cf30aabe7b0a874ae31c05e1cb1a8afb1	no	2
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	097208-0226_SB08.pdf	103243 7366c7dca0b48036563d9cfec445f4e5d64231c5	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Foreign Reference	C23--WO_2009_014330A1.pdf	2259548 b7b046d6446a4f5d2b48fe664a4ad4fff6dba9db	no	49
Warnings:					
Information:					
4	Non Patent Literature	C24--BIODEX_MEDICAL_SYSTEMS__INC____THE_BIODE.pdf	3721575 b78bcace99544fe1daf383b4c3ba575227b5a477	no	48
Warnings:					
Information:					
5	Non Patent Literature	C25--BUCHHEIT_ET_AL____Assessing_Stride_Varia.pdf	479407 cd5690f9501688c0c67157d39bb60a739352d548	no	5
Warnings:					
Information:					
6	Non Patent Literature	C26--COOLTHINGS___Woodway_EcoMill__A_Non_Moto.pdf	828715 e30c72c4bbcff48e198d696912c95233b4271c8a	no	6
Warnings:					

Information:					
7	Non Patent Literature	C27--HDT_EXPEDITIONARY_SYSTEMS__INC____KineAs.pdf	5358040 52b1f62535535c9fb3335bcb3121c167d8dc73ef	no	73
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Information:					
8	Non Patent Literature	C28--LISZEWSKI__ANDREW___EcoMill_Treadmill_Ge.pdf	571108 d6336bf22e6eaffe316cad7cc7d1cc2c00a0ab65	no	1
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Information:					
9	Non Patent Literature	C29--NASA___Combined_Operational_Load_Bearing.pdf	288735 e2db7df59463f04c50342f81bd192336da9fe885	no	3
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10	Non Patent Literature	C30--NASA___International_Space_Station__Comb.pdf	157641 a56caffd2ea654658dbcfbfc219cd42fc86c52f6	no	4
Warnings:					
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11	Non Patent Literature	C31--NASA___International_Space_Station__Do_T.pdf	138258 d2c062d4c0efadea86f96ea31e0c5e85b35026b9	no	2
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Information:					
12	Non Patent Literature	C32--NASA___International_Space_Station__Trea.pdf	242689 1c6b05aa6ba345e16ced684bcb356be99fd653bf	no	5
Warnings:					
Information:					
13	Non Patent Literature	C34--Ruling_Re__Plaintiffs__Motion_for_Summar.pdf	1103440 efd2a256fedf825d3bcf89b3ed6a105a37ea8ad1	no	26
Warnings:					
Information:					

14	Non Patent Literature	C37--TECMACHINE___Sprint_Club__User_s_Guide__.pdf	2069122 8e5c5e802a700221d0f8cae894a33cbc60bd05fd	no	33
Warnings:					
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15	Non Patent Literature	--NASA___Space_Shuttle_Mission.pdf	4873561 70771784dfbdbbd43b4b1663f039bf3c7e411c93	no	116
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Information:					
16	Non Patent Literature	--SOUTHERN_RESEARCH_ET_AL_____AIMTech_Proje_Processed.pdf	145576 1418912955eebbb412a99268620377536 6fd68ea	no	2
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Information:					
18	Fee Worksheet (SB06)	fee-info.pdf	30614 d47643dce1105fd970583da5cad277309bcd2af1	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	22946542	

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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

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3764
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. PCT/US10/27543, filed 3/16/2010; application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(c), before the mailing date of any of a final action under 37 CFR §1.113, a notice of allowance under 37 CFR §1.311, or an action that otherwise closes prosecution in the application.

FEE

Fees in the amount of $120.00 to cover the fee associated with an information disclosure statement are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account Number 19-0741.

Respectfully submitted,

Date /9-27-2018/ By /Alexander J. Neuworth/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 319-7029
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Attorneys for Applicant

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Alexander J. Neuworth
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Appl. No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation Number:	4765

AMENDMENT AND REPLY UNDER 37 C.F.R. § 1.111

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

Commissioner:

This communication is responsive to the Non-Final Office Action mailed July 19, 2018, concerning the above-referenced patent application.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks begin on page 14 of this document.

Please amend the application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt includes a curved running surface; and

a safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, so that a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft ~~wherein the safety device is structured to restrict movement of at least one of the running belt, the front shaft, and the rear shaft in a first rotational direction while permitting movement of the at least one of the running belt, the front shaft, and the rear shaft in a second rotational direction opposite the first rotational direction~~.

2. (Original) The manually powered treadmill of claim 1, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

3. (Original) The manually powered treadmill of claim 2, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

4. (Original) The manually powered treadmill of claim 1, wherein the safety device is a one-way bearing.

5. (Original) The manually powered treadmill of claim 1, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

6. (Original) The manually powered treadmill of claim 1, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

7. (Original) The manually powered treadmill of claim 6, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

8. (Currently Amended) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear

shaft assemblies, and comprising ~~including~~ a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt ~~for resisting rotation of at least one of the running belt, the front shaft assembly, and the rear shaft assembly in a first rotational direction while permitting rotation of at least one of the running belt, the front shaft assembly, and the rear shaft assembly in a second rotational direction opposite the first rotational direction~~.

9. (Original) The manually powered treadmill of claim 8, wherein the safety device is a one-way bearing.

10. (Original) The manually powered treadmill of claim 8, wherein the front shaft assembly comprises a front shaft coupled to frame.

11. (Currently Amended) The manually powered treadmill of claim 10, wherein the front shaft assembly comprises [[and]] at least one front running belt pulley coupled to the front shaft.

12. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

13. (Original) The manually powered treadmill of claim 12, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

14. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

15. (Original) The manually powered treadmill of claim 14 wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

16. (Currently Amended) The manually powered treadmill of claim 8, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

17. (Original) The manually powered treadmill of claim 8, wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

18. (Original) The manually powered treadmill of claim 17, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

19. (Currently Amended) The manually powered treadmill of claim 8, wherein the frame includes a left side member, a right side member [[a]] spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

20. (Original) The manually powered treadmill of claim 19 wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

21. (Currently Amended) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved; and

a safety device coupled to ~~at least one of~~ the running belt~~, the front running belt pulley, and the rear running belt pulley~~, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt ~~wherein the safety device is structured to resist rotation of the at least one running belt, the front running belt pulley, and the rear running belt pulley in a first direction while permitting rotation of the at least one running belt, the front running belt pulley, and the rear running belt pulley in a second direction opposite the first direction~~.

22. (Original) The manually powered treadmill of claim 21 wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

23. (Original) The manually powered treadmill of claim 21 further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

24. (Original) The manually powered treadmill of claim 21 further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

25. (Original) The manually powered treadmill of claim 21, wherein the safety device is a one-way bearing.

26. (Original) The manually powered treadmill of claim 21, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

27. (Original) The manually powered treadmill of claim 26, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

28. (Currently Amended) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and the running belt, the safety device having a first element;

permitting rotation ~~movement~~ of the running belt in a first direction by freewheeling of the first element of the safety device; and

~~providing a safety device coupled to the frame wherein the safety device resists~~ resisting rotation ~~movement~~ of the running belt in a second direction opposite the first direction by restricting rotation of the first element of the safety device.

29. (Original) A method according to claim 28 further comprising providing for selective application of a braking force to resist the rotational movement of the running belt in the first direction.

30. (Original) A method according to claim 28 further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

31. (New) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt comprises a curved running surface; and

a safety device coupled to the frame and the running belt, the safety device having a first element and a second element;

wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.

32. (New) The manually powered treadmill of claim 31, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

33. (New) The manually powered treadmill of claim 32, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

34. (New) The manually powered treadmill of claim 31, wherein the safety device is a one-way bearing.

35. (New) The manually powered treadmill of claim 31, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

36. (New) The manually powered treadmill of claim 31, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

37. (New) The manually powered treadmill of claim 36, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

38. (New) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, the safety device having a first element and a second element;

wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.

39. (New) The manually powered treadmill of claim 38, wherein the safety device is a one-way bearing.

40. (New) The manually powered treadmill of claim 38, wherein the front shaft assembly comprises a front shaft coupled to frame.

41. (New) The manually powered treadmill of claim 40, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.

42. (New) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

43. (New) The manually powered treadmill of claim 42, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

44. (New) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

45. (New) The manually powered treadmill of claim 44, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

46. (New) The manually powered treadmill of claim 38, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

47. (New) The manually powered treadmill of claim 38, wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

48. (New) The manually powered treadmill of claim 47, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

49. (New) The manually powered treadmill of claim 38, wherein the frame includes a left side member, a right side member spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

50. (New) The manually powered treadmill of claim 49, wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

51. (New) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved;

a safety device coupled to the frame and the running belt, the safety device having a first element and a second element;

wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.

52. (New) The manually powered treadmill of claim 51, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

53. (New) The manually powered treadmill of claim 51 further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

54. (New) The manually powered treadmill of claim 51 further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

55. (New) The manually powered treadmill of claim 51, wherein the safety device is a one-way bearing.

56. (New) The manually powered treadmill of claim 51, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

57. (New) The manually powered treadmill of claim 56, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

58. (New) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and to the running belt, the safety device having a first element and a second element;

permitting rotation of the first element of the safety device and the running belt in a first direction of rotation; and

substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the first element of the safety device by interference between the first element and the second element of the safety device.

59. (New) A method according to claim 58 further comprising providing for selective application of a braking force to resist the rotational movement of the running belt in the first direction.

60. (New) A method according to claim 58 further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and the reasons that follow.

Status of Claims

Claims 1, 8, 11, 16, 19, 21, and 28 are currently amended. Support for the amendments may be found at least at paragraphs [0147]-[0156] and at Figures 36 and 38 of the present application. These amendments are made without prejudice or disclaimer. No new matter has been added.

No claims are cancelled.

Claims 31-60 are new. Support for new claims 31-60 can be found at least at originally-filed claims 1-30, paragraphs [0147]-[0156], and at Figures 36 and 38 of the present application. No new matter has been added.

After amending the claims as set forth above, claims 1-60 are pending in this application for examination. Applicant respectfully requests favorable consideration of these claims.

New Claims 31-60

Claims 31-60 are new, and are variations of the originally-filed and currently amended claims 1-30. New independent claims 31, 38, 51, and 58 are similar to currently amended independent claims 1, 8, 21, and 28. However and in particular, new independent claims 31, 51, and 58 recite "a safety device having a first element and a second element" (emphasis added). The claims depending from the new independent claims 31, 38, 51, and 58 substantially track the claims depending from the currently amended independent claims 1, 8, 21, and 28.

Applicant respectfully submits that new independent claims 31, 38, 51, and 58 are patentable over the cited references for similar reasons as mentioned below. The lone cited reference for the claimed "safety device" is U.S. Patent No. 5,492,517 ("Bostic"). As mentioned in detail below, Bostic does not disclose, teach, or suggest the features of amended independent claims 1, 8, 21, and 28. New independent claims 31, 38, 51, and 58 substantially recite these features and, as mentioned above, further define the safety device.

For at least this reason, new independent claims 31, 38, 51, and 58 are patentable over the cited references. The claims depending therefrom are also patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

Statement of Substance of Interview

On September 19, 2018, a telephone interview was conducted in the present application between Examiner Jennifer Deichl and Attorneys Alexander J. Neuworth and Richard J. McKenna for the Applicant. Applicant thanks the Examiner for her time. During the interview, the parties discussed the disclosure of U.S. Pat. No. 5,492,517 ("Bostic"). Attorneys for the Applicant explained the believed method of operation of the one-way clutch of Bostic, which is also presented below under the Claim Rejections under 35 U.S.C. § 103 section. Simply, the one-way clutch of Bostic does not provide for rotation in only one direction. The Bostic one-way clutch freewheels in one direction and transmits torque in the other direction. As a result, the treadmill belt of Bostic is free to move in both directions. The Examiner appeared to agree with counsel, but indicated more consideration would be required. A proposed claim amendment was then discussed to highlight this distinction between the claims of the present application and Bostic. The Examiner indicated that there appears to be support for the claim term "freewheel" based on paragraph [0149] of the present application. The Examiner also indicated that focusing on this freewheeling feature may differentiate the claims from Bostic and the other cited references. However, as relating to the support and differentiation issues, the Examiner again indicated that more search and consideration would be required. Applicant thanks the Examiner for her time and thoughtful consideration.

Claim Rejections Under 35 U.S.C. § 103

On page 2 of the Office Action, the Examiner rejected claims 1-4, 6-14, 17-21, and 23-29 under 35 U.S.C. § 103 as being unpatentable over Bostic in view of U.S. Patent No. 3,642,279 ("Cutter") and U.S. Patent No. 4,334,676 ("Schonenberger"). On page 7 of the Office Action, the Examiner rejected claims 5, 16, and 30 under 35 U.S.C. § 103 as being unpatentable over Bostic in view of Cutter and Schonenberger and further in view of U.S. Patent No. 4,406,451 ("Gaetano"). On page 7 of the Office Action, the Examiner rejected claims 15 and 22 under 35 U.S.C. § 103 as being unpatentable over Bostic in view of Cutter and Schonenberger and further in view of U.S. Patent No. 6,923,746 ("Skowronski"). These rejections are respectfully traversed.

Without acquiescing to the rejections, Applicant has amended independent claim 1 to recite, in part:

> 1. A manually powered treadmill, comprising:
> ....
> a safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, so that a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft.

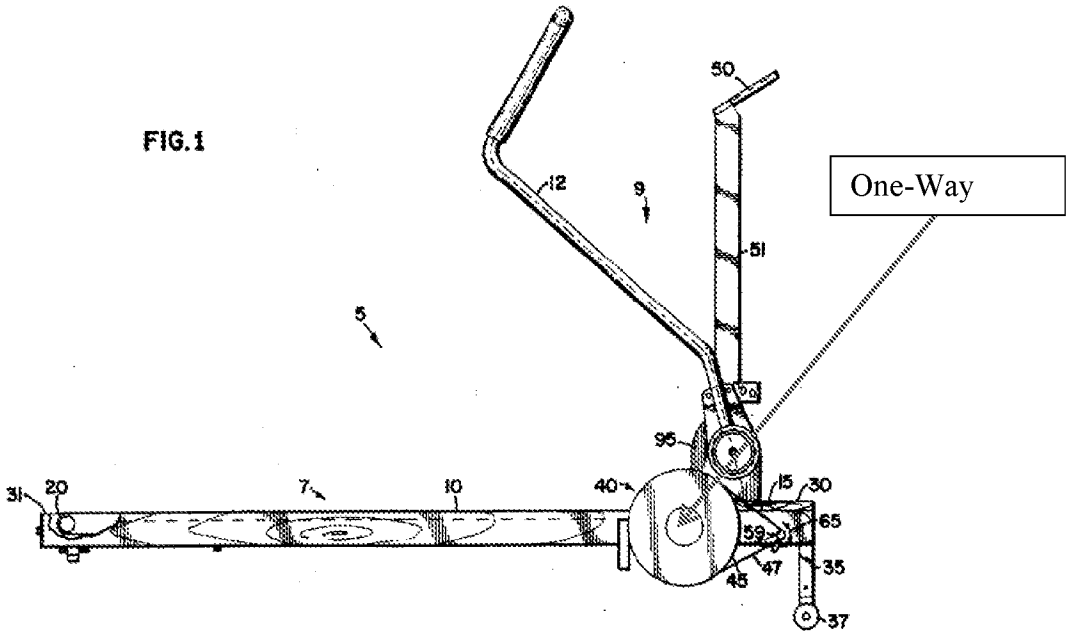
In combination with the other limitations, none of the cited references disclose, teach, or suggest a "safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, so that a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety

device, the running belt and the at least one of the front shaft and the rear shaft," as in amended independent claim 1.

In the Office Action and with respect to the "safety device" limitations, the Examiner cited Bostic and stated that "Bostic teaches a manually powered treadmill, comprising ... a safety device ... structured to restrict movement of at least one of the running belt, the front shaft, and the rear shaft in a first rotational direction while permitting movement of the at least one of the running belt, the front shaft, and the rear shaft in a second rotational direction opposite the first rotational direction (one-way clutch; column 2 lines 54-56)." Office Action, p. 2. Applicant respectfully disagrees.

Bostic relates to an "an exercise apparatus including [a] structure for exercising the legs as well as [a] structure for exercising the arms." Col. 1, lines 11-13. The apparatus includes a "flywheel 45 [that] incorporates a one-way clutch which allows free movement of the flywheel in one direction but precludes movement in the opposite direction." *Id.* at Col. 2, lines 54-56.

The one-way clutch does not affect movement of the treadmill surface 10. With reference to annotated to Figure 1 of Bostic below, the one-way clutch is disposed inside the flywheel 45.



A rigid or fixed structure does not engage with the one-way clutch. As a result, the one-way clutch is capable of rotating in both directions. However, torque is only transmitted in one direction, which is one characteristic of a "freewheeling" type device. In the opposite rotational direction, torque is not transmitted (i.e., the device freewheels). In this regard and in operation, as a user moves the treadmill belt 10 rearward (away from the display panel 50), the drive roller 25 (not shown above) engages with the one-way clutch to rotate the flywheel 45 counterclockwise: in other words, torque is transmitted from the drive roller 25 to the one-way clutch and to the flywheel to cause the flywheel to rotate. However, as a user moves the treadmill belt 10 frontward (toward the display panel), the one-way-clutch freewheels which enables the drive roller 25 to simply rotate within the one-way clutch. Torque resulting from the rotation of the treadmill surface 10 is not transmitted to the flywheel 45. Therefore, the flywheel 45 continues to rotate in the counterclockwise direction (based on the view above). The one-way clutch does not affect or otherwise control directional movement or rotation of the treadmill belt 10. As a result, the treadmill belt 10 is free to move in both directions.

This structure which transmits torque in one direction but allows rotation of the treadmill in both directions comports with U.S. Pat. No. 4,023,795 ("Pauls"), which is incorporated by reference in Bostic with respect to the one-way clutch. Pauls discloses a "one-way drive means so that they will free wheel in one direction and will drive an energy storage device when moved in the opposite direction." Pauls at col. 1, lines 36-39. Hence, in one rotational direction, a drive capability is provided (when the treadmill belt moves rearward, the drive roller 25 *drives* rotation of the flywheel via the one-way clutch) and in an opposite rotational direction, the clutch freewheels (the one-way clutch freewheels to allow the drive roller 25 to rotate, but not transmit torque to the flywheel).

Thus, both Bostic and in Pauls, (which Bostic relies upon and incorporates by reference for Pauls' teachings of a one-way drive means) show use of a one-way clutch to act as a one-way drive means for transmitting *torque* in only one direction of rotation but *allowing rotation* in both directions. In the first direction of rotation, the torque from the rotation is transmitted from

one element to another. In the second direction of rotation, no torque is transmitted, but also no means are provided to limit the rotation of the various interconnected elements.

Therefore, Bostic in combination with Pauls fails to disclose, teach, or suggest a "safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, so that a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft," as in amended independent claim 1.

Accordingly, amended independent claim 1 is patentable over Bostic. None of the other references are cited as disclosing the "safety device" of claim 1 and, indeed, do not appear to disclose this feature. Therefore, amended independent claim 1 is patentable over the cited references. Claims 2-7 depend from claim 1 and are patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

Though different in scope, independent claims 8, 21, and 28 have been amended to recite similar subject matter as amended independent claim 1. In particular, claims 8, 21, and 28 have been amended to recite, in part:

> 8. A manually powered, comprising: ...
> a safety device coupled to the frame and the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt.
>
> 21. A manually powered treadmill, comprising:
> ...
> a safety device coupled to the running belt, so that a portion of the safety device and the running belt freely rotate when the

> portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt.
>
> 28. A method, comprising:
> ...
> providing a safety device coupled to the frame and the running belt, the safety device having a first element;
> permitting rotation-of the running belt in a first direction by freewheeling of the first element of the safety device; and
> resisting rotation of the running belt in a second direction opposite the first direction by restricting rotation of the first element of the safety device.

Therefore, amended independent claims 8, 21, and 28 are also patentable over the cited references. Claims 9-20 depend from claim 8, claims 22-27 depend from claim 22, and claims 29-30 depend from claim 28. All of these claims are patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

Based on the foregoing, Applicant respectfully submits that the claim rejections under Section 103 are overcome. Withdrawal of same is respectfully requested.

Double Patenting

On page 8 of the Office Action, the Examiner stated that "Claims 1-30 [are] provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-30 of copending Application No. 15/957,721." This provisional rejection is respectfully traversed.

The present application includes three apparatus independent claims (claims 1, 8, and 21) and one independent method claim (claim 28). The '721 application includes three apparatus independent claims (claims 1, 12, and 24) and one independent method claim (claim 29). In varying formats, each of the pending independent claims 1, 12, and 24 of the '721 application recite a "braking system." None of pending independent claims 1, 8, and 21 recite a "braking system." Independent claim 28 of the present application recites a "plurality of bearings [that]

define at least a portion of a curved top profile," which is not recited in independent claim 29 of the '721 application. For at least these reasons, Applicant respectfully submits that the claims of the present application are not obvious in view of the claims of the '721 application or vice versa. Therefore, Applicant respectfully requests withdrawal of the double patenting rejections.

Conclusion

It is submitted that each outstanding objection and rejection to the present application has been overcome, and that the present application is in condition for allowance. Applicant requests consideration and allowance of all pending claims.

