

Provisional Application for Patent Cover Sheet					
This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)					
Inventor(s)					
Inventor 1					Remove
Given Name	Middle Name	Family Name	City	State	Country i
Benjamin	Raymond	Bass	Madison	WI	US
All Inventors Must Be Listed – Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add
Title of Invention		Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions			
Attorney Docket Number (if applicable)		376.633			
Correspondence Address					
Direct all correspondence to (select one):					
☒ The address corresponding to Customer Number			☐ Firm or Individual Name		
Customer Number			23598		

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.	
☒ No.	
☐ Yes, the invention was made by an agency of the United States Government. The U.S. Government agency name is:	
☐ Yes, the invention was under a contract with an agency of the United States Government. The name of the U.S. Government agency and Government contract number are:	

Entity Status**Applicant asserts small entity status under 37 CFR 1.27 or applicant certifies micro entity status under 37 CFR 1.29**

- ☐ Applicant asserts small entity status under 37 CFR 1.27
- ☐ Applicant certifies micro entity status under 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.
- ☒ No

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 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.

Signature

Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Andrew S. McConnell/			Date (YYYY-MM-DD)	2017-08-17
First Name	Andrew S.	Last Name	McConnell	Registration Number (If appropriate)	32272

This collection of information is required by 37 CFR 1.51. 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 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. This form can only be used when in conjunction with EFS-Web. If this form is mailed to the USPTO, it may cause delays in handling the provisional application.

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	376.633
		Application Number	
Title of Invention	Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions		
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
	Benjamin	Raymond	Bass	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Madison	State/Province	WI	Country of Residence US
Mailing Address of Inventor:				
Address 1		630 Dearholt Road		
Address 2				
City	Madison	State/Province	WI	
Postal Code	53711	Country	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	23598
Email Address	docketing@boylefred.com Add Email Remove Email

Application Information:

Title of the Invention	Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions		
Attorney Docket Number	376.633	Small Entity Status Claimed	☐
Application Type	Provisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	17	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	376.633
		Application Number	
Title of Invention	Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions		

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	23598		

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			Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	376.633
		Application Number	
Title of Invention	Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions		

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)¹ 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).

Application Number	Country ¹	Filing Date (YYYY-MM-DD)	Access Code ¹ (if applicable)

Remove

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

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

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	376.633
	Application Number	
Title of Invention	Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions	

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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	376.633
	Application Number	
Title of Invention	Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions	

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

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 Saris Cycling Group, Inc.

Mailing Address Information For Applicant:

Address 1	5253 Verona Road		
Address 2			
City	Madison	State/Province	WI
Country	US	Postal Code	53711
Phone Number		Fax Number	
Email Address			

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

Assignee Information including Non-Applicant Assignee Information:

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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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	376.633
		Application Number	
Title of Invention	Movable Bicycle Trainer With Rapid Resistance Control to Simulate Outdoor Conditions		

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.

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

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		State/Province	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

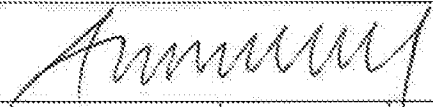
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

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			Date (YYYY-MM-DD)	2017-08-17	
First Name	Andrew S.	Last Name	McConnell	Registration Number	32272

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

MOVABLE BICYCLE TRAINER WITH RAPID RESISTANCE CONTROL TO
SIMULATE OUTDOOR CONDITIONS

Inventor:

Benjamin Raymond Bass

Attorneys for Applicant:
Boyle Fredrickson, S.C.
840 North Plankinton Avenue
Milwaukee, Wisconsin 53203
(414) 225-9755
Fax: (414) 225-9753
Attorney Docket No. 376.633

DETAILED DESCRIPTION OF THE INVENTION

The various features and advantageous details of the subject matter disclosed herein are explained more fully with reference to the non-limiting embodiments described in detail in the following description.