It should also be noted that although Applicant has only addressed certain claims or claimed features herein, other claims, features, or combinations of features may also be patentable for additional reasons. Further, the failure to address any statement by the Examiner should not be interpreted as acquiescence or agreement with such statement. Applicant expressly reserves the right to rebut any statement presented by the Examiner and to set forth additional and/or alternative reasons for patentability during prosecution of the present application or in any other future proceeding.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance prosecution.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application, or credit any overpayment, to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date /10-18-2018/ By /Alexander J. Neuworth/

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Electronic Patent Application Fee Transmittal

Application Number:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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	30	50	1500
INDEPENDENT CLAIMS IN EXCESS OF 3	2201	4	230	920
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**2540**

Electronic Acknowledgement Receipt

EFS ID:	34052641
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	18-OCT-2018
Filing Date:	20-APR-2018
Time Stamp:	18:08:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment Type	CARD
Payment was successfully received in RAM	$2540
RAM confirmation Number	101918INTEFSW18094700
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	Non Patent Literature	D1.pdf	93524 af2150a9e7588a96dfac9cc9d3152fd7f2a7365f	no	2
Warnings:					
Information:					
2	Non Patent Literature	D2.pdf	977672 7a4c0258a98c4d059c5114e9c8a7480db28b219d	no	12
Warnings:					
Information:					
3	Non Patent Literature	D3.pdf	2540428 ab52f503d3c6c52cf1f20fe86bae19a9397b1fd0	no	19
Warnings:					
Information:					
4	Non Patent Literature	D4.pdf	2593455 ffb67ad97a292160cd80240c902383217b177bf0	no	41
Warnings:					
Information:					
5	Non Patent Literature	D5.pdf	18529518 d6a57a7c68a60262d764908e56294bccc557e56a	no	135
Warnings:					
Information:					
6	Non Patent Literature	D6.pdf	8919842 308ca8a16835e73b6b235589f62ed0b74d1690dc	no	184
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Information:					

7	Non Patent Literature	D7.pdf	772387 77b5aa7878c71648c2d2487a2f487ef40bf2dfd6	no	19
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Information:					
8	Non Patent Literature	D8.pdf	613351 83379f06b1198b194728d1c79b37bcfb1ff17899	no	17
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9	Non Patent Literature	D9.pdf	59094 efa76d1567d10b8a36bd896b7adbd6c4ec0fc3de	no	3
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10	Non Patent Literature	D10.pdf	3158241 d2c009191c6c66c046f5eeba748bceabd9b36a20	no	38
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12	Non Patent Literature	D12.pdf	2056005 ad58c131cad86ff33f82fd6e135984d0d760f03c	no	42
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13	Non Patent Literature	D13.pdf	2755115 27f54dc67bb8ea8b1f0cc82f338190034c1afecc	no	34
Warnings:					
Information:					

14	Non Patent Literature	D14.pdf	1059303 ea4a411b6ec7ce2b6ee5136f47e8813bac029f2c	no	28
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15	Non Patent Literature	D15.pdf	106872 86fac44a7019d669734cfb21ba7f7aafc99d6713	no	3
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16	Non Patent Literature	D16.pdf	546948 44a56fba0524a148f2a1aa6f2dacb503a64e6015	no	9
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18	Non Patent Literature	D18.pdf	68524 8bdfcd3fbca6db8bfb344a8c8910785e3678cffc	no	2
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19	Non Patent Literature	D19.pdf	3135337 879265f36e8e4baa0d9600fe93d35106d94a8dde	no	45
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20	Non Patent Literature	D20.pdf	848903 1dc8c11740706ecc707215d04efd46f79346ddd3	no	14
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26	Non Patent Literature	D26_1-49.pdf	4784778 4d4d067b227b8a34b4636de4a4b7b7d706420c1f	no	49
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33	Non Patent Literature	D30.pdf	860407 be8bff39f54ec601941685cdfe5cecd3fc587e27	no	12
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37	Non Patent Literature	D34.pdf	3320050 0e57f39ecf28c0f46dd0a803887902702bd6 f8ab	no	38
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38	Non Patent Literature	D35.pdf	79285 dfd727ac28d00213e9a50f60da892140743 4eb68	no	3
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39	Non Patent Literature	D36.pdf	1652856 d2d253f8512c9c7ccb5664f6cf35218252c8 c64c	no	37
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48	Non Patent Literature	D45.pdf	1251158 bfe096514cbf5d808a35a8c3555fde455883eb37	no	22
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49	Non Patent Literature	D46.pdf	4660937 053d9e2a7a4f21ff7481c3ab8b1399bae459aa59	no	30
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54	Transmittal Letter	097208-0226_IDS.pdf	101963 4e95378a7db02d0f2cfb280c5eabbafbcfbd7b8f	no	2
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Information:					
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Information:					
This is not an USPTO supplied IDS fillable form					

56		097208-0226_Response.pdf	199823 12cc707252b2c781209ba308b1496221e141f29c	yes	22

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	13
	Applicant Arguments/Remarks Made in an Amendment	14	22

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57	Fee Worksheet (SB06)	fee-info.pdf	33916 72b96d973e1f9cd7ace974f96fd24fe12f0a15c2	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	136761396	

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

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. PCT/US10/27543, filed 3/16/2010; application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for

copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(c), before the mailing date of any of a final action under 37 CFR §1.113, a notice of allowance under 37 CFR §1.311, or an action that otherwise closes prosecution in the application.

FEE

Fees in the amount of $120.00 to cover the fee associated with an information disclosure statement are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account Number 19-0741.

Respectfully submitted,

Date /10-18-2018/ By /Alexander J. Neuworth/

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Attorneys for Applicant

Richard J. McKenna
Registration No. 35,610

Alexander J. Neuworth
Registration No. 72,021

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 18, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	3	Attorney Docket Number	097208-0226

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[6]
	D1	Minute Entry and Order for Markman Hearing, dated June 13, 2018, 2 pps.	
	D2	Order Denying Motion for Reconsideration (Doc. No. 248), dated June 20, 2018, 12 pps.	
	D3	Supplemental Expert Report of Kim B. Blair, PhD., Case 3:15-CV-01665-JCH, Document 184-8, filed 3/16/2018, 19 pps., marked on its face as Exhibit AA.	
	D4	Second Supplemental Expert Report of Kim B. Blair, PhD., Case 3:15-CV-01665-JCH, Document 254-3, 41 pps., marked on its face as Exhibit 3.	
	D5	Expert Report of Kim B. Blair, Ph.D., Case 3:15-CV-01665-JCH, Document 254-7, filed 6/8, 2018, 135 pps., marked on its face as Exhibit 7.	
	D6	Rebuttal Expert Report of Kim B. Blair, Ph.D., Case 3:15-CV-01665-JCH, Document 254-15, 184 pps., marked on its face as Exhibit 15.	
	D7	Woodway USA, Inc.'s opposition to plaintiffs' motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 250, filed 5/14/2018, 19 pps.	
	D8	Defendant Woodway USA, Inc.'s responses and objections to plaintiffs' first set of interrogatories, Case 3:15-CV-01665-JCH, Document 254-22, 17 pps., marked on its face as Exhibit 22.	
	D9	Woodway USA, Inc.'s motion for summary judgment of infringement of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 255, filed 6/8/2018, 3 pps.	
	D10	Woodway USA, Inc.'s Memorandum of Law in support of its motion for summary judgment of infringement of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 256, 38 pps.	
	D11	Woodway USA, Inc.'s local rule 56(a)1 statement of undisputed material facts in support of its motion summary judgment of infringement of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 257, 8 pps.	
	D12	Woodway USA, Inc.'s memorandum of law in opposition to plaintiffs' motion for summary judgment of non-infringement and invalidity of Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 266, filed 6/29/2018, 42 pps.	
	D13	Woodway USA, Inc.'s local rule 56(a)2 statement of facts in opposition to plaintiffs' motion for summary judgment, Case 3:15-CV-01665-JCH, Document 267, filed 6/29/2018, 34 pps.	
	D14	Woodway USA, Inc.'s Amended Supplemental Counterclaims, Case 3:15-CV-01665-JCH, Document 309, filed 9/14/2018, 28 pps.	
	D15	Plaintiffs' motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 248, filed 5/7/2018, 3 pps.	
	D16	Plaintiffs' memorandum of law in support of their motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 249, filed 5/8/2018, 9 pps.	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 18, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	2	of	3	Attorney Docket Number	097208-0226

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[6]
	D17	Plaintiffs' Reply in Support of motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 251, filed 5/29, 2018, 4 pps.	
	D18	Plaintiffs' motion for summary judgment of non-infringement and invalidity on Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 252, 2 pps.	
	D19	Plaintiff's memorandum in support of motion for summary judgment of non-infringement and invalidity on Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 253, filed 6/8/2018, 45 pps.	
	D20	Plaintiffs' Local Rule 56(a)1 statement of undisputed material facts, Case 3:15-CV-01665-JCH, Document 254, filed 6/8/2018, 14 pps.	
	D21	Plaintiffs' Opposition to Woodway USA, Inc.'s motion for summary judgment of infringement on Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 264, filed 6/29/2018, 35 pps.	
	D22	Plaintiffs' Local Rule 56(a)2 statement of facts in opposition to summary judgment, Case 3:15-CV-01665-JCH, Document 265, filed 6/29/2018, 17 pps.	
	D23	Chapco, Inc. and Samsara Fitness LLC's notice pursuant to 34 U.S.C. §282, Case 3:15-CV-01665-JCH, Document 310, filed 9/14/2018, 4 pps.	
	D24	Plaintiffs' preliminary non-infringement contentions, Case 3:15-cv-01165-JCH, Document 96-3, filed May 2, 2017, 56 pps.	
	D25	Plaintiffs' supplemental non-infringement contentions, Case 3:15-CV-01665-JCH, Document 98-8, filed May 2, 2017, 60 pps.	
	D26	Plaintiffs' preliminary invalidity contentions, Case 3:15-CV-01665-JCH, Document 254-16, filed 6/8/2018, 205 pps., marked on its face as Exhibit 16.	
	D27	Declaration of Robert Giachetti, Case 3:15-CV-01665-JCH, Document 88-2, filed May 1, 2017, 20 pps., marked on its face as Exhibit 1.	
	D28	Opening expert report of Dr. Robert Giachetti re: invalidity of United States Patent No. 8,986,169 and United States Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 216-1, filed 4/5/2018, 67 pps., marked on its face as Exhibit 1.	
	D29	Expert report of Dr. Robert Giachetti, Case 3:15-CV-01665-JCH, Document 216-2, filed 4/5/2018, 31 pps., marked on its face as Exhibit 2.	
	D30	Supplemental rebuttal expert report of Dr. Robert Giachetti responsive to supplemental expert report of Dr. Kim Blair dated March 15, 2018, dated May 14, 2018, 12 pps.	
	D31	Supplemental rebuttal expert report of Dr. Robert Giachetti responsive to second supplemental expert report of Dr. Kim Blair dated April 13, 2018, Case 3:15-CV-01665-JCH, Document 254-4, filed 6/8/2018, 18 pps., marked on its face as Exhibit 4.	
	D32	Woodway USA, Inc.'s first supplemental responses and objections to plaintiff's first set of interrogatories (Nos. 1-7), Case 2:17-cv-00768-KAM-AKT, Document 38-1, filed 3/14/2018, 18 pps., marked on its face as Exhibit A.	
	D33	Transcript of videotaped deposition of Alex Astilean taken July 10, 2018 for Case 2:17-cv-00768-KAM-AKT, 75 pps.	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 18, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	3	of	3	Attorney Docket Number	097208-0226

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[6]
	D34	Transcript of videotaped deposition of Speedfit LLC by Alex Astilean taken July 10, 2018 for Case 2:17-cv-00768-KAM-AKT, 38 pps.	
	D35	Notice of Woodway USA, Inc.'s motion to preclude the testimony of plaintiffs' technical expert James Whelan, Case 2:13-cv-01276-KAM-AKT, Document 211, filed 8/8/2018, 3 pps.	
	D36	Woodway USA, Inc.'s memorandum in support of its motion to preclude the testimony of plaintiffs' technical expert James Whelan, Case 2:13-cv-01276-KAM-AKT, Document 212, filed 8/8/2018, 37 pps.	
	D37	Declaration of Matthew W. Peters, Case 2:13-cv-01276-KAM-AKT, Document 213, filed 8/8/2018, 2 pps.	
	D38	Video deposition transcript of James D. Whelan taken on September 28, 2015, Case 2:13-cv-01276-KAM-AKT, Document 213-1, filed 8/8/2018, 23 pps., marked on its face as Exhibit A.	
	D39	Rebuttal expert report of Kim B. Blair, Ph.D., Case 2:13-cv-01276-KAM-AKT, Document 213-3, filed 8/8/2018, 24 pps., marked on its face as Exhibit C.	
	D40	Transcript of civil cause for evidentiary hearing before the Honorable Kiyo A. Matsumoto, United States District Judge, Case 2:13-cv-01276-KAM-AKT, Document 213-4, filed 8/8/2018, 10 pps., marked on its face as Exhibit D.	
	D41	Woodway USA, Inc.'s reply memorandum in further support of its motion to preclude the testimony of Plaintiffs' technical expert James Whelan, Case 2:13-cv-01276-KAM-AKT, Document 226, filed 8/8/2018, 16 pps.	
	D42	Supplemental declaration of Matthew W. Peters, Case 2:13-cv-01276-KAM-AKT, Document 227, filed 8/8/2018, 1 pg.	
	D43	Transcript of videotaped deposition of Dan Bostan, Case 2:13-cv-01276-KAM-AKT, Document 227-2, filed 8/8/2018, 4 pps., marked on its face as Exhibit F.	
	D44	Transcript of civil cause for evidentiary hearing before the Honorable Kiyo A. Matsumoto, United States District Judge, Case 2:13-cv-01276-KAM-AKT, Document 227-3, filed 8/8/2018, 5 pps., marked on its face as Exhibit G.	
	D45	Plaintiff's supplemental responses and objections to defendant's first set of interrogatories, Case 2:17-cv-00768-KAM-AKT, Document 38-3, filed 3/14/2018, 22 pps., marked on its face as Exhibit C.	
	D46	Expert report of James D. Whelan, P.E., report dated June 12, 2018, 30 pps.	
	D47	Expert report of James D. Whelan, P.E., report dated July 27, 2015, Case 2:13,cv-01276-KAM-AKT, Document 212-1, filed 8/8/2018, 62 pps., marked on its face as Exhibit 1.	
	D48	Expert report of James D. Whelan, P.E., report dated August 26, 2015, Case 2:13-cv-01276-KAM-AKT, Document 212-2, filed 8/8/2018, 19 pps., marked on its face as Exhibit 2.	
	D49	Expert report of James D. Whelan, P.E., report dated September 28, 2018, 10 pps.	

Examiner Signature		Date Considered	

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. 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 15/958,339	Filing Date 04/20/2018	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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 $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ 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

AMENDMENT	10/18/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 60	Minus	** 30	= 30		x $50 =	1500
	Independent (37 CFR 1.16(h))	* 8	Minus	*** 4	= 4		x $230 =	920
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	2420

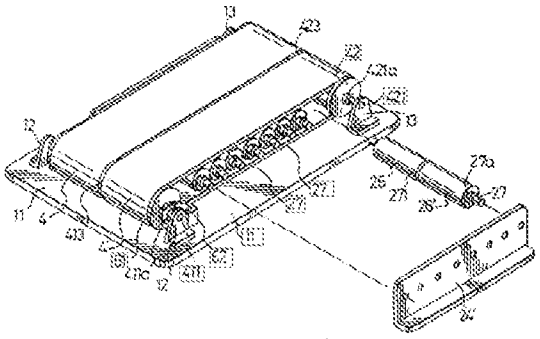
AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

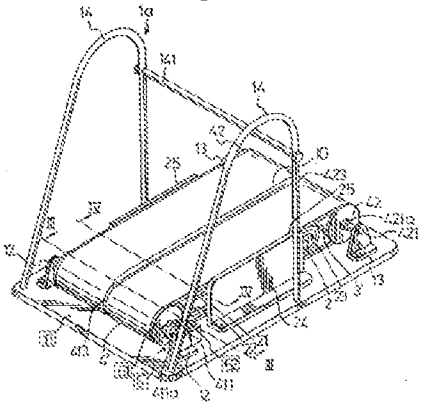
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	SLIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	KIMBERLY D WILLIAMS
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

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.

1) Claim 1

Claim 1	US 5,538,489
a frame having a front end and a rear end positioned opposite the front end;	[Fig. 8] base (11) having a front end and a rear end
a front shaft -coupled to the frame proximate the front end; a rear shaft -coupled to the frame proximate the rear end;	[Fig. 8] a shaft (411) of a front roller (41) [Fig. 8] a shaft(421) of a rear roller (42)
a plurality of bearings -coupled to the frame;	[Fig. 8] rollers (27, 27) -coupled to the base (11)  FIG 8
a running belt -at least partially supported by the plurality of bearings, -wherein the running belt includes a curved running surface; and	[Fig. 2] foot belt (4, 4') -supported by the rollers (41, 42, 27)

a safety device -coupled to the running belt and to at least one of the front shaft and the rear shaft, so that a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft.	[Figs. 2-3 / col 4 lines 46-59] unidirection control means (6) -coupled to the base and the belt (4, 4') -ratchet gears (61) and belt (4, 4') freely rotate when the ratchet gears (61) rotate in a first direction of rotation relative to the base, -in a second direction of rotation, opposite the first direction of rotation, the unidirection control means (6) substantially prevents rotation of the ratchet gears (61) and the belt by the pawls (62).  FIG. 2 A unidirectional control means **6, 6'** is installed to permit only unidirectional movement of the left and right foot belts **4, 4'**. In this embodiment, the control means **6, 6'** includes a pair of ratchet gears **61** attached to outer ends of the front rollers **41** and mounted rotatably on the first shaft **411**, and a pair of pawls **62** secured to the base **11** and engaging one of the ratchet gears **61** to permit only unidirectional rotation of the front rollers **41**, thereby preventing bidirectional movement of the foot belts **4, 4'**. A releasable means (not shown) may be provided to release selectively the pawls **62** from the ratchet gears **61** in a known manner to permit reciprocating movement of the foot belts **4, 4'** when desired. Of course, the ratchet gears may be attached to the rear rollers **42** to achieve the same result.

2) Claim 8

Claim 8	US 5,538,489
a frame;	[Fig. 8] base (11)
a first plurality of bearings coupled to the frame; a second plurality of bearings coupled to the frame a spaced distance from the first plurality of bearings;	[Fig. 8] left side of rollers (27, 27) -coupled to the base (11) [Fig. 8] right side of rollers (27, 27) -coupled to the base (11)
a front shaft assembly coupled to the frame; a rear shaft assembly coupled to the frame;	[Fig. 8] a shaft (411) of a front roller (41) [Fig. 8] a shaft(421) of a rear roller (42)

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and	[Fig. 2] foot belt (4, 4') -supported by the rollers (41, 42, 27) -disposed about the shafts (411, 412)
a safety device coupled to the frame and the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt.	[Figs. 2-3 / col 4 lines 46-59] unidirection control means (6) -coupled to the base and the belt (4, 4') -ratchet gears (61) and belt (4, 4') freely rotate when the ratchet gears (61) rotate in a first direction of rotation relative to the base, -in a second direction of rotation, opposite the first direction of rotation, the unidirection control means (6) substantially prevents rotation of the ratchet gears (61) and the belt by the pawls (62).

3) Claim 21

Claim 21	US 5,538,489
a frame;	[Fig. 8] base (11)
at least one front running belt pulley coupled to the frame;	[Fig. 8] a front roller (41) -coupled to the base
at least one rear running belt pulley coupled to the frame a spaced distance from the at least one front running belt pulley;	[Fig. 8] a rear roller (42) -coupled to the base
a plurality of bearings coupled to the frame;	[Fig. 8] rollers (27, 27) -coupled to the base (11)
a running belt -at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, -wherein the running belt includes a running surface, at least a portion of which is curved; and	[Fig. 2] foot belt (4, 4') -supported by the rollers (27,27) and rollers (41, 42)

a safety device coupled to the running belt so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt.	[Figs. 2-3 / col 4 lines 46-59] unidirection control means (6) -coupled to the base and the belt (4, 4') -ratchet gears (61) and belt (4, 4') freely rotate when the ratchet gears (61) rotate in a first direction of rotation relative to the base, -in a second direction of rotation, opposite the first direction of rotation, the unidirection control means (6) substantially prevents rotation of the ratchet gears (61) and the belt by the pawls (62).

4) Claim 29

Claim 29	US 5,538,489
providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;	[Fig. 2] providng a walker apparatus comprising base (11)
providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;	[Fig. 8] providing a plurality of rollers (41, 42, 27) coupled to the base (11)
disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;	[Fig. 2] providing a foot belt (4, 4') on the rollers (41, 42, 27)
providing a safety device coupled to the frame and the running belt, the safety device having a first element;	[Figs. 2-3 / col 4 lines 46-59] providing a unidirection control means (6) coupled to the base (11) and the belt (4), the unidirection control means (6) having a ratchet gears (61)
permitting rotation of the running belt in a first direction by freewheeling of the first element of the safety device; and substantially preventing rotation of the running belt in a second direction, opposite the first direction by restricting rotation of the first element of the safety device.	[Figs. 2-3 / col 4 lines 46-59] permitting rotation of the belt (4, 4') in a first direction by freewheeling of the ratchet gears (61) ; and substantially preventing rotation of the belt (4, 4') in a second direction, opposite the first direction by restricting rotation of the ratchet gears (61) by the pawls (62).

4) Claim 31

Claim 31	US 5,538,489
a frame having a front end and a rear end positioned opposite the front end;	[Fig. 8] base (11) having a front end and a rear end
a front shaft coupled to the frame proximate the front end; a rear shaft coupled to the frame proximate the rear end;	[Fig. 8] a shaft (411) of a front roller (41) [Fig. 8] a shaft(421) of a rear roller (42)

a plurality of bearings -coupled to the frame;	[Fig. 8] rollers (27, 27) -coupled to the base (11)
a running belt -at least partially supported by the plurality of bearings, -wherein the running belt includes a curved running surface; and	[Fig. 2] foot belt (4, 4') -supported by the rollers (41, 42, 27)
-a safety device coupled to the frame and the running belt, -the safety device having a first element and a second element; -wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.	[Figs. 2-3 / col 4 lines 46-59] unidirection control means (6) -coupled to the base and the belt (4, 4') -having ratchet gears (61) and pawls (62). -ratchet gears (61) and belt (4, 4') freely rotate when the ratchet gears (61) rotate in a first direction of rotation relative to the base, -in a second direction of rotation, opposite the first direction of rotation, the unidirection control means (6) substantially prevents rotation of the ratchet gears (61) and the belt by the pawls (62).

6) Claim 38

Claim 38	US 5,538,489
a frame;	[Fig. 8] base (11)
a first plurality of bearings coupled to the frame; a second plurality of bearings coupled to the frame a spaced distance from the first plurality of bearings;	[Fig. 8] left side of rollers (27, 27) -coupled to the base (11) [Fig. 8] right side of rollers (27, 27) -coupled to the base (11)
a front shaft assembly coupled to the frame; a rear shaft assembly coupled to the frame;	[Fig. 8] a shaft (411) of a front roller (41) [Fig. 8] a shaft(421) of a rear roller (42)

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and	[Fig. 2] foot belt (4, 4') -supported by the rollers (41, 42, 27) -disposed about the shafts (411, 412)
a safety device coupled to the frame and the running belt, the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.	[Figs. 2-3 / col 4 lines 46-59] unidirection control means (6) -coupled to the base and the belt (4, 4') -having ratchet gears (61) and pawls (62). -ratchet gears (61) and belt (4, 4') freely rotate when the ratchet gears (61) rotate in a first direction of rotation relative to the base, -in a second direction of rotation, opposite the first direction of rotation, the unidirection control means (6) substantially prevents rotation of the ratchet gears (61) and the belt by the pawls (62).

7) Claim 51

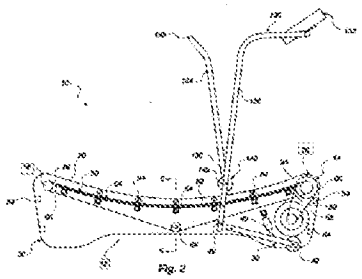
Claim 51	US 5,538,489
a frame;	[Fig. 8] base (11)
at least one front running belt pulley coupled to the frame;	[Fig. 8] a front roller (41) -coupled to the base
at least one rear running belt pulley coupled to the frame a spaced distance from the at least one front running belt pulley;	[Fig. 8] a rear roller (42) -coupled to the base
a plurality of bearings coupled to the frame;	[Fig. 8] rollers (27, 27) -coupled to the base (11)
a running belt -at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, -wherein the running belt includes a running surface, at least a portion of which is curved; and	[Fig. 2] foot belt (4, 4') -supported by the rollers (27,27) and rollers (41, 42)

a safety device coupled to the frame and the running belt, the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.	[Figs. 2-3 / col 4 lines 46-59] unidirection control means (6) -coupled to the base and the belt (4, 4') -having ratchet gears (61) and pawls (62). -ratchet gears (61) and belt (4, 4') freely rotate when the ratchet gears (61) rotate in a first direction of rotation relative to the base, -in a second direction of rotation, opposite the first direction of rotation, the unidirection control means (6) substantially prevents rotation of the ratchet gears (61) and the belt by the pawls (62).

8) Claim 58

Claim 58	US 5,538,489
providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;	[Fig. 2] providing a walker apparatus comprising base (11)
providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;	[Fig. 8] providing a plurality of rollers (41, 42, 27) coupled to the base (11)
disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;	[Fig. 2] providing a foot belt (4, 4') on the rollers (41, 42, 27)
providing a safety device coupled to the frame and the running belt, the safety device having a first element and a second element;	[Figs. 2-3 / col 4 lines 46-59] providing a unidirection control means (6) coupled to the base (11) and the belt (4), the unidirection control means (6) having ratchet gears (61) and pawls (62).
permitting rotation of the first element of the safety device and the running belt in a first direction of rotation; and substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the first element of the safety device by interference between the first element and the second element of the safety device.	[Figs. 2-3 / col 4 lines 46-59] permitting rotation of the ratchet gears (61) and the belt (4, 4') in a first direction; and substantially preventing rotation in a second direction, opposite the first direction, of the belt (4, 4') and the ratchet gears (61) by interference between the ratchet gears (61) and the pawls (62).

1) Claim 1

Claim 1	US 5,709,632
a frame having a front end and a rear end positioned opposite the front end;	[Fig. 2] support frame (12) having a front end and a rear end
a front shaft -coupled to the frame proximate the front end; a rear shaft -coupled to the frame proximate the rear end;	[Fig. 2] a front shaft of a first roller (78) [Fig. 2] a rear shaft of a second roller (86)
a plurality of bearings -coupled to the frame;	[Fig. 2] a plurality of rollers(78, 86) -coupled to the frame
a running belt -at least partially supported by the plurality of bearings, -wherein the running belt includes a curved running surface; and	[Fig. 2] rotating belt (16) -supported by the rollers (78, 86) --having a running surface which is curved 
a safety device -coupled to the running belt and to at least one of the front shaft and the rear shaft, so that a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft.	

2) Claim 8

Claim 8	US 5,709,632
a frame;	[Fig. 2] support frame (12)
a first plurality of bearings coupled to the frame; a second plurality of bearings coupled to the frame a spaced distance from the first plurality of bearings;	
a front shaft assembly coupled to the frame; a rear shaft assembly coupled to the frame;	[Fig. 2] a front shaft of a first roller (78) [Fig. 2] a rear shaft of a second roller (86)
a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and	[Fig. 2] rotating belt (16) -supported by the rollers (78, 86) -disposed about the front and rear shafts --having a running surface which is curved
a safety device coupled to the frame and the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt.	

3) Claim 21

Claim 21	US 5,709,632
a frame;	[Fig. 2] support frame (12)
at least one front running belt pulley coupled to the frame;	[Fig. 2] a first roller (78) -coupled to the frame
at least one rear running belt pulley coupled to the frame a spaced distance from the at least one front running belt pulley;	[Fig. 2] a second roller (86) -coupled to the frame

a plurality of bearings coupled to the frame;	
a running belt -at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, -wherein the running belt includes a running surface, at least a portion of which is curved; and	[Fig. 2] rotating belt (16) -supported by the rollers (78, 86) --having a running surface which is curved
a safety device coupled to the running belt so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt.	

4) Claim 29

Claim 29	US 5,709,632
providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;	[Fig. 2] providing a curved deck treadmill comprising a frame (35)
providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;	[Figs. 2, 5] providing a plurality of rollers (98) coupled to the frame, wherein the plurality of rollers (98) define at least a portion of a curved top profile;
disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;	[Fig. 2] providing a rotating belt (16) such that the curved top profile of plurality of rollers (98) define at least a portion of a curved surface of the rotating belt (16);
providing a safety device coupled to the frame and the running belt, the safety device having a first element;	
permitting rotation of the running belt in a first direction by freewheeling of the first element of the safety device; and substantially preventing rotation of the running belt in a second direction, opposite the first direction by restricting rotation of the first element of the safety device.	

4) Claim 31

Claim 31	US 5,709,632
a frame having a front end and a rear end positioned opposite the front end;	[Fig. 2] support frame (12) having a front end and a rear end
a front shaft coupled to the frame proximate the front end; a rear shaft coupled to the frame proximate the rear end;	[Fig. 2] a front shaft of a first roller (78) [Fig. 2] a rear shaft of a second roller (86)
a plurality of bearings -coupled to the frame;	[Fig. 2] a plurality of rollers(78, 86) -coupled to the frame
a running belt -at least partially supported by the plurality of bearings, -wherein the running belt includes a curved running surface; and	[Fig. 2] rotating belt (16) -supported by the rollers (78, 86) --having a running surface which is curved
-a safety device coupled to the frame and the running belt, -the safety device having a first element and a second element; -wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.	

6) Claim 38

Claim 38	US 5,709,632
a frame;	[Fig. 2] support frame (12)
a first plurality of bearings coupled to the frame; a second plurality of bearings coupled to the frame a spaced distance from the first plurality of bearings;	

a front shaft assembly coupled to the frame; a rear shaft assembly coupled to the frame;	[Fig. 2] a front shaft of a first roller (78) [Fig. 2] a rear shaft of a second roller (86)
a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and	[Fig. 2] rotating belt (16) -supported by the rollers (78, 86) -disposed about the front and rear shafts --having a running surface which is curved
a safety device coupled to the frame and the running belt, the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.	

7) Claim 51

Claim 51	US 5,709,632
a frame;	[Fig. 2] support frame (12)
at least one front running belt pulley coupled to the frame;	[Fig. 2] a first roller (78) -coupled to the frame
at least one rear running belt pulley coupled to the frame a spaced distance from the at least one front running belt pulley;	[Fig. 2] a second roller (86) -coupled to the frame
a plurality of bearings coupled to the frame;	

a running belt -at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, -wherein the running belt includes a running surface, at least a portion of which is curved; and	[Fig. 2] rotating belt (16) -supported by the rollers (78, 86) --having a running surface which is curved
a safety device coupled to the frame and the running belt, the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame.	

8) Claim 58

Claim 58	US 5,709,632
providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;	[Fig. 2] providing a curved deck treadmill comprising a frame (35)
providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;	[Figs. 2, 5] providing a plurality of rollers (98) coupled to the frame, wherein the plurality of rollers (98) define at least a portion of a curved top profile;
disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;	[Fig. 2] providing a rotating belt (16) such that the curved top profile of plurality of rollers (98) define at least a portion of a curved surface of the rotating belt (16);
providing a safety device coupled to the frame and the running belt, the safety device having a first element and a second element;	

permitting rotation of the first element of the safety device and the running belt in a first direction of rotation; and substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the first element of the safety device by interference between the first element and the second element of the safety device.	

THIRD-PARTY SUBMISSION UNDER 37 CFR 1.290
CONCISE DESCRIPTION OF RELEVANCE

Application Number	15958339

U.S. PATENTS

Cite No	Patent Number	Concise Description of Relevance
1	5538489	See Attached
2	5709632	See Attached

U.S. PATENT APPLICATION PUBLICATION

Cite No	Publication Number	Concise Description of Relevance

FOREIGN PATENT DOCUMENTS		
CiteNo	**Foreign Document Number**	**Concise Description of Relevance**

NON-PATENT PUBLICATIONS		
Cite No	**Reference**	**Concise Description of Relevance**

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THIRD-PARTY SUBMISSION UNDER 37 CFR 1.290	Application Number	15958339

U.S. PATENTS				
Cite No	Patent Number	Kind Code[1]	Issue Date (YYYY-MM-DD)	First Named Inventor
1	5709632		1998-01-20	JEFF SOCWELL
2	5538489		1996-07-23	SIDNEY MAGID

U.S. PATENT APPLICATION PUBLICATIONS				
Cite No	Publication Number	Kind Code[1]	Publication Date (YYYY-MM-DD)	First Named Inventor

FOREIGN PATENTS AND PUBLISHED FOREIGN PATENT APPLICATIONS						
Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[1]	Publication Date (YYYY-MM-DD)	Applicant, Patentee or First Named Inventor	T[5]
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NON-PATENT PUBLICATIONS (e.g., journal article, Office action)			
Cite No	Author (if any), title of the publication, page(s) being submitted, publication date, publisher (where available), place of publication (where available).	T[5]	E[6]

THIRD-PARTY SUBMISSION UNDER 37 CFR 1.290	Application Number	15958339

		☐	☐

STATEMENTS

The party making the submission is not an individual who has a duty to disclose information with respect to the above-identified application under 37 CFR 1.56.

This submission complies with the requirements of 35 U.S.C. 122(e) and 37 CFR 1.290.

☐ The fee set forth in 37 CFR 1.290(f) has been submitted herewith.

☒ The fee set forth in 37 CFR 1.290(f) is not required because this submission lists three or fewer total items and, to the knowledge of the person signing the statement after making reasonable inquiry, this submission is the first and the only submission under 35 U.S.C 122(e) filed in the above-identified application by the party making the submission or by a party in privity with the party.

☐ This resubmission is being made responsive to a notification of non-compliance issued for an earlier filed third-party submission. The corrections in this resubmission are limited to addressing the non-compliance. As such, the party making this resubmission: (1) requests that the Office apply the previously-paid fee set forth in 37 CFR 1.290(f), or (2) states that no fee is required to accompany this resubmission as the undersigned is again making the fee exemption statement set forth in 37 CFR 1.290(g).

Signature	/Richard J. Polley/		
Name/Print	Richard J. Polley	Registration Number (if applicable)	28107

Examiner Signature		Date Considered	

*EXAMINER: Signature indicates all documents listed above have been considered,except for citations through which a line is drawn. Draw line through citation if not considered. Include a copy of this form with next communication to applicant. 1. If known, enter kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16. See MPEP 901.04(a). 2. Enter the country or patent office that issued the document, by two-letter code under WIPO standard ST.3. See MPEP 1851. 3. For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 4. If known, enter the kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 . See MPEP 901.04(a). 5. Check mark indicates translation attached. 6. Check mark indicates evidence of publication attached.

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Application Number:	15958339
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Title of Invention:	
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Concise Description of Relevance	US5538489_ConciseDescriptionOfRelevance.pdf	386929 73fa91849004ce4c249e902b5e33c4cb31cd3e2c	no	7
Warnings:					
Information:					
2	Concise Description of Relevance	US5709632_ConciseDescriptionOfRelevance.pdf	158205 0b3de01bde3455cee9e3c2bb6c57aa69b6794df5	no	7
Warnings:					
Information:					
3	Concise Description of Relevance	Concise-description-generated.pdf	28527 7ddff37e08e0e86aca8613538082a49cb037f49f	no	3
Warnings:					
Information:					
4	Third-Party Submission Under 37 CFR 1.290	Third-party-preissuance-submission.pdf	42160 f6d20364d5bcfd7ba73ae64a56d9dc3a07ee34b2	no	2
Warnings:					
Information:					
5	Request for Notification of Non-compliant Third-Party Submission	Third-party-notification-request.pdf	19635 adec9a325edf71d1888a9836b819ebb056434e7b	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	635456		

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

26371 7590 11/28/2018

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
DEICHL, JENNIFER M	

ART UNIT	PAPER NUMBER
3784	

NOTIFICATION DATE	DELIVERY MODE
11/28/2018	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.

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ipdocketing@foley.com

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U.S. Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR/ PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
15/958,339	04/20/2018	Bayerlein et al.	097208-0226

	EXAMINER	
FOLEY & LARDNER LLP 3000 K STREET N.W. SUITE 600 WASHINGTON, DC 20007-5109	Jennifer Deichl	
	ART UNIT	PAPER
	3784	20181119

DATE MAILED: _____

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

Commissioner for Patents

A third-party submission under 37 CFR 1.290 has been filed on November 16, 2018, and is being entered into the above-identified application. Please allow a few days for the submission to be visible in the Patent Application Information Retrieval (PAIR) system. Note that the submission will be identified using the "Information Disclosure Statement Filed" Document Description. This Document Description is being used for the internal purposes only. The Office does not consider the submission to be an Information Disclosure Statement under 37 CFR 1.97 and 1.98.

/Jay Trent Liddle/
QAS Detailee, TC3700

PTO-90C (Rev.04-03)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** Date Submitted: December 3, 2018 *(use as many sheets as necessary)*				***Complete if Known***	
				Application Number	15/958,339
				Filing Date	4/20/2018
				First Named Inventor	Douglas G. Bayerlein
				Art Unit	3784
				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if nown*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	E1	2,399,915	05-07-1946	DRAKE	
	E2	10,010,748	07-03-2018	WEINSTEIN ET AL.	

Examiner Signature		Date Considered	

Electronic Patent Application Fee Transmittal

Application Number:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

Electronic Acknowledgement Receipt

EFS ID:	34470663
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	03-DEC-2018
Filing Date:	20-APR-2018
Time Stamp:	18:07:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	120418INTEFSW18075300
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	Transmittal Letter	097208-0226_IDS.pdf	102224 a4c5f60d0c55597ec8fd12e1b5c4ea4f20749a47	no	2
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	097208-0226_SB08.pdf	87935 b79745c21c195b3eef104b07dad7e6c64969c922	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Fee Worksheet (SB06)	fee-info.pdf	30613 d972ff14d884272a2d40fdc7d096ee55ab4d7356	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	220772		

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

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New International Application Filed with the USPTO as a Receiving Office

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. PCT/US10/27543, filed 3/16/2010; application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(c), before the mailing date of any of a final action under 37 CFR §1.113, a notice of allowance under 37 CFR §1.311, or an action that otherwise closes prosecution in the application.

FEE

Fees in the amount of $120.00 to cover the fee associated with an information disclosure statement are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account Number 19-0741.

Respectfully submitted,

Date /12-3-2018/ By /Alexander J. Neuworth/

FOLEY & LARDNER LLP
Customer Number: 26371
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

26371 7590 02/20/2019

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
DEICHL, JENNIFER M	

ART UNIT	PAPER NUMBER
3784	

NOTIFICATION DATE	DELIVERY MODE
02/20/2019	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):

ipdocketing@foley.com

Office Action Summary	Application No. 15/958,339	Applicant(s) Bayerlein et al.	
	Examiner JENNIFER M DEICHL	Art Unit 3784	AIA 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 10/18/2018.

☐ 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) 1-60 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) 1-60 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: _____.

DETAILED ACTION

This Office Action is in response to the amendment filed 10/18/2018. Claims 1-60 are acknowledged as pending in this application with claims 1, 8, 11, 16, 19, 21, and 28 being currently amended and claims 31-60 being new. The 103 rejections of the previous Office Action are withdrawn as having been overcome by the amendment. The Double Patenting rejection is maintained. New rejections are presented below.

Claim Rejections - 35 USC § 103

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 negatived by the manner in which the invention was made.

Claims 1-4,6-14, 17-21, 23-29, 31-34, 36-44, 47-51, and 53-59 is/are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279), Schonenberger (4,334,676), and Magid (US 5,538,489).

Regarding claim 1, Bostic teaches a manually powered treadmill, comprising: a frame (15) having a front end and a rear end positioned opposite the front end; a front shaft (55) coupled to the frame proximate the front end; a rear shaft (20) coupled to the frame proximate the rear end; a running belt; and a safety device coupled to at least one of the front shaft and the rear shaft (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify

the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft. Magid teaches a manually powered treadmill including a running belt and safety device (6, 6') coupled to at least one of a front shaft and a rear shaft, so that a portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft (column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 2, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14). The combination of Bostic and Schonenberger yields a treadmill wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

Regarding claim 3, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 4, modified Bostic teaches the safety device comprises a one-way bearing (Magid column 4 lines 46-59).

Regarding claim 6, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 7, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 8, Bostic teaches a manually powered treadmill, comprising: a frame (15); a front shaft assembly (25, 55) coupled to the frame; a rear shaft assembly (19, 20) coupled to the frame; a running belt (10) at least partially disposed about the front and rear shaft assemblies, and including a running surface; and a safety device (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device coupled to the frame and the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt. Magid teaches a manually powered treadmill including a safety device (6, 6') coupled to the frame and the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt (column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 9, modified Bostic teaches the safety device comprises a one-way bearing (Magid column 4 lines 46-59)

Regarding claim 10, Bostic teaches the front shaft assembly comprises a front shaft (55) coupled to frame.

Regarding claim 11, Bostic teaches the front shaft assembly comprises and at least one front running belt pulley (25) coupled to the front shaft.

Regarding claim 12, Bostic teaches the rear shaft assembly comprises a rear shaft (20) coupled to the frame.

Regarding claim 13, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) coupled to the rear shaft.

Regarding claim 14, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) and the front shaft assembly comprises at least one front running belt pulley (25).

Regarding claim 17, the combination of Bostic and Schonenberger yields a treadmill wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

Regarding claim 18, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 19, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14).

Regarding claim 20, Bostic teaches the combination of Bostic and Schonenberger yields a treadmill wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

Regarding claim 21, Bostic teaches a manually powered treadmill, comprising: a frame (15); at least one front running belt pulley (25) coupled to the frame; at least one rear running belt pulley (19) coupled to the frame a spaced distance from the at least one front running belt pulley; a running belt

(10) at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface: and a safety device coupled to the running belt (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device coupled to the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt. Magid teaches a manually powered treadmill including a safety device (6, 6') coupled to the frame and the running belt, so that a portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the safety device substantially prevents rotation of the portion of the safety device and the running belt

(column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 23, Bostic teaches a front shaft (55) coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

Regarding claim 24, Bostic teaches a rear shaft (20) coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

Regarding claim 25, modified Bostic teaches the safety device comprises a one-way bearing (Magid column 4 lines 46-59).

Regarding claim 26, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 27, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 28, Bostic teaches a method, comprising: providing a manually powered treadmill, the manually powered treadmill having a frame (15) with a front end and a rear end; disposing a running belt (10) on the frame; permitting movement of the running belt in a first direction; and providing a safety device coupled to the frame (via a one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of

bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first element; permitting rotation of the running belt in a first direction by freewheeling of the first element of the safety device; and resisting rotation of the running belt in a second direction opposite the first direction by restricting rotation of the first element of the safety device. Magid teaches a manually powered treadmill including a safety device (6, 6') coupled to the frame which permits rotation of the running belt in a first direction by freewheeling of the first element of the safety device; and resists rotation of the running belt in a second direction opposite the first direction by restricting rotation of the first element of the safety device (column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 29, Bostic teaches providing for the selective application of a braking force to resist the rotational movement of the running belt in the first direction (column 3 lines 27-33).

Regarding claim 31, Bostic teaches a manually powered treadmill, comprising: a frame (15) having a front end and a rear end positioned opposite the front end; a front shaft (55) coupled to the frame proximate the front end; a rear shaft (20) coupled to the frame proximate the rear end; a running belt; and a safety device coupled to at least one of the front shaft and the rear shaft (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify

the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame. Magid teaches a manually powered treadmill including a safety device (6, 6') coupled to the frame and the running belt, the safety device having a first element (61) and a second element (62); wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame (column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by

providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 32, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14). The combination of Bostic and Schonenberger yields a treadmill wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

Regarding claim 33, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 34, modified Bostic teaches the safety device comprises a one-way bearing (Magid column 4 lines 46-59).

Regarding claim 36, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 37, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 38, Bostic teaches a manually powered treadmill, comprising: a frame (15); a front shaft assembly (25, 55) coupled to the frame; a rear shaft assembly (19, 20) coupled to the frame; a running belt (10) at least partially disposed about the front and rear shaft assemblies, and including a running surface; and a safety device (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify

the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame. Magid teaches a manually powered treadmill including a safety device (6, 6') coupled to the frame and the running belt, the safety device having a first element (61) and a second element (62); wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame (column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by

providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 39, modified Bostic teaches the safety device comprises a one-way bearing (Magid column 4 lines 46-59)

Regarding claim 40, Bostic teaches the front shaft assembly comprises a front shaft (55) coupled to frame.

Regarding claim 41, Bostic teaches the front shaft assembly comprises and at least one front running belt pulley (25) coupled to the front shaft.

Regarding claim 42, Bostic teaches the rear shaft assembly comprises a rear shaft (20) coupled to the frame.

Regarding claim 43, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) coupled to the rear shaft.

Regarding claim 44, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) and the front shaft assembly comprises at least one front running belt pulley (25).

Regarding claim 47, the combination of Bostic and Schonenberger yields a treadmill wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

Regarding claim 48, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 49, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14).

Regarding claim 50, Bostic teaches the combination of Bostic and Schonenberger yields a treadmill wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

Regarding claim 51, Bostic teaches a manually powered treadmill, comprising: a frame (15); at least one front running belt pulley (25) coupled to the frame; at least one rear running belt pulley (19) coupled to the frame a spaced distance from the at least one front running belt pulley; a running belt (10) at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface: and a safety device coupled to the running belt (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first

direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame. Magid teaches a manually powered treadmill including a safety device (6, 6') coupled to the frame and the running belt, the safety device having a first element (61) and a second element (62); wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame (column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 53, Bostic teaches a front shaft (55) coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

Regarding claim 54, Bostic teaches a rear shaft (20) coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

Regarding claim 55, modified Bostic teaches the safety device comprises a one-way bearing (Magid column 4 lines 46-59).

Regarding claim 56, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 57, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 58, Bostic teaches a method, comprising: providing a manually powered treadmill, the manually powered treadmill having a frame (15) with a front end and a rear end; disposing a running belt (10) on the frame; permitting movement of the running belt in a first direction; and providing a safety device coupled to the frame (via a one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first element and a second element; wherein the first element of the safety device and the running belt freely rotate relative to the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame. Magid teaches a manually powered treadmill including a safety device (6, 6') coupled to the frame and the running belt, the safety device having a first element (61) and a second element (62); wherein the first element of the safety device and the running belt freely rotate relative to

the second element of the safety device when the first element of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the first element and the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame. (column 4 lines 46-59). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Magid in order to prevent accidental reverse movement of the belt.

Regarding claim 59, Bostic teaches providing for the selective application of a braking force to resist the rotational movement of the running belt in the first direction (column 3 lines 27-33).

Claims 5, 16, 30, 35, 46, and 60 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279), Schonenberger (4,334,676), and Magid (US 5,538,489) as applied to claims 1, 8, 28, 31, 38, and 58 above, and further in view of Gaetano (US 4,406,451).

Bostic teaches a support foot (35) coupled to the frame, but fails to teach the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill. Gaetano (US 4,406,451) teaches a manual treadmill comprising a support foot (84) which enables an adjustment of a vertical incline of the treadmill. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the incline adjustment taught by Gaetano in order to allow the user to simulate running on hills.

Claims 15, 22, 45 and 52 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279), Schonenberger (4,334,676), and Magid (US 5,538,489) as applied to claims 14, 21, 44, and 51, and further in view of Skowronski (US 6,923,746).

Bostic does not specifically disclose at least one of the at least one front running belt pulley and the at least one rear running belt pulley is formed of an electrically insulating material. Skowronski teaches a treadmill comprising front and rear pulleys formed of an electrically insulating material (column 3 lines 63-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Bostic's pulleys as formed from a plastic material, as taught by Skowronski, in order to provide easily produced and durable pulleys. Such a modification involves the mere selection of a known material based on its suitability for its intended use and therefore fails to distinguish the invention over the prior art.

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 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); *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 nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-60 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-12, 15-26, and 28-57 of copending Application No. 15/957,721 (reference application). Although the claims at issue are not identical, they are not patentably distinct from each other because all of the limitations of the present application are either recited by, or obvious over the claims of the reference application.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Response to Arguments

Applicant's arguments with respect to the rejections under 35 U.S.C. 103 have been considered but are moot in view of the new grounds of rejection.

Applicant's arguments with respect to the provisional double patenting rejection have been fully considered but they are not persuasive. Applicant argues that the '721 application claims features not claimed by present claim set. This is immaterial to the present rejection. As stated above, a nonstatutory 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). Applicant further argues that the present claims recite bearings defining a curved top profile, a feature not present in the reference claims. This is an obvious feature, as curved profiles supported by bearings are well-known in the art (see for example Cutter US 3,642,279 and Schonenberger US 4,334,676).

Conclusion

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 JENNIFER M DEICHL whose telephone number is (571)272-5001. The examiner can normally be reached on Monday-Friday, 8:30 am to 6:00 pm PST.

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, LoAn Thanh can be reached on 571-272-4966. 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.