Referring to the following description in which like reference numerals represent like parts throughout the disclosure, a movable bicycle trainer system is indicated generally as 10 in the figures. The movable bicycle trainer system 10 is configured to allow a direct drive trainer, a wheel on trainer, an indoor bicycle, or a platform with a trainer mounted thereon to move side-to-side and/or fore and aft to simulate the feel of real-world cycling. While different components will be described below in the context of a number of different embodiments, it should be noted that any of these components could be used in combination with any components of the other embodiments in order to achieve a bicycle trainer system 10 that simulates real-world cycling.

As shown in many of the figures, the bicycle trainer system 10 may include at least one platform. However, the system 10 may also have multiple platforms. For instance, some of the embodiments described below feature a front platform and a rear platform. Other embodiments could have three, four, five or more platforms. Additionally, frames may be used in combination with various platforms to provide structural support for the system. To facilitate movement of the bicycle about the platform or platforms, a number of different components may be used, including tracks, slots, rollers, pivots, linkages, sliders, balls, ball joints, and the like. Similarly, a combination of any number of these components could similarly be utilized to simulate the feel of real-world cycling.

In many embodiments, the bicycle trainer system 10 may automatically return the bicycle to a centered, starting location after fore and aft or side-to-side movement. For instance, where a track and roller system is used, the track may be in an upwardly u-shaped configuration. Rollers can then be used to allow the bicycle to move relative to

the track. In doing so, the bicycle can move fore and aft and/or side-to-side relative to the platform as the bicycle is pedaled. Because the described track may have an upwardly u-shaped configuration, the bicycle will naturally return to the position where the rollers are located in the bottom of the upwardly u-shaped track. In this way, a rider's weight, in combination with the weight of the bicycle, naturally returns the bicycle to the original position. Of course, the shape, slope, and length of these slots could be modified as desired to increase or decrease the amount of fore and aft or side-to-side movement. Alternatively, the system may have springs, elastomers, elastic bands, a u-shaped track, or any combination of these, that encourage the bicycle to return to the starting position after fore and aft or side-to-side movement.

Specific potential embodiments will now be described. Turning initially to FIGS. 1-4, one embodiment of the movable bicycle trainer system 10 includes a first platform 12 and a second platform 14 that support a bicycle 16. More specifically, the first platform 12 supports a front end 18 of the bicycle 16, as shown the front tire 20. The second platform 14 supports a rear end 22 of the bicycle 16, as shown here a flywheel-based trainer unit 24 affixed to the bicycle 16. In use, these platforms 12, 14 allow the bicycle 16 to move and tilt fore and aft and/or side-to-side during use, resulting in a trainer system 10 that simulates the feel of real-world cycling.

Looking initially to FIG. 1, the first platform 12 will be further described. As shown, the first platform 12 is substantially rectangular, with a first side 26 and a second side 28 opposite the first side 26. Additionally, the first platform 12 has a first end 30 extending between the first side 26 and the second side 28 at the front and a second end 32 opposite the first end 30 extending between the first side 26 and the second side 28 at the rear. The first platform 12 has a number of slots or tracks as will be further described. A first arcuate slot 34 and a second arcuate slot 36 are formed into the first side 26. Similarly, a third arcuate slot 38 and a fourth arcuate slot 40 are formed into the second side 28. The first arcuate slot 34 is located directly across from, and aligns with, the third

arcuate slot 38. Similarly, the second arcuate slot 36 is located directly across from, and aligns with, the fourth arcuate slot 40. Each of these arcuate slots 34, 36, 38, 40 are generally the same shape, as shown forming a partial “U” shape with ends located at a higher elevation with the center of the slot forming the bottom of the “U” shape. The first platform 12 may rest directly on the ground, or the first platform 12 may have shock absorbers or other cushions (not shown) mounted to the bottom of the platform 12, for instance, at the four corners.