JENNIFER M. DEICHL
Primary Examiner
Art Unit 3784

/JENNIFER M DEICHL/
Primary Examiner, Art Unit 3784

Notice of References Cited	Application/Control No. 15/958,339	Applicant(s)/Patent Under Reexamination Bayerlein et al.	
	Examiner JENNIFER M DEICHL	Art Unit 3784	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-5538489-A	07-1996	Magid; Sidney H.	A47D13/04	482/54
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

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.	Applicant(s)/Patent Under Reexamination
	15/958,339	Bayerlein et al.
	Examiner	Art Unit
	JENNIFER M DEICHL	3784

CPC - Searched*		
Symbol	Date	Examiner
A63B22/02-0228	07/11/2018	JD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
reviewed family applicaiton history	07/11/2018	JD
EAST text search	07/11/2018	JD
updated	02/14/2019	JD

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

	/JENNIFER M DEICHL/ Examiner.Art Unit 3764

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 18, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	3	Attorney Docket Number	097208-0226

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[6]
	D1	Minute Entry and Order for Markman Hearing, dated June 13, 2018, 2 pps.	
	D2	Order Denying Motion for Reconsideration (Doc. No. 248), dated June 20, 2018, 12 pps.	
	D3	Supplemental Expert Report of Kim B. Blair, PhD., Case 3:15-CV-01665-JCH, Document 184-8, filed 3/16/2018, 19 pps., marked on its face as Exhibit AA.	
	D4	Second Supplemental Expert Report of Kim B. Blair, PhD., Case 3:15-CV-01665-JCH, Document 254-3, 41 pps., marked on its face as Exhibit 3.	
	D5	Expert Report of Kim B. Blair, Ph.D., Case 3:15-CV-01665-JCH, Document 254-7, filed 6/8, 2018, 135 pps., marked on its face as Exhibit 7.	
	D6	Rebuttal Expert Report of Kim B. Blair, Ph.D., Case 3:15-CV-01665-JCH, Document 254-15, 184 pps., marked on its face as Exhibit 15.	
	D7	Woodway USA, Inc.'s opposition to plaintiffs' motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 250, filed 5/14/2018, 19 pps.	
	D8	Defendant Woodway USA, Inc.'s responses and objections to plaintiffs' first set of interrogatories, Case 3:15-CV-01665-JCH, Document 254-22, 17 pps., marked on its face as Exhibit 22.	
	D9	Woodway USA, Inc.'s motion for summary judgment of infringement of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 255, filed 6/8/2018, 3 pps.	
	D10	Woodway USA, Inc.'s Memorandum of Law in support of its motion for summary judgment of infringement of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 256, 38 pps.	
	D11	Woodway USA, Inc.'s local rule 56(a)1 statement of undisputed material facts in support of its motion summary judgment of infringement of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 257, 8 pps.	
	D12	Woodway USA, Inc.'s memorandum of law in opposition to plaintiffs' motion for summary judgment of non-infringement and invalidity of Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 266, filed 6/29/2018, 42 pps.	
	D13	Woodway USA, Inc.'s local rule 56(a)2 statement of facts in opposition to plaintiffs' motion for summary judgment, Case 3:15-CV-01665-JCH, Document 267, filed 6/29/2018, 34 pps.	
	D14	Woodway USA, Inc.'s Amended Supplemental Counterclaims, Case 3:15-CV-01665-JCH, Document 309, filed 9/14/2018, 28 pps.	
	D15	Plaintiffs' motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 248, filed 5/7/2018, 3 pps.	
	D16	Plaintiffs' memorandum of law in support of their motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 249, filed 5/8/2018, 9 pps.	

Examiner Signature		Date Considered	

4828-6309-7465.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 18, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	2	of	3	Attorney Docket Number	097208-0226

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[6]
	D17	Plaintiffs' Reply in Support of motion for partial reconsideration, Case 3:15-CV-01665-JCH, Document 251, filed 5/29, 2018, 4 pps.	
	D18	Plaintiffs' motion for summary judgment of non-infringement and invalidity on Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 252, 2 pps.	
	D19	Plaintiff's memorandum in support of motion for summary judgment of non-infringement and invalidity on Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 253, filed 6/8/2018, 45 pps.	
	D20	Plaintiffs' Local Rule 56(a)1 statement of undisputed material facts, Case 3:15-CV-01665-JCH, Document 254, filed 6/8/2018, 14 pps.	
	D21	Plaintiffs' Opposition to Woodway USA, Inc.'s motion for summary judgment of infringement on Claim 25 of U.S. Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 264, filed 6/29/2018, 35 pps.	
	D22	Plaintiffs' Local Rule 56(a)2 statement of facts in opposition to summary judgment, Case 3:15-CV-01665-JCH, Document 265, filed 6/29/2018, 17 pps.	
	D23	Chapco, Inc. and Samsara Fitness LLC's notice pursuant to 34 U.S.C. §282, Case 3:15-CV-01665-JCH, Document 310, filed 9/14/2018, 4 pps.	
	D24	Plaintiffs' preliminary non-infringement contentions, Case 3:15-cv-01165-JCH, Document 96-3, filed May 2, 2017, 56 pps.	
	D25	Plaintiffs' supplemental non-infringement contentions, Case 3:15-CV-01665-JCH, Document 98-8, filed May 2, 2017, 60 pps.	
	D26	Plaintiffs' preliminary invalidity contentions, Case 3:15-CV-01665-JCH, Document 254-16, filed 6/8/2018, 205 pps., marked on its face as Exhibit 16.	
	D27	Declaration of Robert Giachetti, Case 3:15-CV-01665-JCH, Document 88-2, filed May 1, 2017, 20 pps., marked on its face as Exhibit 1.	
	D28	Opening expert report of Dr. Robert Giachetti re: invalidity of United States Patent No. 8,986,169 and United States Patent No. 9,039,580, Case 3:15-CV-01665-JCH, Document 216-1, filed 4/5/2018, 67 pps., marked on its face as Exhibit 1.	
	D29	Expert report of Dr. Robert Giachetti, Case 3:15-CV-01665-JCH, Document 216-2, filed 4/5/2018, 31 pps., marked on its face as Exhibit 2.	
	D30	Supplemental rebuttal expert report of Dr. Robert Giachetti responsive to supplemental expert report of Dr. Kim Blair dated March 15, 2018, dated May 14, 2018, 12 pps.	
	D31	Supplemental rebuttal expert report of Dr. Robert Giachetti responsive to second supplemental expert report of Dr. Kim Blair dated April 13, 2018, Case 3:15-CV-01665-JCH, Document 254-4, filed 6/8/2018, 18 pps., marked on its face as Exhibit 4.	
	D32	Woodway USA, Inc.'s first supplemental responses and objections to plaintiff's first set of interrogatories (Nos. 1-7), Case 2:17-cv-00768-KAM-AKT, Document 38-1, filed 3/14/2018, 18 pps., marked on its face as Exhibit A.	
	D33	Transcript of videotaped deposition of Alex Astilean taken July 10, 2018 for Case 2:17-cv-00768-KAM-AKT, 75 pps.	

Examiner Signature		Date Considered	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 18, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	3	of	3	Attorney Docket Number	097208-0226

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[6]
	D34	Transcript of videotaped deposition of Speedfit LLC by Alex Astilean taken July 10, 2018 for Case 2:17-cv-00768-KAM-AKT, 38 pps.	
	D35	Notice of Woodway USA, Inc.'s motion to preclude the testimony of plaintiffs' technical expert James Whelan, Case 2:13-cv-01276-KAM-AKT, Document 211, filed 8/8/2018, 3 pps.	
	D36	Woodway USA, Inc.'s memorandum in support of its motion to preclude the testimony of plaintiffs' technical expert James Whelan, Case 2:13-cv-01276-KAM-AKT, Document 212, filed 8/8/2018, 37 pps.	
	D37	Declaration of Matthew W. Peters, Case 2:13-cv-01276-KAM-AKT, Document 213, filed 8/8/2018, 2 pps.	
	D38	Video deposition transcript of James D. Whelan taken on September 28, 2015, Case 2:13-cv-01276-KAM-AKT, Document 213-1, filed 8/8/2018, 23 pps., marked on its face as Exhibit A.	
	D39	Rebuttal expert report of Kim B. Blair, Ph.D., Case 2:13-cv-01276-KAM-AKT, Document 213-3, filed 8/8/2018, 24 pps., marked on its face as Exhibit C.	
	D40	Transcript of civil cause for evidentiary hearing before the Honorable Kiyo A. Matsumoto, United States District Judge, Case 2:13-cv-01276-KAM-AKT, Document 213-4, filed 8/8/2018, 10 pps., marked on its face as Exhibit D.	
	D41	Woodway USA, Inc.'s reply memorandum in further support of its motion to preclude the testimony of Plaintiffs' technical expert James Whelan, Case 2:13-cv-01276-KAM-AKT, Document 226, filed 8/8/2018, 16 pps.	
	D42	Supplemental declaration of Matthew W. Peters, Case 2:13-cv-01276-KAM-AKT, Document 227, filed 8/8/2018, 1 pg.	
	D43	Transcript of videotaped deposition of Dan Bostan, Case 2:13-cv-01276-KAM-AKT, Document 227-2, filed 8/8/2018, 4 pps., marked on its face as Exhibit F.	
	D44	Transcript of civil cause for evidentiary hearing before the Honorable Kiyo A. Matsumoto, United States District Judge, Case 2:13-cv-01276-KAM-AKT, Document 227-3, filed 8/8/2018, 5 pps., marked on its face as Exhibit G.	
	D45	Plaintiff's supplemental responses and objections to defendant's first set of interrogatories, Case 2:17-cv-00768-KAM-AKT, Document 38-3, filed 3/14/2018, 22 pps., marked on its face as Exhibit C.	
	D46	Expert report of James D. Whelan, P.E., report dated June 12, 2018, 30 pps.	
	D47	Expert report of James D. Whelan, P.E., report dated July 27, 2015, Case 2:13,cv-01276-KAM-AKT, Document 212-1, filed 8/8/2018, 62 pps., marked on its face as Exhibit 1.	
	D48	Expert report of James D. Whelan, P.E., report dated August 26, 2015, Case 2:13-cv-01276-KAM-AKT, Document 212-2, filed 8/8/2018, 19 pps., marked on its face as Exhibit 2.	
	D49	Expert report of James D. Whelan, P.E., report dated September 28, 2018, 10 pps.	

Examiner Signature	/JENNIFER M DEICHL/	Date Considered	02/14/2019

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

Doc Code:IDS.3P
Document Description: Third-Party Submission Under 37 CFR 1.290

PTO/SB/429(08-12)
Approved for use through 07/31/2015. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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

THIRD-PARTY SUBMISSION UNDER 37 CFR 1.290	Application Number	15958339

U.S. PATENTS

Cite No	Patent Number	Kind Code[1]	Issue Date (YYYY-MM-DD)	First Named Inventor
1	5709632		1998-01-20	JEFF SOCWELL
2	5538489		1996-07-23	SIDNEY MAGID

U.S. PATENT APPLICATION PUBLICATIONS

Cite No	Publication Number	Kind Code[1]	Publication Date (YYYY-MM-DD)	First Named Inventor

FOREIGN PATENTS AND PUBLISHED FOREIGN PATENT APPLICATIONS

Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[1]	Publication Date (YYYY-MM-DD)	Applicant, Patentee or First Named Inventor	T[5]
						☐

NON-PATENT PUBLICATIONS (e.g., journal article, Office action)

Cite No	Author (if any), title of the publication, page(s) being submitted, publication date, publisher (where available), place of publication (where available).	T[5]	E[6]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M./

LIFECORE Ex. 1026, p. 327

THIRD-PARTY SUBMISSION UNDER 37 CFR 1.290	Application Number	15958339

		☐	☐

STATEMENTS

The party making the submission is not an individual who has a duty to disclose information with respect to the above-identified application under 37 CFR 1.56.

This submission complies with the requirements of 35 U.S.C. 122(e) and 37 CFR 1.290.

☐ The fee set forth in 37 CFR 1.290(f) has been submitted herewith.

☒ The fee set forth in 37 CFR 1.290(f) is not required because this submission lists three or fewer total items and, to the knowledge of the person signing the statement after making reasonable inquiry, this submission is the first and the only submission under 35 U.S.C 122(e) filed in the above-identified application by the party making the submission or by a party in privity with the party.

☐ This resubmission is being made responsive to a notification of non-compliance issued for an earlier filed third-party submission. The corrections in this resubmission are limited to addressing the non-compliance. As such, the party making this resubmission: (1) requests that the Office apply the previously-paid fee set forth in 37 CFR 1.290(f), or (2) states that no fee is required to accompany this resubmission as the undersigned is again making the fee exemption statement set forth in 37 CFR 1.290(g).

Signature	/Richard J. Polley/		
Name/Print	Richard J. Polley	Registration Number (if applicable)	28107

Examiner Signature	/JENNIFER M DEICHL/	Date Considered	02/14/2019

*EXAMINER: Signature indicates all documents listed above have been considered,except for citations through which a line is drawn. Draw line through citation if not considered. Include a copy of this form with next communication to applicant. 1. If known, enter kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16. See MPEP 901.04(a). 2. Enter the country or patent office that issued the document, by two-letter code under WIPO standard ST.3. See MPEP 1851. 3. For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 4. If known, enter the kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 . See MPEP 901.04(a). 5. Check mark indicates translation attached. 6. Check mark indicates evidence of publication attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

PTO/SB/08 (modified)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: December 3, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if nown*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	E1	2,399,915	05-07-1946	DRAKE	
	E2	10,010,748	07-03-2018	WEINSTEIN ET AL.	

Examiner Signature	/JENNIFER M DEICHL/	Date Considered	02/14/2019

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

LIFECORE Ex. 1026, p. 329

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	54	("20040018917" | "20060287165" | "20090170666" | "3968543" | "4614337" | "7717828" | "D736866" | "20060003871" | "5897461" | "20090280960" | "20120231934" | "5887579" | "7090620" | "8308619" | "8690738" | "5411455" | "20090215589" | "5538489" | "5709632" | "6095952" | "20030045403" | "6923746" | "20120157267" | "5470293" | "6053848" | "6740009" | "8734300" | "1211765" | "20080287266" | "20140011642" | "0219439" | "4334676" | "5411279" | "6042514" | "6146315" | "6348025" | "6500097" | "3642279" | "20020147079" | "20060003872" | "20110266091" | "3637206" | "5162988" | "5577598" | "6642279" | "8343016" | "20120270705" | "4635928" | "4726581" | "5548405" | "7560822" | "9005085").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:36
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S6	7	("20060052728" | "5089960" | "5913684" | "5980256" | "6152854" | "7166064" | "7980856").PN. OR ("8968161").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:24
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S18	21	(("20050209059~") or ("20140087922") or ("20160263429") or ("20170182356") or ("4,886,266") or ("4,938,469") or ("5,242,339") or ("5,368,532") or ("5,643,144") or ("5,683,332") or ("6,152,854") or ("6,334,839") or ("6,824,502") or ("6,837,830") or ("7,410,449") or ("7,780,573") or ("7,806,805") or ("8,241,187") or ("8,864,627") or ("8,920,347") or ("9,429,511")).PN. or (2006/0122035).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/12/08 11:01
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S21	5	("3489408").URPN.	USPAT	OR	ON	2018/05/03 10:32
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S23	3	(("20030186787") or ("20120019973") or ("20140080679")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/03 10:36
S24	12	(("5,031,901") or ("5,094,447") or ("5,145,480") or ("5,310,392") or ("7,862,483") or ("8,585,561") or ("8,876,668") or ("9,044,635") or ("9,233,272") or ("9,254,409") or ("9,314,667") or ("9,974,997")).PN. or ((2007/0021278) or (2007/0298935) or (2008/0119332) or (2009/0156363) or (2012/0264569) or (2014/0171272) or (2015/0119202) or (2017/0113093)).CCLS.	USPAT; USOCR	OR	OFF	2018/07/06 13:17
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S28	0	("20060287165").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:32
S29	0	("200600287165").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:32
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S32	33	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-3489408-$).did.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:36
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S38	324	S37 and manual and (resistance brak$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S39	888	S37 not motor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S40	383	S37 and resistance not motor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S41	264	S37 and "one way"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:54
S42	40	S37 and slat	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:56
S43	43	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$ or US-20160263429-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-5104120-$ or US-3554541-$ or US-4363480-$ or US-4625962-$ or US-5110117-$ or US-	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:59

		5429563-$ or US-4334676-$).did. or (US-3489408-$ or US-3332683-$).did.				
S44	12	S43 and plastic	USPAT	OR	OFF	2018/07/06 14:00
S45	119	S37 and resistance with rear	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:02
S46	34	S37 and resistance with rear with (pulley roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:02
S47	21	S37 and resistance same (flywheel friction$4) with rear with (pulley roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:03
S48	54	S37 and flywheel with rear	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:09
S49	68	("1211765" | "3554541" | "3642279" | "4389047" | "4616822" | "4938473" | "5100127" | "5125361" | "5391129" | "5431612" | "5575740").PN. OR ("5709632").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:17
S50	38	("1211765" | "20120010048" | "20120010053" | "20120157267" | "3489408" | "3637206" | "3642279" | "3669238" | "4614337" | "5470293" | "5577598" | "5709632" | "6053848" | "6146315" | "6348025").PN. OR ("8343016").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:24
S51	11	S43 and height with adjust$4	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:29
S52	1	("4023795").PN.	USPAT; USOCR	OR	OFF	2018/07/07 15:24
S53	1	("4023795").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/09/19 09:05
S54	2	(("5709632") or ("5538489")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/02/14 13:16

EAST Search History (Interference)

< This search history is empty>

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C:\ Users\ jdeichl\ Documents\ EAST\ Workspaces\ 15958339.wsp

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: September 27, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3764
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	2	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	C1	5,318,487-A	06-07-1994	GOLEN ET AL.	
	C2	5,492,517-A	02-20-1996	BOSTIC ET AL.	
	C3	5,688,209-A	11-18-1997	TRULASKE ET AL.	
	C4	6,328,676-B1	12-11-2001	ALESSANDRI, NERIO	
	C5	6,454,679	09-24-2002	RADOW, SCOTT BRIAN	
	C6	8,075,450-B2	12-13-2011	FABBRI ET AL.	
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	C12	D 682,372-S	05-14-2013	ALESSANDRI ET AL.	
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	C16	2004/0097341-A1	05-20-2004	ALESSANDRI ET AL.	
	C17	2010/0222182-A1	09-02-2010	PARK, JAE-SANG	
	C18	2015/0157895-A1	06-11-2015	BETTINI, DENIS	
	C19	2017/0274248-A1	09-28-2017	BROWN ET AL.	
	C20	2017/0312582-A1	11-02-2017	ROOT, JR., DANIEL W.	
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	C22	2018/0229065-A1	08-16-2018	LEONARDI ET AL.	

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
	C23	WO-2009/014330-A1	01-29-2009	KIM, JAE-CHUL		

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[6]
	C24	BIODEX MEDICAL SYSTEMS, INC., "THE BIODEX RTM REHABILITATION TREADMILL OPERATION MANUAL", believed to have published 2002, 48 pages.	
	C25	BUCHHEIT ET AL., "Assessing Stride Variables and Vertical Stiffness with GPS-Embedded Accelerometers: Preliminary Insights for Monitoring of Neuromuscular Fatigue on the Field", December 2015,	
	C26	COOLTHINGS, "Woodway EcoMill: A Non-Motorized Treadmill with Electronic Displays", June 4, 2009, https://www.coolthings.com/woodway-ecomill-a-non-motorized-treadmill-with-electronic-displays/, 1 page.	
	C27	HDT EXPEDITIONARY SYSTEMS, INC., "KineAssist-MX Owner's Manual vG", 2015, 73 pages.	

Examiner Signature		Date Considered	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: September 27, 2018				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3764
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	2	of	2	Attorney Docket Number	097208-0226

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[6]
	C28	LISZEWSKI, ANDREW, "EcoMill Treadmill Generates Its Own Power", June 1, 2009, http://www.ohgizmo.com/2009/06/04/ecomill-treadmill-generates-its-own-power/, 1 page.	
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	C30	NASA, "International Space Station: Combined Operational Load Bearing External Resistance Treadmill (COLBERT)", July 19, 2017, https://www.nasa.gov/mission_pages/station/research/experiments/765.html, 4 pages.	
	C31	NASA, "International Space Station: Do Tread on Me", August 19, 2009, https://www.nasa.gov/mission_pages/station/behindscenes/colbert_feature.html, 2 pages.	
	C32	NASA, "International Space Station: Treadmill with Vibration Isolation and Stabilization System (TVIS)", May 17, 2018, https://www.nasa.gov/mission_pages/station/research/experiments/976.html, 5 pages.	
	C33	NASA, "Space Shuttle Mission STS-128: Racking Up New Science", Press Kit, August 2009, 116 pages.	
	C34	Ruling Re: Plaintiffs' Motion for Summary Judgment of Non-Infringement and Invalidity (Doc. No. 252) and Woodway's Motion for Summary Judgment of Infringement (Doc. No. 255), Chapco, Inc. and Samsara Fitness, LLC v. Woodway USA, Inc., Docket No. 3:15-cv-01665-JCH, July 24, 2018, 26 pages.	
	C35	SOUTHERN RESEARCH ET AL., "AIMTech Project Brief", October 20, 2015, 2 pages.	
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	C37	TECMACHINE, "Sprint Club: User's Guide", believed to have published 2002, 33 pages.	
	C38	WOODWAY, "Introducing the All New EcoMill Self Powered", published to YouTube on March 25, 2010, https://www.youtube.com/watch?v=NcPH92DAArc.	

Examiner Signature	/JENNIFER M DEICHL/	Date Considered	02/14/2019

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

LIFECORE Ex. 1026, p. 338

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. 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 15/958,339	Filing Date 04/20/2018	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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 $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ 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	04/22/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 60	Minus	** 30	= 30		x $50 =	1500
	Independent (37 CFR 1.16(h))	* 8	Minus	*** 4	= 4		x $230 =	920
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	2420

		(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 $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ 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.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/POLIN ANG/
*** 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.	

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Appl. No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation Number:	4765

AMENDMENT AND REPLY UNDER 37 C.F.R. § 1.116

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

Commissioner:

This communication is responsive to the Final Office Action mailed February 20, 2019, concerning the above-referenced patent application. A request for consideration of the amendments after final rejection under the After Final Consideration Pilot 2.0 (AFCP 2.0) is submitted herewith.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks begin on page 14 of this document.

Please amend the application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt includes a curved running surface; and

a safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, wherein ~~so that~~ a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing~~frame~~, however, in a second direction of rotation, opposite the first direction of rotation, ~~the safety device~~ interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft.

2. (Original) The manually powered treadmill of claim 1, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

3. (Original) The manually powered treadmill of claim 2, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile,

wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

4. (Currently Amended) The manually powered treadmill of claim 1, wherein the portion of the safety device is a one-way bearing.

5. (Original) The manually powered treadmill of claim 1, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

6. (Original) The manually powered treadmill of claim 1, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

7. (Original) The manually powered treadmill of claim 6, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

8. (Currently Amended) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, ~~so that~~ wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of

the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing~~frame~~, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device ~~safety device~~ substantially prevents rotation of the portion of the safety device and the running belt.

9. (Currently Amended) The manually powered treadmill of claim 8, wherein the portion of the safety device is a one-way bearing.

10. (Original) The manually powered treadmill of claim 8, wherein the front shaft assembly comprises a front shaft coupled to frame.

11. (Previously Presented) The manually powered treadmill of claim 10, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.

12. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

13. (Original) The manually powered treadmill of claim 12, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

14. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

15. (Currently Amended) The manually powered treadmill of claim 14, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

16. (Previously Presented) The manually powered treadmill of claim 8, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to

enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

17. (Cancelled)

18. (Currently Amended) The manually powered treadmill of claim [[17]]8, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

19. (Previously Presented) The manually powered treadmill of claim 8, wherein the frame includes a left side member, a right side member spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

20. (Original) The manually powered treadmill of claim 19 wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

21. (Currently Amended) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved; and

a safety device coupled to the running belt, ~~so that~~ wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first

direction of rotation relative to the housing~~frame~~, however, in a second direction of rotation, opposite the first direction of rotation, ~~the safety device~~ interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt.

22. (Currently Amended) The manually powered treadmill of claim 21, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

23. (Currently Amended) The manually powered treadmill of claim 21, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

24. (Currently Amended) The manually powered treadmill of claim 21, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

25. (Currently Amended) The manually powered treadmill of claim 21, wherein the portion of the safety device is a one-way bearing.

26. (Original) The manually powered treadmill of claim 21, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

27. (Original) The manually powered treadmill of claim 26, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

28. (Currently Amended) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and the running belt, the safety device having a first element at least partially supported by a housing of the safety device;

permitting rotation of the running belt in a first direction by freewheeling of the first element of the safety device relative to the housing; and

resisting rotation of the running belt in a second direction opposite the first direction by restricting rotation of the first element via interference between the housing and the first element of the safety device.

29. (Currently Amended) A method according to claim 28, further comprising providing for a selective application of a braking force to resist the rotational movement of the running belt in the first direction.

30. (Currently Amended) A method according to claim 28, further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

31. (Currently Amended) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt comprises a curved running surface; and

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein the running belt and one of the first and second rotatable elements of the safety device ~~and the running belt~~ freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between ~~when the first element of~~ the safety device and at least one of the first and second rotatable elements substantially prevents rotation ~~rotates in a first direction of rotation relative to the frame, however,~~ in a second direction of rotation, opposite the first direction of rotation, ~~interference between the first element and~~ of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements~~the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame~~.

32. (Previously Presented) The manually powered treadmill of claim 31, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

33. (Previously Presented) The manually powered treadmill of claim 32, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

34. (Currently Amended) The manually powered treadmill of claim 31, wherein the first and second rotatable elements of the safety device at least partly form [[is]] a one-way bearing.

35. (Previously Presented) The manually powered treadmill of claim 31, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable

to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

36. (Previously Presented) The manually powered treadmill of claim 31, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

37. (Previously Presented) The manually powered treadmill of claim 36, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

38. (Currently Amended) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate relative to the other of the one of the first and second rotatable elements of the safety device ~~when the first element of the safety device rotates~~ in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element ~~of the safety device~~ substantially prevents rotation of

the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements ~~of the safety device and the running belt relative to the frame~~.

39. (Currently Amended) The manually powered treadmill of claim 38, wherein the first and second rotatable elements of the safety device [[is]] at least partly form a one-way bearing.

40. (Previously Presented) The manually powered treadmill of claim 38, wherein the front shaft assembly comprises a front shaft coupled to frame.

41. (Previously Presented) The manually powered treadmill of claim 40, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.

42. (Previously Presented) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

43. (Previously Presented) The manually powered treadmill of claim 42, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

44. (Previously Presented) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

45. (Previously Presented) The manually powered treadmill of claim 44, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

46. (Previously Presented) The manually powered treadmill of claim 38, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

47. (Previously Presented) The manually powered treadmill of claim 38, wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

48. (Previously Presented) The manually powered treadmill of claim 47, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

49. (Previously Presented) The manually powered treadmill of claim 38, wherein the frame includes a left side member, a right side member spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

50. (Previously Presented) The manually powered treadmill of claim 49, wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

51. (Currently Amended) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved;

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate ~~relative to the second element of the safety device when the first element of the safety device rotates~~ in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element ~~of the safety device~~ substantially prevents rotation of the one of the first and second rotatable elements of the safety device and the running belt relative to the frame.

52. (Previously Presented) The manually powered treadmill of claim 51, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

53. (Currently Amended) The manually powered treadmill of claim 51, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

54. (Currently Amended) The manually powered treadmill of claim 51, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

55. (Currently Amended) The manually powered treadmill of claim 51, wherein the first and second rotatable elements of the safety device at least partly form [[is]] a one-way bearing.

56. (Previously Presented) The manually powered treadmill of claim 51, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

57. (Previously Presented) The manually powered treadmill of claim 56, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

58. (Currently Amended) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and to the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

permitting rotation of one of the first and second rotatable elements of the safety device and the running belt in a first direction of rotation; and

substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the one of the first and second rotatable elements ~~of the safety device~~ by interference between the safety device and at least one of the first rotatable element and the second rotatable element ~~of the safety device~~.

59. (Currently Amended) A method according to claim 58, further comprising providing for selective application of a braking force to resist the rotational movement of the running belt in the first direction.

60. (Currently Amended) A method according to claim 58, further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and the reasons that follow.

Status of Claims

Claims 1, 4, 8, 9, 15, 18, 21-25, 28-31, 34, 38-39, 51, 53-55, and 58-60 are currently amended. Support for the amendments may be found at least at paragraphs [0147]-[0156] and at Figures 36 and 38 of the present application. Claim 17 is cancelled. No claims are new. These amendments are made without prejudice or disclaimer. No new matter has been added.

After amending the claims as set forth above, claims 1-16 and 18-60 are pending in this application for examination. Applicant respectfully requests favorable consideration of these claims.

After Final Consideration Pilot Program 2.0

Applicant respectfully requests entry of the Amendment and Reply under the AFCP 2.0. Submitted herewith is a request for consideration under the AFCP 2.0 (Form PTO/SB/434). This Amendment and Reply includes amendments to independent claim 1 that does not broaden the scope of independent claim 1 in any aspect.

Claim Rejections Under 35 U.S.C. § 103

On page 2 of the Office Action, the Examiner rejected claims 1-4, 6-14, 17-21, 23-29, 31-34, 36-44, 47-51, and 53-59 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,492,517 ("Bostic") in view of U.S. Patent No. 3,642,279 ("Cutter"), U.S. Patent No. 4,334,676 ("Schonenberger"), and U.S. Patent No. 5,538,489 ("Magid"). On page 17 of the Office Action, the Examiner rejected claims 5, 16, 30, 35, 46, and 60 under 35 U.S.C. § 103 as being unpatentable over Bostic in view of Cutter, Schonenberger, and Magid and further in view of

U.S. Patent No. 4,406,451 ("Gaetano"). On page 18 of the Office Action, the Examiner rejected claims 15, 22, 45, and 52 under 35 U.S.C. § 103 as being unpatentable over Bostic in view of Cutter, Schonenberger, and Magid and further in view of U.S. Patent No. 6,923,746 ("Skowronski"). These rejections and the combinations of references on which the rejections are based are respectfully traversed. In addition, Applicants have previously presented arguments regarding the scope of teaching of the cited references and rejections based thereon and Applicants reassert those arguments in this Response.

I. Claims 1-30

Claims 1-30 include independent claims 1, 8, 21, and 28. The remaining claims depend directly or indirectly from one of these independent claims.

Without acquiescing to the rejections, Applicant has amended independent claim 1 to recite, in part:

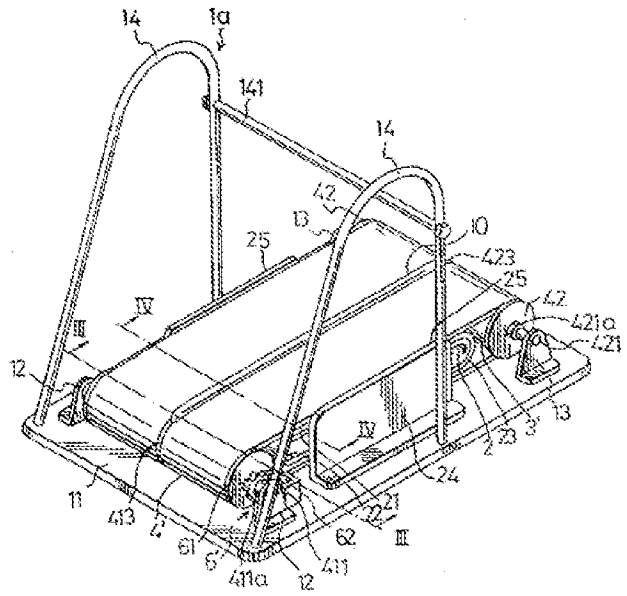
> 1. A manually powered treadmill, comprising:
> ...
> a safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft.

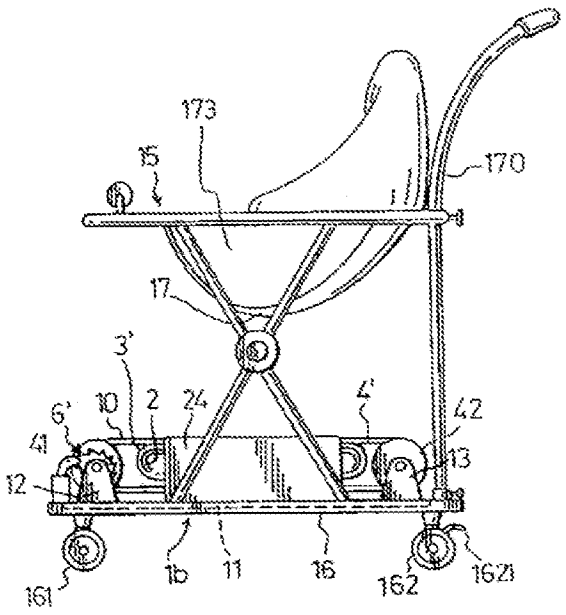
None of the cited references disclose, teach, or suggest "a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device ... freely rotate[s] ... in a first direction of rotation" and "in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety

device substantially prevents rotation of the portion of the safety device" as in amended independent claim 1.

In the Office Action, the Examiner cited Magid and Bostic as teaching the "safety device" element of the claims. (*See* Office Action at pp. 2 and 3). Applicant respectfully submits that neither Magid alone nor in combination with Bostic disclose, teach, or suggest the aforementioned features of amended independent claim 1.

Magid relates to a walker apparatus. (Magid at Title). Figures 2 and 5 (right) of Magid are copied below. Figure 5 shows a unidirectional control means 6, 6' more clearly.





According to Magid, "[a] unidirectional control means 6, 6' is installed to permit only unidirectional movement of the left and right foot belts 4, 4'. … the control means 6, 6' includes a pair of ratchet gears 61 attached to outer ends of the front rollers 41 and mounted rotatably on the first shaft 411, and a pair of pawls 62 secured to the base 11 and engaging one of the ratchet gears 61 to permit only unidirectional rotation of the front rollers 41, thereby preventing

bidirectional movement of the foot belts 4, 4'." (Magid at Col. 4, ll. 46-54). A bracket 12 is shown connected to the ratchet gear 61 of the unidirectional control means.

Even for the sake of argument analogizing the unidirectional control means 6, 6' (shown as a ratchet and pawl) of Magid to the "safety device," simply, Magid does not disclose, teach, or suggest that "interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device" as in amended independent claim 1. In this regard and even for the sake of argument analogizing the bracket 12 of Magid to the "housing," the bracket 12 of Magid does **not** "interfere" with the ratchet to "substantially prevent[] rotation" of the ratchet like the "housing" of claim 1. Thus, Magid does not disclose, teach, or suggest a structure that could be considered analogous to the "housing" of claim 1. Therefore, it follows, Magid fails to disclose, teach, or suggest "a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device … freely rotate[s] … in a first direction of rotation" and "in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device" as in amended independent claim 1.

For at least these reasons, amended independent claim 1 is patentable over Magid. Bostic does not cure the aforementioned deficiencies of Magid. Bostic relates to an "an exercise apparatus including [a] structure for exercising the legs as well as [a] structure for exercising the arms." (Col. 1, lines 11-13). The apparatus includes a "flywheel 45 [that] incorporates a one-way clutch which allows free movement of the flywheel in one direction but precludes movement in the opposite direction." (*Id.* at Col. 2, lines 54-56). Even for the sake of argument analogizing the flywheel and one-way clutch of Bostic to the "housing" and "safety device," of claim 1, respectively, the flywheel of Bostic does not "interfere" with the one-way clutch to "substantially prevent[] rotation of the" one-way clutch. In this regard, Bostic fails to disclose, teach, or suggest "a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device … freely rotate[s] … in a first direction of rotation" and "in a second direction of rotation, opposite the first direction of rotation,

interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device" as in amended independent claim 1.

Therefore, amended independent claim 1 is patentable over Magid and Bostic. None of the other references of record are cited as disclosing the "safety device" and, indeed, do not appear to disclose such a feature. Accordingly, it follows, the cited prior art references also fail to disclose, teach, or suggest "a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device ... freely rotate[s] ... in a first direction of rotation" and "in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device" as in amended independent claim 1.

Accordingly, amended independent claim 1 is patentable over the cited references. Claims 2-7 depend from claim 1 and are patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

Though different in scope, independent claims 8, 21, and 28 have been amended to recite similar subject matter as amended independent claim 1. In particular, claims 8, 21, and 28 have been amended to recite, in part:

> 8. A manually powered, comprising:
>
> ...
>
> a safety device coupled to the frame and the running belt, wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt.
>
> 21. A manually powered treadmill, comprising:
>
> ...
>
> a safety device coupled to the running belt, wherein a portion of the safety device is at least partially supported by a

> housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt.
>
> 28. A method, comprising:
>
> ...
>
> providing a safety device coupled to the frame and the running belt, the safety device having a first element at least partially supported by a housing of the safety device;
>
> permitting rotation of the running belt in a first direction by freewheeling of the first element of the safety device relative to the housing; and
>
> resisting rotation of the running belt in a second direction opposite the first direction by restricting rotation of the first element via interference between the housing and the first element of the safety device.

Therefore, amended independent claims 8, 21, and 28 are also patentable over the cited references. Claims 9-16 and 18-20 depend from claim 8, claims 22-27 depend from claim 21, and claims 29-30 depend from claim 28. All of these claims are patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

II. Claims 31-60

Claims 31-60 include independent claims 31, 38, 51, and 58. The remaining claims depend directly or indirectly from one of these independent claims.

Without acquiescing to the rejections, Applicant has amended independent claim 31 to recite, in part:

> 31. A manually powered treadmill, comprising:
>
> ...
>
> a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

> wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation in a second direction of rotation, opposite the first direction of rotation, of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements.

None of the cited references disclose, teach, or suggest a "safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame" and that "one of the first and second rotatable elements of the safety device freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation in a second direction of rotation, opposite the first direction of rotation, of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements" as in amended independent claim 31.

As mentioned above, in the Office Action, the Examiner cited Magid and Bostic as teaching the "safety device" element of the claims. (*See* Office Action pp. 2 and 3). Applicant respectfully submits that neither Magid alone nor in combination with Bostic disclose, teach, or suggest the aforementioned features of amended independent claim 31.

Even for the sake of argument analogizing the unidirectional control means 6, 6' and particularly the ratchet and pawl of Magid to either the "first rotatable element" and/or the "second rotatable element" of the "safety device" claim 31, simply, Magid does not disclose, teach, or suggest a structure or feature analogous to "interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation … of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements" as in amended independent claim 31.

Bostic does not cure the deficiencies of Magid. Simply, Bostic does not disclose, teach, or suggest "interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation … of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements" as in amended independent claim 31.

Therefore, amended independent claim 31 is patentable over Magid and Bostic. None of the other references of record are cited as disclosing the "safety device" and, indeed, do not appear to disclose such a feature. Accordingly, it follows, the cited prior art references also fail to disclose, teach, or suggest a "safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame" and that "one of the first and second rotatable elements of the safety device freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation in a second direction of rotation, opposite the first direction of rotation, of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements" as in amended independent claim 31.

Accordingly, amended independent claim 31 is patentable over the cited references. Claims 32-37 depend from claim 31 and are patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

Though different in scope, independent claims 38, 51, and 58 have been amended to recite similar subject matter as amended independent claim 1. In particular, claims 38, 51, and 58 have been amended to recite, in part:

> 38. A manually powered treadmill, comprising:
> …
> a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second

rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element substantially prevents rotation of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements.

51. A manually powered treadmill, comprising:

...

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element substantially prevents rotation of the one of the first and second rotatable elements of the safety device and the running belt relative to the frame.

58. A method, comprising:

...

providing a safety device coupled to the frame and to the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

permitting rotation of one of the first and second rotatable elements of the safety device and the running belt in a first direction of rotation; and

substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the one of the first and second rotatable elements by interference between the

safety device and at least one of the first rotatable element and the second rotatable element.

Therefore, amended independent claims 38, 51, and 58 are also patentable over the cited references. Claims 39-50 depend from claim 38, claims 52-57 depend from claim 51, and claims 59-60 depend from claim 58. All of these claims are patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

III. Conclusion

Based on the foregoing, Applicant respectfully submits that the claim rejections under Section 103 are overcome. Withdrawal of same is respectfully requested.

Double Patenting

On page 19 of the Office Action, the Examiner stated that "Claims 1-60 [are] provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-12, 15-26, and 28-57 of copending Application No. 15/957,721." This provisional rejection is respectfully traversed.

Notwithstanding and in the interest of furthering prosecution on the merits, Applicant is submitting a terminal disclaimer herewith to overcome the double patenting rejections. Accordingly, withdrawal of the double patenting rejections is respectfully requested.

Conclusion

It is submitted that each outstanding objection and rejection to the present application has been overcome, and that the present application is in condition for allowance. Applicant requests consideration and allowance of all pending claims.

It should also be noted that although Applicant has only addressed certain claims or claimed features herein, other claims, features, or combinations of features may also be patentable for additional reasons. Further, the failure to address any statement by the Examiner should not be interpreted as acquiescence or agreement with such statement. Applicant expressly

reserves the right to rebut any statement presented by the Examiner and to set forth additional and/or alternative reasons for patentability during prosecution of the present application or in any other future proceeding.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance prosecution.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application, or credit any overpayment, to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date /4-22-2019/ By /Alexander J. Neuworth/

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TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION

Docket Number (Optional): 097208-0226

In re Application of: Douglas G. Bayerlein

Application No.: 15/958,339

Filed: 4/20/2018

For: MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

The applicant, Woodway USA, Inc., owner 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 of any patent granted on pending **reference** Application Number 15/957,721, filed, 4/19/2018, as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application 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 applicant does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent granted on the pending **reference** application 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 shortened by any terminal disclaimer filed prior to its grant.

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1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☑ The undersigned is an attorney or agent of record. Reg. No. 35,610

/R.J. McKenna/	04-22-2019
Signature	Date
Richard J. McKenna	
Typed or printed name	
Attorney	(414) 297-5723
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☑ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

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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.

Doc Code: A.NE.AFCP
Document Description: After Final Consideration Pilot Program Request

PTO/SB/434 (05-13)

CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0

Practitioner Docket No.:	Application No.:	Filing Date:
097208-0226	15/958,339	4/20/2018
First Named Inventor:	**Title:**	
Douglas G. Bayerlein	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME	

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116.

1. The above-identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) [a continuing application (*e.g.*, a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)], or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).
2. The above-identified application contains an outstanding final rejection.
3. Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect.
4. This certification and request for consideration under AFCP 2.0 is the only AFCP 2.0 certification and request filed in response to the outstanding final rejection.
5. Applicant is willing and available to participate in any interview requested by the examiner concerning the present response.
6. This certification and request is being filed electronically using the Office's electronic filing system (EFS-Web).
7. Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, *e.g.*, extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCP 2.0.]
8. By filing this certification and request, applicant acknowledges the following:
    - Reissue applications and reexamination proceedings are not eligible to participate in AFCP 2.0.
    - The examiner will verify that the AFCP 2.0 submission is compliant, *i.e.*, that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions:
        - The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, *e.g.*, by mailing an advisory action.
        - If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview.
            - The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate.
            - If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116.

Signature	Date
/Alexander J. Neuworth/	04-22-2019
Name (Print/Typed) Alexander J. Neuworth	Practitioner Registration No. 72,021

***Note**: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.*

[✓] * Total of 1 forms are submitted.

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).
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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.
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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:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
		Total in USD ($)		**280**

Electronic Acknowledgement Receipt

EFS ID:	35794832
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	22-APR-2019
Filing Date:	20-APR-2018
Time Stamp:	18:07:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$280
RAM confirmation Number	042319INTEFSW18083500
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	Power of Attorney	General_POA_for_Woodway.pdf	334104 b3661cd5aedf7fc7c9707edb0d1fad4d41a927ed	no	1
Warnings:					
Information:					
2	Assignee showing of ownership per 37 CFR 3.73	097208-0226_Statement.pdf	82785 9cfe6ec3e5235b56b7b5cd1b80ff29fabd297d6c	no	3
Warnings:					
Information:					
3	Transmittal Letter	097208-0226_IDS.pdf	121333 8167af7c66965a8f1ce58ba82be8d717fd1d0db0	no	3
Warnings:					
Information:					
4	Information Disclosure Statement (IDS) Form (SB08)	097208-0226_SB08.pdf	103535 988e85c0ef74068a19cb75dff4a39ffa77bcc023	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
5		097208-0226_Response.pdf	325653 24c0ec525d3f423a6276a21b49e9f074ef20b238	yes	24

Multipart Description/PDF files in .zip description

Document Description	Start	End
Response After Final Action	1	1
Claims	2	13

	Applicant Arguments/Remarks Made in an Amendment		14	24	
Warnings:					
Information:					
6	Terminal Disclaimer Filed	097208-0226_TD.pdf	249785 fc4eb55beae0f78f3d2c99a4b18c4d86105e09d7	no	2
Warnings:					
Information:					
7	After Final Consideration Program Request	097208-0226_AFCP.pdf	213209 9d913a08c5e3b69733e5e89568e1a56928121e04	no	2
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	32349 7af03fd7b01562c99721566f50e2c4c4dad7dc2c	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1462753		

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.

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
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.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

☑ Practitioners associated with Customer Number: 26371

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

☑ The address associated with Customer Number: 26371

OR

☐	Firm or Individual Name	
	Address	
	City	
	Country	
	Telephone	Email

Assignee Name and Address: Woodway USA, Inc.
W229 N591 Foster Court
Waukesha, WI 53186

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/SB/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	Douglas B. Bylsma	Date	9-12-12
Name	Douglas G. Bylsma	Telephone	262-548-6235 ext. 107
Title	President		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 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 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.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Woodway USA, Inc.

Application No./Patent No.: 15/958,339 Filed/Issue Date: 4/20/2018

Titled: MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

Woodway USA, Inc., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 036476, Frame 0693, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). 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.**

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

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/R.J. McKenna/	April 22, 2019
Signature	Date
Richard J. McKenna	35,610
Printed or Typed Name	Title or Registration Number

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).
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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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not

being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed document is being submitted in compliance with 37 CFR §1.97(d).

STATEMENT UNDER 37 CFR §1.97(e)

The undersigned hereby states in accordance with 37 CFR §1.97(e)(2) that no item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of the information disclosure statement.

FEE

Fees in the amount of $120.00 to cover the fee associated with an information disclosure statement are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account Number 19-0741.

Respectfully submitted,

Date: April 22, 2019

By: /R.J. McKenna/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 319-7029
Facsimile: (414) 297-4900

Richard J. McKenna
Attorney for Applicant
Registration No. 35,610

Alexander J. Neuworth
Attorney for Applicant
Registration No. 72,021

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
Date Submitted: April 22, 2019				**Filing Date**	4/20/2018
				First Named Inventor	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	F1	2019/0054344-A1	02-21-2019	ATHEY ET AL.	