The first platform 12 also features a first support 42 and a second support 44. The first support 42 extends from the first slot 34 to the third slot 38. The first support 42 includes a base 48 and two ends 50. As shown, the base 48 is generally rectangular in shape and extends the length between the first side 26 and the second side 28. The ends 50 extend outwardly from the base 48 and serve as rollers that are inserted into the slots 34, 38. As shown, the ends 50 are generally circular in shape, which allows both ends 50 to slide or roll about and within the first slot 34 and the third slot 38. The second support 44, which is virtually identical to the first support 42, extends from the second slot 36 to the fourth slot 40. Again, the second support 44 includes a base 52 and two ends 54. The base 52 is generally rectangular in shape and extends the length between the first side 26 and the second side 28. The ends 54 extend outwardly from the base 52 and serve as rollers that are inserted into the slots 36, 40. As shown, the ends 54 are generally circular in shape, which allows both ends 54 to slide or roll about and within the second slot 36 and the fourth slot 40.

Additionally, the first platform 12 has a third support 46 that extends between the first support 42 and the second support 44, where the third support 46 is located midway between the first side 26 and the second side 28. The third support 46 may further extend past the first support 42 and second support 44 such that it extends from the first end 30 to the second end 32. The third support 46 may additionally feature a curved wheel support 56, which is specifically configured to accommodate a traditional bicycle tire.

Thus, in use, the front tire 20 of the bicycle 16 is rested onto the third support 46, and then secured in place using a tie 58 that wraps around the bicycle tire 20, the curved wheel support 56, and the third support 46. The tie 58 is configured to secure the tire 20 to the first platform 12, while simultaneously allowing the tire 20 to move slightly to allow the bicycle 16 to lean from side to side to simulate real-world bicycle conditions. While a tie is illustrated, other connection devices could be used to secure the tire 20 to the first platform 12.

As a result of the orientation of the ends 50, 54 of the first support 42 and the second support 44 with relation to the slots 34, 36, 38, 40, the first, second, and third supports 42, 44, 46 can move freely forward and backward along the length of the slots 34, 36, 38, 40. Additionally, because the slots 34, 36, 38, 40 are generally “U” shaped, the ends 50, 54 of the first support 42 and second support 44 will eventually automatically return to the center point having the lowest elevation due to the weight of the user and the bicycle 16. As a result, when the bicycle 16 is mounted and secured to the first platform 12, the front end 18 of the bicycle 16 can similarly move freely forward and backward along the length of the slots 34, 36, 38, 40. Thus, the movable bicycle trainer system 10 allows a user to ride the bicycle 16 indoors, while also offering the real-world feeling of moving and leaning forward, backward, and side-to-side that occurs when riding a bicycle outside.

Turning now to FIGS. 1-4, the second platform 14 will now be more clearly described. Many of the features of the second platform 14 are similar to the features of the first platform 12. For instance, the second platform 14 is also rectangular, although it may be longer than the first platform 12 in order to support the flywheel-based trainer unit 24. The rectangular second platform 14 includes a first side 60, a second side 62 opposite the first side 60, a first end 64 extending between the first side 60 and the second side 62 at the front, and a second end 66 opposite the first end 64 extending between the first side 60 and the second side 62 at the rear. The second platform 14 may rest directly

on the ground, or the second platform 14 may have shock absorbers or other cushions (not shown) mounted to the bottom of the platform 14, for instance, at the four corners. On the top of the second platform 14 adjacent to the first end 64, two foot rests 68 can be included. When a user mounts or dismounts the bicycle 16, he or she can step onto the foot rests 68 before mounting the bicycle 16 or leaving the platform 14.

Like the first platform 12, the second platform 14 has a number of slots or tracks as will be further described. As shown, the second platform 14 has a first arcuate slot 70 and a second arcuate slot 72 that are formed into the first side 60. Additionally, a third arcuate slot 74 and a fourth arcuate slot 76 are formed into the second side 62, as best seen in FIG. 3, which shows the cross section along line 3-3 of FIG. 2. The first arcuate slot 70 is located directly across from, and aligns with, the third arcuate slot 74. Similarly, the second arcuate slot 72 is located directly across from, and aligns with, the fourth arcuate slot 76. Each of these arcuate slots 70, 72, 74, 76 are generally the same shape, as shown forming a partial “U” shape with ends located at a higher elevation with the center of the slot 70, 72, 74, 76 forming the bottom of the “U” shape.

The second platform 14 also features a first support 78 and a second support 80. The first support 78 extends from the first slot 70 to the third slot 74. The first support 78 includes a base 82 and two ends 84. Again, the base 82 is generally rectangular in shape and extends the entire length between the first side 60 and the second side 62, as best seen in FIG. 4, which shows the cross section along line 4-4 of FIG. 2. The ends 84 extend outwardly from the base 82 and serve as rollers that are inserted into the slots 70, 74. As shown, the ends 84 are generally circular in shape, which allows both ends 84 to slide or roll about or within the first slot 70 and the third slot 74. The second support 80, which is virtually identical to the first support 78, extends from the second slot 72 to the fourth slot 76. Again, the second support 80 includes a base 86 and two ends 88. The base 86 is generally rectangular in shape and extends the length between the first side 60 and the second side 51. The ends 88 extend outwardly from the base 86 and serve as

rollers that are inserted into the slots 72, 76. As shown, the ends 88 are generally circular in shape, which allows both ends 88 to slide or roll about or within the second slot 72 and the fourth slot 76.

Further, the second platform 14 has a third support 90 that extends between the first support 78 and the second support 80, where the third support 90 is located midway between the first side 60 and the second side 62. The third support 90 may be mounted to the first support 78 and the second support 80 using rubber supports, cushions, springs, or the like 92, which accommodate additional movement, for instance, side-to-side tilting. Additionally, a mounting platform 94 can be installed onto, or rested on top of, the third support 90. Additional rubber springs, cushions, springs, or the like 98 could similarly be used between the third support 90 and the mounting platform 94. The mounting platform 94 is configured to provide sufficient surface area in order to accommodate the flywheel-based trainer unit 24, which has a significant footprint and is oftentimes weighs over twenty pounds. An example of one possible flywheel-based trainer unit would be the Hammer Direct Drive Trainer manufactured and sold by CycleOps of Madison, WI. The flywheel-based trainer unit 24 could be physically connected or attached to the mounting platform 94. Alternatively, the mounting platform 94 could be specifically designed to have notches or tabs (not shown) that surround the footprint of traditional trainer units. In this case, the notches or tabs, in combination with the weight of the trainer unit 24 and the weight of the user when using the movable bicycle trainer system 10, would keep the trainer unit 24 secured to the mounting platform. Further still, the weight of the trainer unit 24 and the user could be sufficient to keep the trainer unit 24 on the mounting platform 94. Although a second platform 14 with a separate flywheel-based trainer unit 24 that can be removed from platform 14 is shown, it should also be understood that the flywheel-based trainer unit 24 could be permanently integrated with the second platform 14.

Again, much like the first platform 12, as a result of the orientation of the ends 84, 88 of the first support 78 and the second support 80 with relation to the slots 70, 72, 74, 76, the first, second, and third supports 78, 80, 90, as well as the mounting platform 94, can move freely forward and backward along the length of the slots 70, 72, 74, 76. Additionally, because the slots 70, 72, 74, 76 are generally “U” shaped, the ends 84, 88 of the first support 78 and second support 80 will eventually automatically return to the center point having the lowest elevation due to the weight of the user and the bicycle 16. As a result, when a bicycle 16 is mounted to the second platform 14, the rear end of the bicycle 16 can move freely forward and backward along the length of the slots 70, 72, 74, 76. The resulting movable bicycle trainer system 10 allows a user to ride the bicycle 16 indoors, while also offering the real-world feeling of moving and leaning forward and backward that occurs when riding a bicycle outside.