Examiner Signature		Date Considered	

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
* 15/958,339 *	15/958,339	Bayerlein et al.	
	Examiner	**Art Unit**	
	DEICHL, JENNIFER M	3784	

Document Code - DISQ	**Internal Document - DO NOT MAIL**

TERMINAL DISCLAIMER	☑ APPROVED	☐ DISAPPROVED
Date Filed: 22 April 2019	**This patent is subject to a Terminal Disclaimer**	

Approved/Disapproved by:

/PAMELA A YOUNG/

Technology Center: PLRC

Telephone:

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226

CONFIRMATION NO. 4765

POA ACCEPTANCE LETTER

26371
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

OC000000107648863

Date Mailed: 04/25/2019

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/22/2019.

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.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ytdemisse/

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

26371 7590 05/13/2019

FOLEY & LARDNER LLP
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EXAMINER	
DEICHL, JENNIFER M	

ART UNIT	PAPER NUMBER
3784	

NOTIFICATION DATE	DELIVERY MODE
05/13/2019	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):

ipdocketing@foley.com

Advisory Action Before the Filing of an Appeal Brief	Application No. 15/958,339	Applicant(s) Bayerlein et al.	
	Examiner JENNIFER M DEICHL	Art Unit 3784	AIA (FITF) Status No

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

THE REPLY FILED 22 April 2019 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☑ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires ____ months from the mailing date of the final rejection.
   b) ☑ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection.The current period for reply expires ____ months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.
   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANTS FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37CFR 41.37(a).

AMENDMENTS

3. ☑ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☑ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: See Continuation Sheet (See 37CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicants reply has overcome the following rejection(s): _____
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s):(a) ☐ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____
9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
14. ☑ Other: PTO 2323 attached.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
    Claim(s) allowed:_____.
    Claim(s) objected to:_____.
    Claim(s) rejected:1-60.
    Claim(s) withdrawn from consideration:_____.

/JENNIFER M DEICHL/ Primary Examiner, Art Unit 3784	

Continuation of 3. NOTE: The claims include limitations not previously considered. Further search and consideration is therefore required.

AFCP 2.0 Decision

Application No.	Applicant(s)	
15/958,339	Bayerlein et al.	
Examiner	**Art Unit**	**AIA (FITF) Status**
JENNIFER M DEICHL	3784	No

This is in response to the After Final Consideration Pilot request filed 22 April 2019.

1. **Improper Request** – The AFCP 2.0 request is improper for the following reason(s) and the after final amendment submitted with the request will be treated under pre-pilot procedure.

   ☐ An AFCP 2.0 request form PTO/SB/434 (or equivalent document) was not submitted.

   ☐ A non-broadening amendment to at least one independent claim was not submitted.

   ☐ A proper AFCP 2.0 request was submitted in response to the most recent final rejection.

   ☐ Other: _____

2. **Proper Request**

   A. After final amendment submitted with the request will not be treated under AFCP 2.0.
   The after final amendment cannot be reviewed and a search conducted within the guidelines of the pilot program.

   ☑ The after final amendment will be treated under pre-pilot procedure.

   B. Updated search and/or completed additional consideration.
   The examiner performed an updated search and/or completed additional consideration of the after final amendment within the time authorized for the pilot program. The result(s) of the updated search and/or completed additional consideration are:

   ☐ 1. All of the rejections in the most recent final Office action are overcome and a Notice of Allowance is issued herewith.

   ☐ 2. The after final amendment would not overcome all of the rejections in the most recent final Office action . See attached interview summary for further details.

   ☐ 3. The after final amendment was reviewed, and it raises a new issue(s). See attached interview summary for further details.

   ☐ 4. The after final amendment raises new issues, but would overcome all of the rejections in the most recent final Office action. A decision on determining allowability could not be made within the guidelines of the pilot. See attached interview summary for further details, including any newly discovered prior art.

   ☐ 5. Other: _____

   Examiner Note: Please attach an interview summary when necessary as described above.

DO NOT ENTER: /J.M.D/

Atty. Dkt. No. 097208-0226

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Appl. No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation Number:	4765

AMENDMENT AND REPLY UNDER 37 C.F.R. § 1.116

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

Commissioner:

This communication is responsive to the Final Office Action mailed February 20, 2019, concerning the above-referenced patent application. A request for consideration of the amendments after final rejection under the After Final Consideration Pilot 2.0 (AFCP 2.0) is submitted herewith.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks begin on page 14 of this document.

Please amend the application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt includes a curved running surface; and

a safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, wherein ~~so that~~ a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing~~frame~~, however, in a second direction of rotation, opposite the first direction of rotation, ~~the safety device~~ interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft.

2. (Original) The manually powered treadmill of claim 1, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

3. (Original) The manually powered treadmill of claim 2, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile,

wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

4. (Currently Amended) The manually powered treadmill of claim 1, wherein the portion of the safety device is a one-way bearing.

5. (Original) The manually powered treadmill of claim 1, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

6. (Original) The manually powered treadmill of claim 1, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

7. (Original) The manually powered treadmill of claim 6, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

8. (Currently Amended) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, ~~so that~~ wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of

the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing~~frame~~, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device ~~safety device~~ substantially prevents rotation of the portion of the safety device and the running belt.

9. (Currently Amended) The manually powered treadmill of claim 8, wherein the portion of the safety device is a one-way bearing.

10. (Original) The manually powered treadmill of claim 8, wherein the front shaft assembly comprises a front shaft coupled to frame.

11. (Previously Presented) The manually powered treadmill of claim 10, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.

12. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

13. (Original) The manually powered treadmill of claim 12, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

14. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

15. (Currently Amended) The manually powered treadmill of claim 14, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

16. (Previously Presented) The manually powered treadmill of claim 8, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to

enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

17. (Cancelled)

18. (Currently Amended) The manually powered treadmill of claim [[17]]8, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

19. (Previously Presented) The manually powered treadmill of claim 8, wherein the frame includes a left side member, a right side member spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

20. (Original) The manually powered treadmill of claim 19 wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

21. (Currently Amended) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved; and

a safety device coupled to the running belt, ~~so that~~ wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first

direction of rotation relative to the housing~~frame~~, however, in a second direction of rotation, opposite the first direction of rotation, ~~the safety device~~ interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt.

22. (Currently Amended) The manually powered treadmill of claim 21, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

23. (Currently Amended) The manually powered treadmill of claim 21, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

24. (Currently Amended) The manually powered treadmill of claim 21, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

25. (Currently Amended) The manually powered treadmill of claim 21, wherein the portion of the safety device is a one-way bearing.

26. (Original) The manually powered treadmill of claim 21, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

27. (Original) The manually powered treadmill of claim 26, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

28. (Currently Amended) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and the running belt, the safety device having a first element at least partially supported by a housing of the safety device;

permitting rotation of the running belt in a first direction by freewheeling of the first element of the safety device relative to the housing; and

resisting rotation of the running belt in a second direction opposite the first direction by restricting rotation of the first element via interference between the housing and the first element of the safety device.

29. (Currently Amended) A method according to claim 28, further comprising providing for a selective application of a braking force to resist the rotational movement of the running belt in the first direction.

30. (Currently Amended) A method according to claim 28, further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

31. (Currently Amended) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt comprises a curved running surface; and

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein the running belt and one of the first and second rotatable elements of the safety device ~~and the running belt~~ freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between ~~when the first element of~~ the safety device and at least one of the first and second rotatable elements substantially prevents rotation ~~rotates in a first direction of rotation relative to the frame, however,~~ in a second direction of rotation, opposite the first direction of rotation, ~~interference between the first element and~~ of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements~~the second element of the safety device substantially prevents rotation of the first element of the safety device and the running belt relative to the frame~~.

32. (Previously Presented) The manually powered treadmill of claim 31, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

33. (Previously Presented) The manually powered treadmill of claim 32, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

34. (Currently Amended) The manually powered treadmill of claim 31, wherein the first and second rotatable elements of the safety device at least partly form [[is]] a one-way bearing.

35. (Previously Presented) The manually powered treadmill of claim 31, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable

to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

36. (Previously Presented) The manually powered treadmill of claim 31, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

37. (Previously Presented) The manually powered treadmill of claim 36, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

38. (Currently Amended) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate relative to the other of the one of the first and second rotatable elements of the safety device ~~when the first element of the safety device rotates~~ in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element ~~of the safety device~~ substantially prevents rotation of

the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements ~~of the safety device and the running belt relative to the frame~~.

39. (Currently Amended) The manually powered treadmill of claim 38, wherein the first and second rotatable elements of the safety device [[is]] at least partly form a one-way bearing.

40. (Previously Presented) The manually powered treadmill of claim 38, wherein the front shaft assembly comprises a front shaft coupled to frame.

41. (Previously Presented) The manually powered treadmill of claim 40, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.

42. (Previously Presented) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

43. (Previously Presented) The manually powered treadmill of claim 42, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

44. (Previously Presented) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

45. (Previously Presented) The manually powered treadmill of claim 44, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

46. (Previously Presented) The manually powered treadmill of claim 38, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

47. (Previously Presented) The manually powered treadmill of claim 38, wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

48. (Previously Presented) The manually powered treadmill of claim 47, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

49. (Previously Presented) The manually powered treadmill of claim 38, wherein the frame includes a left side member, a right side member spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

50. (Previously Presented) The manually powered treadmill of claim 49, wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

51. (Currently Amended) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved;

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate ~~relative to the second element of the safety device when the first element of the safety device rotates~~ in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element ~~of the safety device~~ substantially prevents rotation of the one of the first and second rotatable elements of the safety device and the running belt relative to the frame.

52. (Previously Presented) The manually powered treadmill of claim 51, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

53. (Currently Amended) The manually powered treadmill of claim 51, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

54. (Currently Amended) The manually powered treadmill of claim 51, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

55. (Currently Amended) The manually powered treadmill of claim 51, wherein the first and second rotatable elements of the safety device at least partly form [[is]] a one-way bearing.

56. (Previously Presented) The manually powered treadmill of claim 51, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

57. (Previously Presented) The manually powered treadmill of claim 56, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

58. (Currently Amended) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and to the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

permitting rotation of one of the first and second rotatable elements of the safety device and the running belt in a first direction of rotation; and

substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the one of the first and second rotatable elements ~~of the safety device~~ by interference between the safety device and at least one of the first rotatable element and the second rotatable element ~~of the safety device~~.

59. (Currently Amended) A method according to claim 58, further comprising providing for selective application of a braking force to resist the rotational movement of the running belt in the first direction.

60. (Currently Amended) A method according to claim 58, further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	15/958339	Filing Date	2018-04-20	Docket Number (if applicable)	097208-0226	Art Unit	3784
First Named Inventor	Douglas G. Bayerlein			Examiner Name	Deichl, Jennifer M.		

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 Amendment and Reply Filed April 22, 2019

☐ 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 190741

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Alexander J. Neuworth/	Date (YYYY-MM-DD)	2019-06-19
Name	Alexander J. Neuworth	Registration Number	72021

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.

Electronic Patent Application Fee Transmittal

Application Number:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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 - 1 month with $0 paid	2251	1	100	100
Miscellaneous:				
RCE- 1ST REQUEST	2801	1	650	650
		Total in USD ($)		**750**

Electronic Acknowledgement Receipt

EFS ID:	36346327
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	19-JUN-2019
Filing Date:	20-APR-2018
Time Stamp:	14:50:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$750
RAM confirmation Number	062019INTEFSW14511801
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	Request for Continued Examination (RCE)	097208-0226_RCE.pdf	1349920 0b56e9a6835e4e8f714e7ee6bcbd78b7aa01b00a	no	3
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32389 0890f31eb7cbdc725ab5f7025ec0a9bd9a6b101b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1382309		

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.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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 15/958,339	Filing Date 04/20/2018	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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 $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ 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	06/19/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 59	Minus	** 60	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 8	Minus	*** 8	= 0		x $230 =	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 $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ 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.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/THUY T TA/
*** 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.	

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.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

26371 7590 08/05/2019

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
DEICHL, JENNIFER M	

ART UNIT	PAPER NUMBER
3784	

NOTIFICATION DATE	DELIVERY MODE
08/05/2019	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):

ipdocketing@foley.com

Office Action Summary	Application No. 15/958,339	Applicant(s) Bayerlein et al.	
	Examiner JENNIFER M DEICHL	Art Unit 3784	AIA (FITF) 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 06/19/2019.

☐ 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) 1-60 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) 1-60 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: _____.

DETAILED ACTION

This Office Action is in response to the RCE filed 06/19/2019. Claims 1-60 are acknowledged as pending in this application with claims 1, 4, 8, 9, 21, 25, 28, 29, 30, 31, 34, 38, 39, 51, 52, 53, 54, 55, 58, 59, and 60 being currently amended. The 103 rejections of the previous Office Action are withdrawn as having been overcome by the amendment. The Double Patenting rejection is withdrawn as having been overcome by the filing of a terminal disclaimer. New rejections are presented below.

Claim Rejections - 35 USC § 103

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 negatived by the manner in which the invention was made.

Claims 1-4,6-14, 17-21, 23-29, 31-34, 36-44, 47-51, and 53-59 is/are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279), Schonenberger (4,334,676), and Savettiere (US 2005/0009668).

Regarding claim 1, Bostic teaches a manually powered treadmill, comprising: a frame (15) having a front end and a rear end positioned opposite the front end; a front shaft (55) coupled to the frame proximate the front end; a rear shaft (20) coupled to the frame proximate the rear end; a running belt; and a safety device coupled to at least one of the front shaft and the rear shaft (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify

the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame and running belt such that a portion (364, 370) of the safety device is at least partially supported by a housing (362, 368) of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt [0136]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 2, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14). The combination of Bostic and Schonenberger yields a treadmill wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

Regarding claim 3, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 4, modified Bostic teaches the portion of the safety device comprises a portion of a one-way bearing (Savettiere [0132]).

Regarding claim 6, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 7, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 8, Bostic teaches a manually powered treadmill, comprising: a frame (15); a front shaft assembly (25, 55) coupled to the frame; a rear shaft assembly (19, 20) coupled to the frame; a running belt (10) at least partially disposed about the front and rear shaft assemblies, and including a running surface; and a safety device (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame and running belt such that a portion (364, 370) of the safety device is at least partially supported by a housing (362, 368) of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt [0136]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 9, modified Bostic teaches the portion of the safety device comprises a portion of a one-way bearing (Savettiere [0132]).

Regarding claim 10, Bostic teaches the front shaft assembly comprises a front shaft (55) coupled to frame.

Regarding claim 11, Bostic teaches the front shaft assembly comprises and at least one front running belt pulley (25) coupled to the front shaft.

Regarding claim 12, Bostic teaches the rear shaft assembly comprises a rear shaft (20) coupled to the frame.

Regarding claim 13, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) coupled to the rear shaft.

Regarding claim 14, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) and the front shaft assembly comprises at least one front running belt pulley (25).

Regarding claim 17, the combination of Bostic and Schonenberger yields a treadmill wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

Regarding claim 18, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 19, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14).

Regarding claim 20, Bostic teaches the combination of Bostic and Schonenberger yields a treadmill wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

Regarding claim 21, Bostic teaches a manually powered treadmill, comprising: a frame (15); at least one front running belt pulley (25) coupled to the frame; at least one rear running belt pulley (19) coupled to the frame a spaced distance from the at least one front running belt pulley; a running belt (10) at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface: and a safety device coupled to the running belt (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the

housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame and running belt such that a portion (364, 370) of the safety device is at least partially supported by a housing (362, 368) of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt [0136]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 23, Bostic teaches a front shaft (55) coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

Regarding claim 24, Bostic teaches a rear shaft (20) coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

Regarding claim 25, modified Bostic teaches the portion of the safety device comprises a portion of a one-way bearing (Savettiere [0132]).

Regarding claim 26, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 27, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 28, Bostic teaches a method, comprising: providing a manually powered treadmill, the manually powered treadmill having a frame (15) with a front end and a rear end;

disposing a running belt (10) on the frame; permitting movement of the running belt in a first direction; and providing a safety device coupled to the frame (via a one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame and running belt such that a portion (364, 370) of the safety device is at least partially supported by a housing (362, 368) of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents

rotation of the portion of the safety device and the running belt [0136]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 29, Bostic teaches providing for the selective application of a braking force to resist the rotational movement of the running belt in the first direction (column 3 lines 27-33).

Regarding claim 31, Bostic teaches a manually powered treadmill, comprising: a frame (15) having a front end and a rear end positioned opposite the front end; a front shaft (55) coupled to the frame proximate the front end; a rear shaft (20) coupled to the frame proximate the rear end; a running belt; and a safety device coupled to at least one of the front shaft and the rear shaft (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted

for rotation relative to the frame; wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame, the safety device having a first rotatable element (362, 368) and a second rotatable element (364, 370), wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame; wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt [0132]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 32, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14). The combination of Bostic and Schonenberger yields a treadmill wherein the plurality of

bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

Regarding claim 33, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 34, modified Bostic teaches the first and second rotatable elements of the safety device at least partly form a one-way bearing (Savettiere [0132]).

Regarding claim 36, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 37, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 38, Bostic teaches a manually powered treadmill, comprising: a frame (15); a front shaft assembly (25, 55) coupled to the frame; a rear shaft assembly (19, 20) coupled to the frame; a running belt (10) at least partially disposed about the front and rear shaft assemblies, and including a running surface; and a safety device (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length

of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame; wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame, the safety device having a first rotatable element (362, 368) and a second rotatable element (364, 370), wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame; wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt [0132]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device

taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 39, modified Bostic teaches the first and second rotatable elements of the safety device at least partly form a one-way bearing (Savettiere [0132]).

Regarding claim 40, Bostic teaches the front shaft assembly comprises a front shaft (55) coupled to frame.

Regarding claim 41, Bostic teaches the front shaft assembly comprises and at least one front running belt pulley (25) coupled to the front shaft.

Regarding claim 42, Bostic teaches the rear shaft assembly comprises a rear shaft (20) coupled to the frame.

Regarding claim 43, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) coupled to the rear shaft.

Regarding claim 44, Bostic teaches the rear shaft assembly comprises at least one rear running belt pulley (19) and the front shaft assembly comprises at least one front running belt pulley (25).

Regarding claim 47, the combination of Bostic and Schonenberger yields a treadmill wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

Regarding claim 48, the combination of Bostic, Cutter, and Schonenberger yields a treadmill wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

Regarding claim 49, Bostic teaches the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member (see Fig. 14).

Regarding claim 50, Bostic teaches the combination of Bostic and Schonenberger yields a treadmill wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

Regarding claim 51, Bostic teaches a manually powered treadmill, comprising: a frame (15); at least one front running belt pulley (25) coupled to the frame; at least one rear running belt pulley (19) coupled to the frame a spaced distance from the at least one front running belt pulley; a running belt (10) at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface: and a safety device coupled to the running belt (one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a first plurality of bearings and a second plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame; wherein the running belt and one of the first and second rotatable

elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame, the safety device having a first rotatable element (362, 368) and a second rotatable element (364, 370), wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame; wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt [0132]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 53, Bostic teaches a front shaft (55) coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

Regarding claim 54, Bostic teaches a rear shaft (20) coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

Regarding claim 55, modified Bostic teaches the first and second rotatable elements of the safety device at least partly form a one-way bearing (Savettiere [0132]).

Regarding claim 56, Bostic teaches a braking system (40) coupled to the frame and configured to selectively resist the rotational movement of the running belt.

Regarding claim 57, Bostic teaches the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt (column 3 lines 27-33).

Regarding claim 58, Bostic teaches a method, comprising: providing a manually powered treadmill, the manually powered treadmill having a frame (15) with a front end and a rear end; disposing a running belt (10) on the frame; permitting movement of the running belt in a first direction; and providing a safety device coupled to the frame (via a one-way clutch; column 2 lines 54-56).

Bostic fails to teach the running belt having a curved running surface. Cutter teaches a manually powered treadmill comprising a running belt (30) having bearings supporting a curved running surface. It would have been obvious to one of ordinary skill in the art before the invention was made to modify the device taught by Bostic by providing the running belt in a curved orientation in order to provide for a more natural running experience (see Cutter, column 1 lines 24-70).

Bostic further fails to teach the running belt being supported by a plurality of bearings coupled to the frame. Schonenberger teaches a treadmill having a running belt supported by a plurality of bearings (12) for the purpose of supporting the belt along the length of the treadmill while providing a slightly resilient running surface (column 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the bearings taught by Schonenberger in order to provide a supported, yet cushioned running surface to the user.

Bostic does not specifically disclose the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame; wherein the running belt and one of the first and second rotatable

elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt. Savettiere teaches a treadmill including a safety device (360) coupled to a frame, the safety device having a first rotatable element (362, 368) and a second rotatable element (364, 370), wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame; wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element of the safety device substantially prevents rotation of the one of the first and second rotatable elements of the safety device relative to the other of the one of the first and second rotatable elements of the safety device and the running belt [0132]. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the device taught by Bostic by providing the safety mechanism taught by Savettiere in order to prevent accidental reverse movement of the belt.

Regarding claim 59, Bostic teaches providing for the selective application of a braking force to resist the rotational movement of the running belt in the first direction (column 3 lines 27-33).

Claims 5, 16, 30, 35, 46, and 60 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279), Schonenberger (4,334,676),

and Savettiere (US 2005/0009668) as applied to claims 1, 8, 28, 31, 38, and 58 above, and further in view of Gaetano (US 4,406,451).

Bostic teaches a support foot (35) coupled to the frame, but fails to teach the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill. Gaetano (US 4,406,451) teaches a manual treadmill comprising a support foot (84) which enables an adjustment of a vertical incline of the treadmill. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device taught by Bostic by providing the incline adjustment taught by Gaetano in order to allow the user to simulate running on hills.

Claims 15, 22, 45 and 52 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bostic (US 5,492,517) in view of Cutter (US 3,642,279), Schonenberger (4,334,676), and Savettiere (US 2005/0009668 as applied to claims 14, 21, 44, and 51, and further in view of Skowronski (US 6,923,746).

Bostic does not specifically disclose at least one of the at least one front running belt pulley and the at least one rear running belt pulley is formed of an electrically insulating material. Skowronski teaches a treadmill comprising front and rear pulleys formed of an electrically insulating material (column 3 lines 63-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Bostic's pulleys as formed from a plastic material, as taught by Skowronski, in order to provide easily produced and durable pulleys. Such a modification involves the mere selection of a known material based on its suitability for its intended use and therefore fails to distinguish the invention over the prior art.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER M DEICHL whose telephone number is (571)272-5001. The examiner can normally be reached on Monday-Friday, 8:30 am to 6:00 pm PST.

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, LoAn Thanh can be reached on 571-272-4966. 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.

JENNIFER M. DEICHL

Primary Examiner
Art Unit 3784

/JENNIFER M DEICHL/
Primary Examiner, Art Unit 3784

Notice of References Cited	Application/Control No. 15/958,339	Applicant(s)/Patent Under Reexamination Bayerlein et al.	
	Examiner JENNIFER M DEICHL	Art Unit 3784	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-20050009668-A1	01-2005	Savettiere, Greg	A63B22/0023	482/66
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

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.	Applicant(s)/Patent Under Reexamination
	15/958,339	Bayerlein et al.
	Examiner	Art Unit
	JENNIFER M DEICHL	3784

CPC - Searched*		
Symbol	Date	Examiner
A63B22/02-0228	07/11/2018	JD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
reviewed family applicaiton history	07/11/2018	JD
EAST text search	07/11/2018	JD
updated	02/14/2019	JD
updated	07/31/2019	JD

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

	/JENNIFER M DEICHL/ Examiner.Art Unit 3764

LIFECORE Ex. 1026, p. 431

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: April 22, 2019				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	F1	2019/0054344-A1	02-21-2019	ATHEY ET AL.	