As shown, the first platform 12 and the second platform 14 can be connected by a permanent bar 96. Alternatively, the first platform 12 and the second platform 14 could be adjustably connected, which would allow a user to adjust the distance between the first platform 12 and the second platform 14. This would allow the movable bicycle trainer system 10 to accommodate bicycles 16 of varying sizes. FIGS. 14-16 show a system 10 similar to that shown in FIGS. 1-4, however, with an inner frame 100, an outer frame 102, and a trainer support 104 instead of front and back platforms. As shown, the outer frame 102 has slots 106 at each corner that enable fore and aft movement. In another embodiment shown in FIG. 5, the bicycle trainer system 10 again uses a track and rollers. Here, the bicycle trainer system 10 has a curved front track 108, and a rear platform 110 with a curved rear track 112. In this embodiment, the platform 110 and tracks 108, 112 are stationary relative to the ground. A substantially I-shaped trainer support 114 has two rollers 116 located at the front and two rollers 118 located at the back. The two front rollers 116 are movable along the front curved roller track 108 and the two back rollers 118 are movable along the curved rear track 112. As a result, the trainer support 114 is pivotable relative to the platform 110 and the tracks 108, 112. This allows the trainer

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support 114 and the bicycle 16 to have side-to-side movement relative to the ground while the bicycle 16 is in use. Additionally, the trainer support 114 may have a slidable wheel tray 120 that allows for fore and aft movement of the bicycle 16 relative to the trainer support 114 when the bicycle 16 is in use. As a result of the side-to-side movement of the bicycle 16 due to the tracks 108, 112 and rollers 116, 118 in combination with the fore and aft movement of the bicycle 16 as a result of the slidable wheel tray 120, real-world bicycle conditions can be simulated.

While the previously-disclosed embodiments show the rollers associated with the trainer support, and the track/slot to be associated with the frame, the track and the rollers could be inverted. Stated differently, the track could be associated with the trainer support, and the rollers could be associated with the platform or platforms. For instance, as shown in FIG. 6, tracks 122 are associated with the I-shaped trainer support 124 and rollers 126 are associated with front and back platforms 128, 130. As such, the rollers 126 are stationary relative to the ground, whereas the tracks 122 move from side to side along with the bicycle 16. Similarly, FIG. 7 shows another system 10 where the rollers 132 associated with a platform 134 are fixed relative to the ground. In this embodiment, there are two inverted U-shaped tracks 136 that are associated with a trainer support 138. As a result, the tracks 136 move relative to the ground, resulting in simulation of real-world bicycling conditions.

Another embodiment with many common features is shown in FIGS. 8 and 9. Here, this bicycle trainer system 10 features a stationary platform 140 having two side-by-side U-shaped tracks 142. However, in contrast to the previous embodiment, these tracks 142 are located in the front platform (not shown) and the back platform 140. The bicycle 16 is shown connected to a trainer unit 24 equipped with circular ends or rollers 144 that can move or roll relative to the tracks 142. Alternatively, the circular ends or rollers 144 may be associated with a trainer support (not shown) that the trainer unit 24 rests upon. As a result, when the bicycle 16 is pedaled, the bicycle 16 can rotate from

side to side to simulate real-world cycling conditions. Again, due to the shape of the tracks 142, the ends 144 will automatically return to an original position due to the weight of the rider and the bicycle 16. Furthermore, the geometry of the tracks 142 as well as the location of the ends 144 result in a relatively high elevation pivot point of the bicycle 16 that is similar to the pivot point that a rider would experience using the bicycle 16 outdoors. This is superior to other indoor simulators, which oftentimes dramatically pivot from side-to-side about a relatively low pivot point during use, which reduces the real-world feel of the system 10.

The embodiment shown in FIG. 10 includes an outer frame 146 that moves about front and rear platforms 148, 150, and an I-shaped trainer support 152 that moves about the outer frame 146. The outer frame 146 moves about the front and rear platforms 148, 150 much like the embodiment shown in FIGS. 8 and 9, with two side-by-side U-shaped tracks 154 formed in the front platform 148 and two side-by-side U-shaped tracks 156 formed in the rear platform 150. Two rollers 158 extend from the front of the trainer support 152 into the tracks 154 formed in the front platform 148, and two rollers 160 extend from the rear of trainer support 152 into the tracks 156 formed in the rear platform 150. This allows the outer frame 146 to move side-to-side relative to the front platform 148 and rear platform 150 when the system 10 is in use. Additionally, two U-shaped tracks 162, 164 are formed in both sides of the outer frame 146. The I-shaped trainer support 152 has two rollers 166 extending outwardly from the first side and two rollers 168 extending outwardly from the second side. Each of these rollers 166, 168 are configured to extend into the outer frame 146 into the U-shaped tracks 162, 164. This allows the interior I-shaped trainer support 152, to move forward and backward relative to the outer frame 146. In this configuration, the front and rear platforms 148, 150 are fixed relative to the ground, whereas the outer frame 146 moves side-to-side relative to the ground and the trainer support 152 moves fore and aft relative to the ground during use.

FIG. 11 shows a system 10 with an inverse setup as to that shown in FIG. 10. More specifically, in this embodiment, a trainer support 170 is configured to move side-to-side relative to a middle frame 172. As such, the trainer support 170 has two ends or rollers 174 extending outwardly from the front and back ends of the trainer support 170 into side-by-side U-shaped tracks 176 formed in the middle frame 172. The middle frame 172 is mounted within, and moves front-to-back relative to an outer frame 178. More specifically, the middle frame 172 has two ends or rollers 180 extending outwardly from both sides of the middle frame 172. These ends or rollers 180 extend into U-shaped tracks 182 formed in the sides of the outer frame 178. The combination of the various tracks 176, 182 and ends/rollers 174, 180 allows the trainer support 170 to move side-to-side relative to the outer frame 178, and the middle frame 172 to move fore and aft relative to the outer frame 178 when in use. The outer frame 178 remains stationary relative to the ground. A similar system is shown in FIGS. 12 and 13, but with a single U-shaped track 184 located in the front and the back of a middle frame 186 instead of side-by-side U-shaped tracks 176.

FIG. 17 shows yet another possible system 10, which includes multiple small, bowl-shaped platforms 188. As shown, the system includes three bowl-shaped platforms 188 associated with a trainer unit 24, although additional bowl-shaped platforms could be included. In this embodiment, circular ball rollers 190 are associated with various parts of the trainer unit 24. These circular ball rollers 190 can move within the bowl-shaped platforms 188 to allow for movement of the trainer unit 24 relative to the platforms 188, for instance, forward, backward, and side-to-side. Because the platforms 188 are bowl-shaped, the circular ball rollers 190 will naturally return to the lowest point in the center due to the weight of the rider and the trainer unit 24. A benefit to this system 10 is the minimal amount of space that this system 10 requires for operation. Although not shown, the front of the bicycle could be secured in place, or it could be mounted to any of the components discussed in the alternative embodiments.

Other embodiments may include elastic bands or springs that allow the bicycle 16 to move about the system 10 before being returned to a starting position. For instance, FIG. 18 shows a system 10 with an upper trainer support 192 mounted to front and back uprights 194, 196. The front and back uprights 194, 196 are slidably connected to a lower frame 198, which remains fixed about the ground. The front and back uprights 194, 196 include elastic bands or springs 200 located at either end that return the upper trainer support 192 to a centered position relative to the lower frame 198. When in use, the upper trainer support 192 can move forward and backward relative to the lower frame 198 before being returned to the centered position.

Still looking at the system of FIG. 18, the upper trainer support 192 may be mounted to the front and back uprights 194, 196 by four-bar linkages 202. As known to one of ordinary skill in the art, a four-bar linkage 202 consists of a number of bars connected at four joints. The bars are pivotable about these four joints, which allows the upper trainer support 192 to pivot about the four joints to result in side-to-side motion. A benefit to a system 10 using four-bar linkages 202 is that realistic side-to-side motion can be achieved while taking up less space than many of the embodiments described herein.