Examiner Signature	/JENNIFER M DEICHL/	Date Considered	07/31/2019

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.D./

LIFECORE Ex. 1026, p. 432

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3066	A63B22/02-0292.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/07/31 10:45
L2	0	L1 and clutch with interference	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 10:45
L3	0	L1 and clutch same interference	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 10:50
L4	88	L1 and "one way" with interference	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 10:50
L5	45	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$ or US-20160263429-$ or US-20050009668-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-5104120-$ or US-3554541-$ or US-4363480-$ or US-4625962-$ or US-5110117-$ or US-5492517-$ or US-5429563-$ or US-4334676-$ or US-5688209-$).did. or (US-3489408-$ or US-3332683-$).did.	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 10:56
L6	5	5 and clutch	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 10:56
L7	2	treadmill same clutch same sprag	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 10:57
L9	10	5 and "one way"	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:02
L11	5	9 not 6	US-PGPUB;	OR	ON	2019/07/31 11:03

			USPAT; USOCR			
L12	0	treadmill same clutch same interference	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:05
L13	90	treadmill same clutch	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:05
L14	11	("4960276").PN. OR ("5411455").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:07
L15	44	treadmill same "one way" with bearing	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:16
L16	36	15 not 13	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:16
L17	327	A63B$/$.cpc. and flywheel with clutch	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:22
L18	17	A63B$/$.cpc. and flywheel with clutch same interference	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:24
L19	24	A63B$/$.cpc. and flywheel with clutch same lock$4	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/31 11:26
L20	1	("20190054344").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/07/31 12:03

EAST Search History (Interference)

< This search history is empty>

7/ 31/ 2019 12:17:19 PM
C:\ Users\ jdeichl\ Documents\ EAST\ Workspaces\ 15958339.wsp

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/958,339	Filing Date 04/20/2018	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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 $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ 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	10/16/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 59	Minus	** 60	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 8	Minus	*** 8	= 0		x $230 =	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 $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ 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.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/ZETA T ADAMS/
*** 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.	

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Appl. No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation Number:	4765

AMENDMENT AND REPLY UNDER 37 C.F.R. § 1.111

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

Commissioner:

This communication is responsive to the Non-Final Office Action mailed August 5, 2019, concerning the above-referenced patent application.

A Listing of the Claims begins on page 2 of this document.

Remarks begin on page 14 of this document.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed document is being submitted in compliance with 37 CFR §1.97(c), before the mailing date of any of a final action under 37 CFR §1.113, a notice of allowance under 37 CFR §1.311, or an action that otherwise closes prosecution in the application.

FEE

Fees in the amount of $120.00 to cover the fee associated with an information disclosure statement are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account Number 19-0741.

Respectfully submitted,

Date /10-16-2019/ By /Alexander J. Neuworth/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 319-7029
Facsimile: (414) 297-4900

Alexander J. Neuworth
Attorney for Applicant
Registration No. 72,021

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 16, 2019				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	G1	6,652,424-B2	11-25-2003	DALEBOUT, WILLIAM T.	
	G2	2012/0010048-A1	01-12-2012	BAYERLEIN ET AL.	

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[6]
	G3	WOODWAY USA, INC., "Treadmill Owner's Manual", October 2001, 56 pages.	
	G4	WOODWAY USA, INC., EcoMill Promotional Flyer, October 18, 2011, 1 page.	
	G5	WOODWAY USA, INC., Owner's Manual: EcoMill Non-Motorized, June 4, 2010, 35 pages.	

Examiner Signature		Date Considered	

Electronic Patent Application Fee Transmittal

Application Number:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

Electronic Acknowledgement Receipt

EFS ID:	37477043
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	16-OCT-2019
Filing Date:	20-APR-2018
Time Stamp:	16:58:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	E20190FG59147999
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		097208-0226_Response.pdf	250075 a71a02381775f9196a7536428a57ef33d942b33e	yes	21
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Applicant Arguments/Remarks Made in an Amendment		14	21	
	Claims		2	13	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
Warnings:					
Information:					
2	Transmittal Letter	097208-0226_IDS.pdf	118955 d3417255fa3c8ae1b23ce089603b527d388daa5b	no	2
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	097208-0226_SB08.pdf	106550 b039cd2b9276f39585ab583273945a47f07dce2c	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
4	Non Patent Literature	G3--WOODWAY_USA__INC____Treadmill_Owner_s_Ma.pdf	2676010 4946c83d17315519fd2138f74a87805495efd095	no	56
Warnings:					
Information:					

5	Non Patent Literature	G4--WOODWAY_USA__INC___EcoMill_Promotional_F.pdf	464409 34e388de28324a01e9ae9153fb656416029bea3d	no	1
Warnings:					
Information:					
6	Non Patent Literature	G5--WOODWAY_USA__INC___Owner_s_Manual__EcoMi.pdf	1349088 bd46e47507c0dda309ac3e578640cca26a266507	no	35
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	30613 50e866c99ec63bf51bf281f1ff248c89c4356de9	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	4995700	

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.

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and the reasons that follow.

Status of Claims

No claims are currently amended. No claims are cancelled. No claims are new.

Accordingly, claims 1-16 and 18-60 remain pending in this application for examination. Applicant respectfully requests favorable consideration of these claims.

Statement of Substance of Interview

On September 25, 2019, a telephone interview was conducted in the present application between Examiner Jennifer Deichl and attorneys Richard J. McKenna and Alexander J. Neuworth for the Applicant. Applicant thanks the Examiner for her time and thoughtful consideration. During the interview, the parties discussed U.S. Publication No. 2005/0009668 ("Savettiere") relative to the "safety device" of the independent claims. Attorneys McKenna and Neuworth explained operation of the one-way clutch device of Savettiere and how this disclosure does not disclose, teach, or suggest the features of the "safety device," and in fact the disclosure of Savettiere teaches away from the Examiner's application of the prior art in the most recent rejection. The Examiner appeared to agree with the Attorneys, and requested that the Attorneys also provide these remarks in written form in response to the outstanding Office Action. No agreement regarding allowability of the claims was reached as the Examiner indicated that more time would be needed to consider the Applicant's response.

Claim Rejections Under 35 U.S.C. § 103

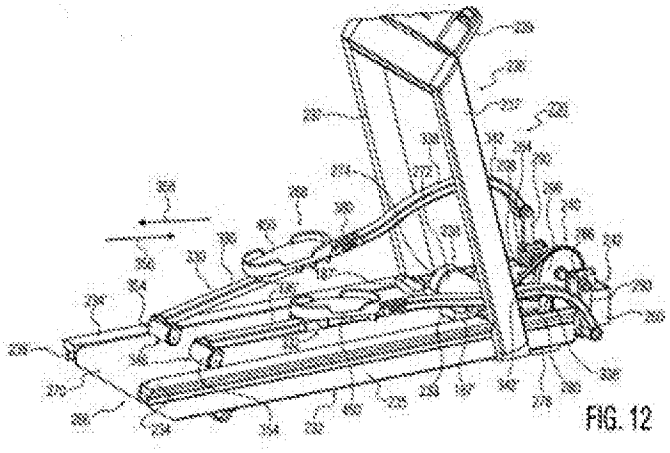
On page 2 of the Office Action, the Examiner rejected claims 1-4, 6-14, 17-21, 23-29, 31-34, 36-44, 47-51, and 53-59 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No.

5,492,517 ("Bostic") in view of U.S. Patent No. 3,642,279 ("Cutter"), U.S. Patent No. 4,334,676 ("Schonenberger"), and Savettiere. On pages 18-19 of the Office Action, the Examiner rejected claims 5, 16, 30, 35, 46, and 60 under 35 U.S.C. § 103 as being unpatentable over Bostic, Cutter, Schonenberger, Savettiere, and U.S. Patent No. 4,406,451 ("Gaetano"). On page 19 of the Office Action, the Examiner rejected claims 15, 22, 45, and 52 under 35 U.S.C. § 103 as being unpatentable over Bostic in view of Cutter, Schonenberger, and Savettiere and further in view of U.S. Patent No. 6,923,746 ("Skowronski"). These rejections and the combinations of references on which the rejections are based are respectfully traversed. In addition, Applicant has previously presented arguments regarding the scope of teaching of the cited references and rejections based thereon and Applicants reassert those arguments in this Response.

I. Savettiere does not disclose, teach, or suggest the "safety device" that "substantially prevents rotation of the running belt" as in varying formats in independent claims 1, 8, 21, 28, 38, 51, and 58.

In the Office Action, the Examiner cited the one-way clutch device 372 of Savettiere as disclosing these features. Applicant respectfully disagrees.

Savettiere relates to an elliptical/treadmill exercise apparatus. (Title). A common frame is used for each of the treadmill and elliptical apparatuses. (*See* Abstract). The elliptical system 268 includes pedal arm assemblies 330 and 332. Each assembly 330 and 332 includes a roller assembly 360 (shown as ref. number 354 in the left side picture below) having an axle 362, a peripheral roller wheel element 364, a clutch mechanism 366 having an inner race 368 fixed to the axle, an outer race 370 secured to the wheel 364, and a one-way clutch device 372 that "is preferably similar to a ratchet and resiliently mounted pawl mechanism." (¶[0136]).



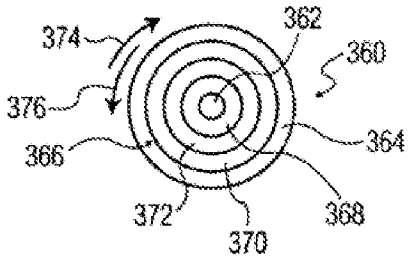


FIG. 20a

In operation, "[t]he device 372 permits the outer wheel element to rotate in one direction 374 relative to the axle 362. However, the outer wheel element 364 is fixed to the axle by the device 372 when a force is applied to the element 364 tending to rotate the element 364 in a direction 376 opposite direction 374. The element 364 can not rotate about the axle in direction 374 and is locked thereto." (¶[0136]).

Savettiere does not disclose, teach, or suggest the "safety device" that "substantially prevents rotation of the running belt" as in varying formats in independent claims 1, 8, 21, 28, 38, 51, and 58. Savettiere discloses that the one-way clutch 372 is included in the roller assembly 346 having the roller 354 that may be provided atop the treadmill belt 270. The one-way clutch does not control the direction of rotation of the treadmill belt. Paragraphs [0135] and [0137] disclose:

> When the rear ends of the pedal arm assemblies 330 and 332 move forward in direction 356, FIG. 12, the rollers 354 roll freely. When the rear ends of the pedal arm assemblies 330 and 332 move rearward in direction 358, however, the rollers can not roll freely and are fixed to the axle such as axle 352 via a clutch mechanism as shown in FIG. 20 *a.*
>
> Thus, in FIG. 12, when the pedal arm assemblies 330 and 332 move rearward in direction 358, the rollers 360, FIG. 20*a,* do not roll on the belt 270. The rollers 360 frictionally engage the belt in relatively

> fixed relationship during the rearward motion in direction 358. As a result of the relatively fixed engagement, the rollers 360 thus push the belt 270 rearward in direction 358 as the pedals move rearwardly.

In other words, Savettiere discloses that when the pedal arm assemblies are moved in one direction, the one-way clutch device 372 allows the rollers 354 to roll freely relative to the treadmill belt 270. However, in the opposite direction of movement, the one-way clutch device prevents rolling movement of the rollers 354 relative to the treadmill belt so that the rollers frictionally engage the treadmill belt 270 and cause rotational movement of the belt 270. Thus, the one-way clutch of Savettiere *only* controls rotational movement of the pedal arm assemblies and does ***not*** control a rotational movement direction of the treadmill belt as a "safety device" of claims 1, 8, 21, 28, 38, 51, and 58. In fact, there is no teaching in Savettiere of a "safety device" use of a one-way clutch device.

Moreover, the one-way clutch device of Savettiere does not teach enabling or allowing only one rotational direction of movement. Rather, the one-way clutch device 372 discloses enabling relative movement between the rollers 354 and the belt 270 in one rotational direction and transmitting frictional force from the rollers 354 to the belt 270 in an opposite rotational directional direction. At no point are the rollers 354 used to *restrict* rotation of the treadmill belt 270 to move in only one rotational directional.

As such and alone or in combination with the other features, Savettiere does not disclose, teach, or suggest a "safety device" that "substantially prevents rotation of the running belt" as in varying formats in independent claims 1, 8, 21, 28, 38, 51, and 58. In fact Savettiere teaches just the opposite, namely *inducing* rotation of the treadmill belt 270 through the application of a frictional force.

II. There is no teaching, suggestion, or motivation by Savettiere that would have led one of ordinary skill in the art to modify Savettiere or to combine Savettiere with the other cited references to arrive at the claimed invention. (MPEP § 2143).

As mentioned above, Savettiere does not disclose, teach, or suggest a "safety device" that "substantially prevents rotation of the running belt" as in varying formats in each of independent claims 1, 8, 21, 28, 38, 51, and 58. Moreover, the disclosure of the one-way device 372 of Savettiere teaches away from combining this structure with the other cited references to arrive at a "safety device" that "substantially prevents rotation of the running belt" as in varying formats in each of independent claims 1, 8, 21, 28, 38, 51, and 58.

The intent of the one-way clutch 372 of Savettiere is to allow relative movement between the treadmill belt 270 and the rollers 354 in one rotational direction while enable the transmission of torque from the rollers 354 to the treadmill belt 270 to *induce* rotation of the belt in another, opposite direction in order to drive rotational movement of the belt 270. However, Applicant's independent claims 1, 8, 21, 28, 38, 51, and 58 clearly provide that the "safety device" "substantially prevents rotation of the running belt" in one rotational direction. One of ordinary skill in the art would not look to Savettiere to cure the deficiencies of the other cited references because the teachings of Savettiere do not restrict rotational movement of the treadmill belt. Thus, a person of ordinary skill in the art would not be motivated to combine the teachings of Savettiere with the other cited references because this combination would not one to arrive at the claimed arrangement in each of independent claims 1, 8, 21, 28, 38, 51, and 58.

III. The other cited references do not cure the aforementioned deficiencies of Savettiere.

First, as stated above, a person of ordinary skill in the art would not be motivated to combine the teachings of Savettiere with the other cited references to arrive at the arrangement recited in each of independent claims 1, 8, 21, 28, 38, 51, and 58.

Second, the other references are not cited as disclosing the "safety device" and its associated features and, indeed, do not disclose, teach, or suggest these features. In this regard, the cited prior art references also fail to disclose, teach, or suggest "a portion of the safety device

is at least partially supported by a housing of the safety device so that the portion of the safety device … freely rotate[s] … in a first direction of rotation" and "in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device" as in varying formats of independent claims 1, 8, 21, and 28. Additionally, the cited prior art references also fail to disclose, teach, or suggest a "safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame" and that "one of the first and second rotatable elements of the safety device freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation in a second direction of rotation, opposite the first direction of rotation, of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements" as in varying formats of independent claims 31, 38, 51, and 58.

Accordingly, independent claims 1, 8, 21, 28, 31, 38, 51, and 58 are all patentable over the cited references. Claims 2-7, 9-16 and 18-20, 22-27, and claims 29-30 depend variously from claims 1, 8, 21, and 28 and are all patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d). Claims 32-37, 39-50, 52-57, and 59-60 depend variously from claims 31, 38, 51, and 59 and are all patentable for similar reasons. *See* pre-AIA 35 U.S.C. § 112 ¶ 4 or post-AIA 35 U.S.C. § 112(d).

IV. Conclusion

Based on the foregoing, Applicant respectfully submits that the claim rejections under Section 103 are overcome. Withdrawal of same is respectfully requested.

Concluding Remarks

It is submitted that each outstanding objection and rejection to the present application has been overcome, and that the present application is in condition for allowance. Applicant requests consideration and allowance of all pending claims.

It should also be noted that although Applicant has only addressed certain claims or claimed features herein, other claims, features, or combinations of features may also be patentable for additional reasons. Further, the failure to address any statement by the Examiner should not be interpreted as acquiescence or agreement with such statement. Applicant expressly reserves the right to rebut any statement presented by the Examiner and to set forth additional and/or alternative reasons for patentability during prosecution of the present application or in any other future proceeding.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance prosecution.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application, or credit any overpayment, to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date /10-16-2019/ By /Alexander J. Neuworth/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 319-7029
Facsimile: (414) 297-4900

Attorneys for Applicant

Richard J. McKenna
Registration No. 35,610

Alexander J. Neuworth
Registration No. 72,021

Listing of Claims:

1. (Previously Presented) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt includes a curved running surface; and

a safety device coupled to the running belt and to at least one of the front shaft and the rear shaft, wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device, the running belt and the at least one of the front shaft and the rear shaft.

2. (Original) The manually powered treadmill of claim 1, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

3. (Original) The manually powered treadmill of claim 2, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

4. (Previously Presented) The manually powered treadmill of claim 1, wherein the portion of the safety device is a one-way bearing.

5. (Original) The manually powered treadmill of claim 1, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

6. (Original) The manually powered treadmill of claim 1, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

7. (Original) The manually powered treadmill of claim 6, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

8. (Previously Presented) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt.

9. (Previously Presented) The manually powered treadmill of claim 8, wherein the portion of the safety device is a one-way bearing.

10. (Original) The manually powered treadmill of claim 8, wherein the front shaft assembly comprises a front shaft coupled to frame.

11. (Previously Presented) The manually powered treadmill of claim 10, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.

12. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

13. (Original) The manually powered treadmill of claim 12, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

14. (Original) The manually powered treadmill of claim 8, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

15. (Previously Presented) The manually powered treadmill of claim 14, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

16. (Previously Presented) The manually powered treadmill of claim 8, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

17. (Cancelled)

18. (Previously Presented) The manually powered treadmill of claim 8, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

19. (Previously Presented) The manually powered treadmill of claim 8, wherein the frame includes a left side member, a right side member spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

20. (Original) The manually powered treadmill of claim 19 wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

21. (Previously Presented) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved; and

a safety device coupled to the running belt, wherein a portion of the safety device is at least partially supported by a housing of the safety device so that the portion of the safety device and the running belt freely rotate when the portion of the safety device rotates in a first direction of rotation relative to the housing, however, in a second direction of rotation, opposite the first direction of rotation, interference between the housing and the portion of the safety device substantially prevents rotation of the portion of the safety device and the running belt.

22. (Previously Presented) The manually powered treadmill of claim 21, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

23. (Previously Presented) The manually powered treadmill of claim 21, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

24. (Previously Presented) The manually powered treadmill of claim 21, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

25. (Previously Presented) The manually powered treadmill of claim 21, wherein the portion of the safety device is a one-way bearing.

26. (Original) The manually powered treadmill of claim 21, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

27. (Original) The manually powered treadmill of claim 26, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

28. (Previously Presented) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and the running belt, the safety device having a first element at least partially supported by a housing of the safety device;

permitting rotation of the running belt in a first direction by freewheeling of the first element of the safety device relative to the housing; and

resisting rotation of the running belt in a second direction opposite the first direction by restricting rotation of the first element via interference between the housing and the first element of the safety device.

29. (Previously Presented) A method according to claim 28, further comprising providing for a selective application of a braking force to resist the rotational movement of the running belt in the first direction.

30. (Previously Presented) A method according to claim 28, further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

31. (Previously Presented) A manually powered treadmill, comprising:

a frame having a front end and a rear end positioned opposite the front end;

a front shaft coupled to the frame proximate the front end;

a rear shaft coupled to the frame proximate the rear end;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings, wherein the running belt comprises a curved running surface; and

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation in a second direction of rotation, opposite the first direction of rotation, of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements.

32. (Previously Presented) The manually powered treadmill of claim 31, wherein the frame includes a left side member, a right side member, and at least one cross-member extending between the left side member and the right side member, wherein the plurality of bearings includes a first plurality of bearings coupled to a left-side of the frame and a second plurality of bearings coupled to a right-side of the frame.

33. (Previously Presented) The manually powered treadmill of claim 32, wherein the first plurality of bearings and the second plurality of bearings each at least partially define a curved top profile, wherein the curved top profile substantially corresponds to at least a portion of the curved running surface.

34. (Previously Presented) The manually powered treadmill of claim 31, wherein the first and second rotatable elements of the safety device at least partly form a one-way bearing.

35. (Previously Presented) The manually powered treadmill of claim 31, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

36. (Previously Presented) The manually powered treadmill of claim 31, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

37. (Previously Presented) The manually powered treadmill of claim 36, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

38. (Previously Presented) A manually powered treadmill, comprising:

a frame;

a first plurality of bearings coupled to the frame;

a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;

a front shaft assembly coupled to the frame;

a rear shaft assembly coupled to the frame;

a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element substantially prevents rotation of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements.

39. (Previously Presented) The manually powered treadmill of claim 38, wherein the first and second rotatable elements of the safety device at least partly form a one-way bearing.

40. (Previously Presented) The manually powered treadmill of claim 38, wherein the front shaft assembly comprises a front shaft coupled to frame.

41. (Previously Presented) The manually powered treadmill of claim 40, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.

42. (Previously Presented) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.

43. (Previously Presented) The manually powered treadmill of claim 42, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.

44. (Previously Presented) The manually powered treadmill of claim 38, wherein the rear shaft assembly comprises at least one rear running belt pulley and the front shaft assembly comprises at least one front running belt pulley.

45. (Previously Presented) The manually powered treadmill of claim 44, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

46. (Previously Presented) The manually powered treadmill of claim 38, further comprising at least one support foot coupled to the frame, wherein the at least one support foot is adjustable to enable an adjustment of the relative vertical incline of at least a portion of the manually powered treadmill in relation to a surface supporting the manually powered treadmill.

47. (Previously Presented) The manually powered treadmill of claim 38, wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.

48. (Previously Presented) The manually powered treadmill of claim 47, wherein each of the first and second pluralities of bearings define a curved top profile and wherein the curved top profile substantially corresponds to at least a portion of the curved portion of the running surface.

49. (Previously Presented) The manually powered treadmill of claim 38, wherein the frame includes a left side member, a right side member spaced a distance from the left side member, and at least one cross-member extending between the left side member and the right side member.

50. (Previously Presented) The manually powered treadmill of claim 49, wherein the first plurality of bearings are coupled the left side member and the second plurality of bearings are coupled to the right side member.

51. (Previously Presented) A manually powered treadmill, comprising:

a frame;

at least one front running belt pulley coupled to the frame;

at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;

a plurality of bearings coupled to the frame;

a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved;

a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element

substantially prevents rotation of the one of the first and second rotatable elements of the safety device and the running belt relative to the frame.

52. (Previously Presented) The manually powered treadmill of claim 51, wherein at least one of the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material.

53. (Currently Amended) The manually powered treadmill of claim 51, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.

54. (Previously Presented) The manually powered treadmill of claim 51, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.

55. (Previously Presented) The manually powered treadmill of claim 51, wherein the first and second rotatable elements of the safety device at least partly form a one-way bearing.

56. (Previously Presented) The manually powered treadmill of claim 51, further comprising a braking system coupled to the frame and configured to selectively resist the rotational movement of the running belt.

57. (Previously Presented) The manually powered treadmill of claim 56, wherein the braking system utilizes friction to apply a variable amount of force to resist the rotational movement of the running belt.

58. (Previously Presented) A method, comprising:

providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;

providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;

disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;

providing a safety device coupled to the frame and to the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;

permitting rotation of one of the first and second rotatable elements of the safety device and the running belt in a first direction of rotation; and

substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the one of the first and second rotatable elements by interference between the safety device and at least one of the first rotatable element and the second rotatable element.

59. (Previously Presented) A method according to claim 58, further comprising providing for selective application of a braking force to resist the rotational movement of the running belt in the first direction.

60. (Previously Presented) A method according to claim 58, further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: December 18, 2019				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	H1	5,378,213	01-03-1995	QUINT, JEFFREY T.	
	H2	2005/0202936	09-15-2005	OTA, YOSHITAKE	
	H3	2018/0001134-A1	01-04-2018	BAYERLEIN ET AL.	

Examiner Signature		Date Considered	

Electronic Patent Application Fee Transmittal

Application Number:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

Electronic Acknowledgement Receipt

EFS ID:	38074997
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	18-DEC-2019
Filing Date:	20-APR-2018
Time Stamp:	16:08:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	E2019BHG08503904
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	Transmittal Letter	097208-0226_IDS.pdf	116932 2bab42a7b18b1cef6ba783f9b2ee0c07670b47c6	no	2
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	097208-0226_SB08.pdf	103060 21804396188dc3ab9b8de7cb7200988da839705a	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Fee Worksheet (SB06)	fee-info.pdf	30614 f3910d26fec2895c82338499621689532206 64bd	no	2
Warnings:					
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		Total Files Size (in bytes):	250606		

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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

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Application No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Deichl, Jennifer M.
Art Unit:	3784
Confirmation No.:	4765

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

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

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Applicant requests that, in accordance with 37 CFR §1.98(d), the Examiner review all applications relied on for an earlier effective filing date under 35 U.S.C. 120, including application no. 13/235,065, filed 9/16/2011; application no. 14/076912, filed 11/11/2013; application no. 14/832,708, filed 8/21/2015, for copies of references of record therein that are not being provided here; although Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(c), before the mailing date of any of a final action under 37 CFR §1.113, a notice of allowance under 37 CFR §1.311, or an action that otherwise closes prosecution in the application.

FEE

Fees in the amount of $120.00 to cover the fee associated with an information disclosure statement are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account Number 19-0741.

Respectfully submitted,

Date /12-18-2019/ By /Alexander J. Neuworth/

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Customer Number: 26371
Telephone: (414) 319-7029
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Alexander J. Neuworth
Attorney for Applicant
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UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTICE OF ALLOWANCE AND FEE(S) DUE

26371 7590 01/03/2020

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER
ROBERTSON, JENNIFER MARY DEICHL

ART UNIT	PAPER NUMBER
3784	

DATE MAILED: 01/03/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

TITLE OF INVENTION: MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	04/03/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

LIFECORE Ex. 1026, p. 472

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26371 7590 01/03/2020

FOLEY & LARDNER LLP
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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

TITLE OF INVENTION: MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	04/03/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROBERTSON, JENNIFER MARY DEICHL	3784	482-054000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

LIFECORE Ex. 1026, p. 473

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

26371 7590 01/03/2020

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
ROBERTSON, JENNIFER MARY DEICHL	
ART UNIT	**PAPER NUMBER**
3784	

DATE MAILED: 01/03/2020

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

LIFECORE Ex. 1026, p. 474

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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 30 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. 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.

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.

Notice of Allowability	Application No. 15/958,339	Applicant(s) Bayerlein et al.	
	Examiner JENNIFER ROBERTSON	Art Unit 3784	AIA (FITF) Status No

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the amendment filed 10/16/2019.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ 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.

3. ☑ The allowed claim(s) is/are 1-16 and 18-60 . As a result of the allowed claim(s), 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.**

4. ☐ 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)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/JENNIFER ROBERTSON/
Primary Examiner, Art Unit 3784

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/958,339	Bayerlein et al.
	Examiner	**Art Unit**
	JENNIFER ROBERTSON	3784

CPC								
Symbol							**Type**	**Version**
A63B	/	21	/	0053			F	2013-01-01
A63B	/	22	/	0023			I	2013-01-01
A63B	/	21	/	157			I	2013-01-01
A63B	/	22	/	0285			I	2013-01-01
A63B	/	21	/	0054			I	2015-10-01
A63B	/	22	/	0017			I	2015-10-01
A63B	/	21	/	0055			I	2015-10-01
A63B	/	22	/	02			I	2013-01-01
A63B	/	22	/	0235			I	2013-01-01
A63B	/	23	/	04			I	2013-01-01
A63B	/	2230	/	06			A	2013-01-01
A63B	/	2230	/	75			A	2013-01-01

CPC Combination Sets									
Symbol							**Type**	**Set**	**Ranking**	**Version**
	/		/							

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	59	
/JENNIFER ROBERTSON/ Primary Examiner, Art Unit 3784	19 December 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/958,339	Bayerlein et al.
	Examiner	**Art Unit**
	JENNIFER ROBERTSON	3784

INTERNATIONAL CLASSIFICATION				
CLAIMED				
A63B21/005	/	21	/	005
A63B22/00	/	22	/	00
A63B21/00	/	21	/	00
A63B22/02	/	22	/	02
A63B23/04	/	23	/	04

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	59	
/JENNIFER ROBERTSON/ Primary Examiner, Art Unit 3784	19 December 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/958,339	Bayerlein et al.
	Examiner	**Art Unit**
	JENNIFER ROBERTSON	3784

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	59	
/JENNIFER ROBERTSON/ Primary Examiner, Art Unit 3784	19 December 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/958,339	Bayerlein et al.
	Examiner	Art Unit
	JENNIFER ROBERTSON	3784

CPC - Searched*		
Symbol	Date	Examiner
A63B22/02-0228	07/11/2018	JD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
reviewed family applicaiton history	07/11/2018	JD
EAST text search	07/11/2018	JD
updated	02/14/2019	JD
updated	07/31/2019	JD
updated	12/19/2019	JR

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	EAST text search	12/19/2019	JR

/JENNIFER ROBERTSON/ Primary Examiner, Art Unit 3784	

PTO/SB/08 (modified)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: October 16, 2019				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	G1	6,652,424-B2	11-25-2003	DALEBOUT, WILLIAM T.	
	G2	2012/0010048-A1	01-12-2012	BAYERLEIN ET AL.	

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[6]
	G3	WOODWAY USA, INC., "Treadmill Owner's Manual", October 2001, 56 pages.	
	G4	WOODWAY USA, INC., EcoMill Promotional Flyer, October 18, 2011, 1 page.	
	G5	WOODWAY USA, INC., Owner's Manual: EcoMill Non-Motorized, June 4, 2010, 35 pages.	

Examiner Signature	/JENNIFER ROBERTSON /	Date Considered	12/19/2019

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.R./

PTO/SB/08 (modified)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	15/958,339
				Filing Date	4/20/2018
Date Submitted: December 18, 2019				**First Named Inventor**	Douglas G. Bayerlein
				Art Unit	3784
(use as many sheets as necessary)				Examiner Name	Deichl, Jennifer M.
Sheet	1	of	1	Attorney Docket Number	097208-0226

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	H1	5,378,213	01-03-1995	QUINT, JEFFREY T.	
	H2	2005/0202936	09-15-2005	OTA, YOSHITAKE	
	H3	2018/0001134-A1	01-04-2018	BAYERLEIN ET AL.	

Examiner Signature	/JENNIFER ROBERTSON /	Date Considered	12/19/2019

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.R./

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	(manual$2 and treadmill and frame and safety and housing and rotate and interference).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2019/12/19 14:38
S1	54	("20040018917" | "20060287165" | "20090170666" | "3968543" | "4614337" | "7717828" | "D736866" | "20060003871" | "5897461" | "20090280960" | "20120231934" | "5887579" | "7090620" | "8308619" | "8690738" | "5411455" | "20090215589" | "5538489" | "5709632" | "6095952" | "20030045403" | "6923746" | "20120157267" | "5470293" | "6053848" | "6740009" | "8734300" | "1211765" | "20080287266" | "20140011642" | "0219439" | "4334676" | "5411279" | "6042514" | "6146315" | "6348025" | "6500097" | "3642279" | "20020147079" | "20060003872" | "20110266091" | "3637206" | "5162988" | "5577598" | "6642279" | "8343016" | "20120270705" | "4635928" | "4726581" | "5548405" | "7560822" | "9005085").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:36
S2	2189	A63B22/02-0292.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:44
S3	27	S2 and height with threaded	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:45
S4	8	S2 and (crank same pinion)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/10/23 17:51
S5	11	treadmill and deichl.xa.	US-PGPUB; USPAT	OR	OFF	2017/05/01 20:22
S6	7	("20060052728" | "5089960" | "5913684" | "5980256" | "6152854" | "7166064" | "7980856").PN. OR ("8968161").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:24
S7	80	("3451526" | "3550756" | "4868682" | "5186270" | "5229756" | "5238099" | "5314391" | "5385519" | "5490784" | "5495576" | "5562572" | "D340342").PN. OR ("6152854").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:25
S8	25	("1211765" | "20040082890" | "2820454" | "2842365" | "3711090" | "4204673" | "4509510" | "4603851" | "5108094" | "5383828" | "5470293" | "5951441" | "6071354" | "6152854" | "6180210" | "6455123" | "8002674" | "8033387" | "8162769" | "8206801" | "8308592" | "8439807").PN. OR ("8714346").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:30
S9	17	("3641601" | "3659845" | "3689066" |	US-PGPUB;	OR	OFF	2017/05/01

		"3711090" | "4509510" | "5018722").PN. OR ("6180210").URPN.	USPAT; USOCR			20:31
S10	23	(US-0009668-$ | US-0020907-$ | US-0123396-$ | US-0216607-$ | US-2117957-$ | US-2842365-$ | US-20050009668-$ | US-20070123396-$ | US-20080020907-$ | US-20100216607-$ | US-2223685-$ | US-4389047-$ | US-4544152-$ | US-5575740-$ | US-5669856-$ | US-6893382-$).DID.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/01 20:39
S11	1	("9352188").PN.	US-PGPUB; USPAT	OR	OFF	2017/05/01 20:43
S12	2319	A63B22/02-0292.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/02 09:42
S13	105	S12 and @pd>="20161015"	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/02 09:42
S14	25	("1211765" | "20040082890" | "2820454" | "2842365" | "3711090" | "4204673" | "4509510" | "4603851" | "5108094" | "5383828" | "5470293" | "5951441" | "6071354" | "6152854" | "6180210" | "6455123" | "8002674" | "8033387" | "8162769" | "8206801" | "8308592" | "8439807").PN. OR ("8714346").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/02 09:46
S15	17	("3641601" | "3659845" | "3689066" | "3711090" | "4509510" | "5018722").PN. OR ("6180210").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/05/02 09:47
S16	8	(US-20040077465-$ | US-4659074-$ | US-5290205-$ | US-5431612-$ | US-5856736-$ | US-7179205-$ | US-7618345-$ | US-7789800-$).DID.	US-PGPUB; USPAT; USOCR	OR	ON	2017/07/11 13:28
S17	8	(("20040077465") or ("4,659,074") or ("5,290,205") or ("5,431,612") or ("5,856,736") or ("7,179,205") or ("7,618,345") or ("7,789,800")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/03 12:54
S18	21	(("20050209059~") or ("20140087922") or ("20160263429") or ("20170182356") or ("4,886,266") or ("4,938,469") or ("5,242,339") or ("5,368,532") or ("5,643,144") or ("5,683,332") or ("6,152,854") or ("6,334,839") or ("6,824,502") or ("6,837,830") or ("7,410,449") or ("7,780,573") or ("7,806,805") or ("8,241,187") or ("8,864,627") or ("8,920,347") or ("9,429,511")).PN. or (2006/0122035).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/12/08 11:01
S19	2	(("8308619") or ("8343016")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/03 10:07
S20	35	("1211765" | "20120010048" | "20120010053" | "20120157267" | "3489408" | "3637206" | "3642279" | "3669238" | "4614337" | "5470293" | "5577598" | "5709632" | "6053848" | "6146315" | "6348025").PN. OR ("8343016").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/03 10:11
S21	5	("3489408").URPN.	USPAT	OR	ON	2018/05/03 10:32

S22	13	("0219439" | "1895285" | "3489408" | "3536324" | "4423864" | "5387159").PN. OR ("7513832").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/03 10:32
S23	3	(("20030186787") or ("20120019973") or ("20140080679")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/03 10:36
S24	12	(("5,031,901") or ("5,094,447") or ("5,145,480") or ("5,310,392") or ("7,862,483") or ("8,585,561") or ("8,876,668") or ("9,044,635") or ("9,233,272") or ("9,254,409") or ("9,314,667") or ("9,974,997")).PN. or ((2007/0021278) or (2007/0298935) or (2008/0119332) or (2009/0156363) or (2012/0264569) or (2014/0171272) or (2015/0119202) or (2017/0113093)).CCLS.	USPAT; USOCR	OR	OFF	2018/07/06 13:17
S25	108	(US-20160150084-$ | US-0003871-$ | US-0003872-$ | US-0007886-$ | US-0009668-$ | US-0011642-$ | US-0018917-$ | US-0019973-$ | US-0020907-$ | US-0023039-$ | US-0077465-$ | US-0080679-$ | US-0087922-$ | US-0096064-$ | US-0122035-$ | US-0123396-$ | US-0147079-$ | US-0150084-$ | US-0157267-$ | US-0166877-$ | US-0170666-$ | US-0182356-$ | US-0186787-$ | US-0209059-$ | US-0215589-$ | US-0216607-$ | US-0231934-$ | US-0263429-$ | US-0266091-$ | US-0270705-$ | US-0280960-$ | US-0287165-$ | US-0287266-$ | US-0296789-$ | US-0306456-$ | US-0367175-$ | US-0367851-$ | US-1211765-$ | US-2117957-$ | US-2842365-$ | US-20020147079-$ | US-20030186787-$ | US-20040018917-$ | US-20040077465-$ | US-20050009668-$ | US-20050209059-$ | US-20060003871-$ | US-20060003872-$ | US-20060122035-$ | US-20060287165-$ | US-20070123396-$ | US-20080020907-$ | US-20080287266-$ | US-20090170666-$ | US-20090215589-$ | US-20090280960-$ | US-20100216607-$ | US-20110266091-$ | US-20120019973-$ | US-20120157267-$ | US-20120231934-$ | US-20120270705-$ | US-20140011642-$ | US-20140080679-$ | US-20140087922-$ | US-20150306456-$ | US-20150367175-$ | US-20160023039-$ | US-20160096064-$ | US-20160166877-$ | US-20160263429-$ | US-20160296789-$ | US-20160367851-$ | US-20170007886-$ | US-20170182356-$ | US-2860541-$ | US-3637206-$ | US-3642279-$ | US-3968543-$ | US-3148743-$ | US-3201120-$ | US-4334676-$ | US-4389047-$ | US-4544152-$ | US-4548405-$ | US-4576352-$ | US-4614337-$ | US-4635928-$ | US-4659074-$ | US-4726581-$ | US-4886266-$ | US-4938469-$ | US-5162988-$ | US-5242339-$ | US-5290205-$ | US-5368532-$ | US-5411279-$ | US-5411455-$ | US-5431612-$ | US-5470293-$ | US-5538489-$ | US-5575740-$ | US-5577598-$ | US-5643144-$ | US-5669856-$ | US-5683332-$ | US-	USPAT	OR	OFF	2018/07/06 13:19

		5709632-$ | US-5856736-$ | US-5887579-$ | US-5897461-$ | US-6042514-$ | US-6053848-$ | US-6095952-$ | US-6146315-$ | US-6152854-$ | US-6180210-$ | US-6334839-$ | US-6348025-$ | US-6500097-$ | US-6740009-$ | US-6824502-$ | US-6837830-$ | US-6893382-$ | US-6923746-$ | US-7090620-$ | US-7179205-$ | US-7410449-$ | US-7560822-$ | US-7618345-$ | US-7717828-$ | US-7780573-$ | US-7789800-$ | US-7806805-$ | US-8241187-$ | US-8308619-$ | US-8343016-$ | US-8690738-$ | US-8734300-$ | US-8864627-$ | US-8920347-$ | US-9005085-$ | US-9352188-$ | US-9429511-$ | US-D736866-$).DID.				
S26	1	("3642279").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:30
S27	0	("20060278165").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:31
S28	0	("20060287165").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:32
S29	0	("200600287165").PN.	USPAT; USOCR	OR	OFF	2018/07/06 13:32
S30	1	("20060287165").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:33
S31	1	("6095952").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:35
S32	33	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-3489408-$).did.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:36
S33	19	S32 and (resistance brak$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:36
S34	2765	A63B22/02-0292.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:39
S35	644	S34 and manual	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:39

S36	451	S35 and (resistance brak$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:39
S37	1956	A63B22/02-0228.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:45
S38	324	S37 and manual and (resistance brak$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S39	888	S37 not motor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S40	383	S37 and resistance not motor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:46
S41	264	S37 and "one way"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:54
S42	40	S37 and slat	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 13:56
S43	43	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$ or US-20160263429-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 13:59

		5104120-$ or US-3554541-$ or US-4363480-$ or US-4625962-$ or US-5110117-$ or US-5492517-$ or US-5429563-$ or US-4334676-$).did. or (US-3489408-$ or US-3332683-$).did.				
S44	12	S43 and plastic	USPAT	OR	OFF	2018/07/06 14:00
S45	119	S37 and resistance with rear	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:02
S46	34	S37 and resistance with rear with (pulley roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:02
S47	21	S37 and resistance same (flywheel friction$4) with rear with (pulley roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:03
S48	54	S37 and flywheel with rear	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/06 14:09
S49	68	("1211765" | "3554541" | "3642279" | "4389047" | "4616822" | "4938473" | "5100127" | "5125361" | "5391129" | "5431612" | "5575740").PN. OR ("5709632").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:17
S50	38	("1211765" | "20120010048" | "20120010053" | "20120157267" | "3489408" | "3637206" | "3642279" | "3669238" | "4614337" | "5470293" | "5577598" | "5709632" | "6053848" | "6146315" | "6348025").PN. OR ("8343016").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:24
S51	11	S43 and height with adjust$4	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 14:29
S52	1	("4023795").PN.	USPAT; USOCR	OR	OFF	2018/07/07 15:24
S53	4	(("5709632") or ("5538489") or ("2399915")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/02/14 10:53
S54	3	(("5378213") or ("20050202936") or ("20180001134")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/12/19 10:06
S55	2	(("6652424") or ("20120010048")).PN.	US-PGPUB; USPAT;	OR	OFF	2019/12/19 10:07

			USOCR			
S56	0	(S54 S55) and clutch	US-PGPUB; USPAT; USOCR	OR	ON	2019/12/19 10:08
S57	44	(US-20140011642-$ or US-20120270705-$ or US-20080287266-$ or US-20060287165-$ or US-20100216607-$ or US-20170182356-$ or US-20160263429-$).did. or (US-8343016-$ or US-8308619-$ or US-6053848-$ or US-5709632-$ or US-3637206-$ or US-1211765-$ or US-5833577-$ or US-4406451-$ or US-4635928-$ or US-5897461-$ or US-5538489-$ or US-5411455-$ or US-8968161-$ or US-6152854-$ or US-8714346-$ or US-9352188-$ or US-6180210-$ or US-3669238-$ or US-3642279-$ or US-7513832-$ or US-9486681-$ or US-0219439-$ or US-9005085-$ or US-8864627-$ or US-6923746-$ or US-5577598-$).did. or (US-5104120-$ or US-3554541-$ or US-4363480-$ or US-4625962-$ or US-5110117-$ or US-5492517-$ or US-5429563-$ or US-4334676-$ or US-5688209-$).did. or (US-3489408-$ or US-3332683-$).did.	US-PGPUB; USPAT; USOCR	OR	ON	2019/12/19 10:08
S59	4	S57 and clutch	US-PGPUB; USPAT; USOCR	OR	ON	2019/12/19 10:09
S60	1	("4023795").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/12/19 10:09
S61	4	(("20110281649") or ("0604472") or ("20180104564")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/12/19 12:54
S62	3	(("20110281649") or ("6044772") or ("20180104564")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/12/19 13:07

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	0	(manual$2 and treadmill and frame and safety and housing and rotate and interference).clm.	US-PGPUB; USPAT	OR	ON	2019/12/19 14:39
L3	0	(manual$2 and treadmill and frame and bearing and rotate and interference).clm.	US-PGPUB; USPAT	OR	ON	2019/12/19 14:39
L4	0	(manual$2 and treadmill and frame and bearing and rotation and interference).clm.	US-PGPUB; USPAT	OR	ON	2019/12/19 14:39
L5	0	(manual$2 and treadmill and frame and safety and rotate and interference).clm.	US-PGPUB; USPAT	OR	ON	2019/12/19 14:46
L6	0	(manual$2 and treadmill and frame and safety and rotation and interference).clm.	US-PGPUB; USPAT	OR	ON	2019/12/19 14:46

12/19/2019 2:47:07 PM
C:\Users\jdeichl\Documents\EAST\Workspaces\15958339.wsp

Atty. Dkt. No. 097208-0226

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Douglas G. Bayerlein
Title:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
Appl. No.:	15/958,339
Filing Date:	4/20/2018
Examiner:	Robertson, Jennifer M.
Art Unit:	3784
Confirmation Number:	4765

ISSUE FEE TRANSMITTAL

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Enclosed herewith please find Issue Fee Transmittal Form PTOL-85(B).

Fees in the amount of $500.00 for payment of the Issue Fee are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account No. 19-0741.

Respectfully submitted,

Date /1-3-2020/ By /Alexander J. Neuworth/

FOLEY & LARDNER LLP
Customer Number: 26371
Telephone: (414) 319-7029
Facsimile: (414) 297-4900

Alexander J. Neuworth
Attorney for Applicant
Registration No. 72,021

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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26371 7590 01/03/2020
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	04/20/2018	Douglas G. Bayerlein	097208-0226	4765

TITLE OF INVENTION: MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	04/03/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROBERTSON, JENNIFER MARY DEICHL	3784	482-054000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Foley & Lardner LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Woodway USA, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Waukesha, Wisconsin

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ☒ Corporation or other private group entity ❑ Government

4a. Fees submitted: ☒ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 19-0741

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Alexander J. Neuworth/ Date /1-3-2020/

Typed or printed name Alexander J. Neuworth Registration No. 72,021

LIFECORE Ex. 1026, p. 492

Electronic Patent Application Fee Transmittal

Application Number:	15958339
Filing Date:	20-Apr-2018
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Filer:	Alexander J. Neuworth/Laura Buhs
Attorney Docket Number:	097208-0226

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:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**500**

Electronic Acknowledgement Receipt

EFS ID:	38196992
Application Number:	15958339
International Application Number:	
Confirmation Number:	4765
Title of Invention:	MANUAL TREADMILL AND METHODS OF OPERATING THE SAME
First Named Inventor/Applicant Name:	Douglas G. Bayerlein
Customer Number:	26371
Filer:	Alexander J. Neuworth/Laura Buhs
Filer Authorized By:	Alexander J. Neuworth
Attorney Docket Number:	097208-0226
Receipt Date:	03-JAN-2020
Filing Date:	20-APR-2018
Time Stamp:	14:19:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$500
RAM confirmation Number	E202013E19266702
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	Transmittal Letter	097208-0226_Transmittal.pdf	110469 b15b10f23e5e30a6ed7ab000e65e294e0b75e5dc	no	1
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	097208-0226_PTOL85.pdf	157012 c5e672b5333745cc19890dc3460456e07a4bc844	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30531 d71edf06c705bc6a45c53990fecc89fd8581dbb8	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	298012		

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/958,339	02/18/2020	10561884	097208-0226	4765

26371 7590 01/29/2020

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Douglas G. Bayerlein, Oconomowoc, WI;
Woodway USA, Inc., Waukesha, WI;
Vance E. Emons, Hartland, WI;
Nicholas A. Oblamski, Waukesha, WI;
Scott D. Hoerig, Brookfield, WI;
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