FIG. 19 shows another embodiment of the system 10 that utilizes linkages that allow for side-to-side movement. More specifically, the system 10 has two linkages 204 located at the rear of the system 10 and two linkages 206 located at the front of the system 10. These linkages 204, 206 support a trainer support 208. As shown, the rear linkages 204 are pivotable about an axis that is parallel to the length of the system 10 and the front linkages 206 are pivotable about an axis that is parallel to the width of the system 10. As a result, the rear linkages 204 facilitate side-to-side movement of the trainer support 208 relative to the ground, whereas the front linkages 206 facilitate front to back movement of the trainer support 208. Yet again, the resulting system 10 allows for side-to-side and fore and aft movement simultaneously.

FIGS. 20 and 21 show another embodiment with an inner frame 210, an outer frame 212, and a trainer support 214 extending from one end of the inner frame 210 to the opposite end of the inner frame 210. The trainer support 214 is pivotably connected to the inner frame 210 by two four-bar linkages 216 mounted to the front and the rear of an inner frame 210. The four-bar linkages 216 allow the trainer support 214 to move side-to-side relative to inner frame 210. Additionally, the inner frame 210 may include four rollers 218 extending outwardly adjacent to the four corners of the inner frame 210. The outer frame 212 may have four U-shaped tracks 220 located on the inside of the four corners of the outer frame 212. The rollers 218 may be inserted into or rest within the U-shaped tracks 220, such that the rollers 218 roll or slide about the tracks 220 to accommodate fore and aft movement of the bicycle 16 relative to the outer frame 212.

FIGS. 22 and 23 show other embodiments of the system 10 that provide multiple four-bar linkages, where a first set of the four-bar linkages 222 are pivotable relative to a first axis that is parallel with the length of the system and a second set of the four-bar linkages 224 are pivotable relative to a second axis that is parallel with the width of the system 10. More specifically, the system 10 features an outer frame 226 with four-bar linkages 222 connected to a trainer support 228 that allow for fore and aft movement of the bicycle 16. Additionally, four-bar linkages 224 are located on either end of the trainer support 228 to facilitate side-to-side movement. Of course, the length and proximity of the various linkages may be varied to result in different movement characteristics. In this way, either system 10 allows for pivotable movement of a bicycle 16 that is mounted thereto both side-to-side and fore and aft. Again, a benefit of using four-bar linkages is that the footprint of system 10 can be minimized while still facilitating movement of the system 10 in multiple directions to simulate real-world cycling conditions.

Additionally, FIGS. 25 and 26 show another embodiment where the system 10 features a plurality of ball joints 232. This embodiment works very similarly to the

embodiment shown in FIG. 17, however, with linkages and ball joints instead of bowl-shaped platforms. As shown, these ball joints 232 form virtual pivot points located above the system 10, as shown by the lines in phantom. These pivot points allow the bicycle 16 to move fore and aft and side-to-side relative to the ground. Additionally, using gravity, the bicycle 16 will naturally return to a central position relative to the system 10.

Finally, while many of the embodiments described above disclose systems 10 that move both side-to-side and fore and aft, it should be understood that any of these systems 10 could be configured to solely move side-to-side or solely move fore and aft. For instance, FIG. 24 shows an embodiment of the system 10 where four-bar linkages 230 are located in the front and the back of the system 10 to allow for side-to-side movement of a bicycle 16 about the system 10. Turning to FIGS. 27 and 28, a system 10 is shown with a trainer support 234 with a slidable wheel tray 236. The system 10 may also have a rear base 238 to stabilize the trainer support 234 since the footprint of the system 10 is so small. The slidable wheel tray 120 allows for fore and aft movement, but no side-to-side movement.

It should also be noted that each of these systems may include additional components in order to avoid resonant frequencies. For instance, a damping system could be incorporated with any of these systems. This could take the form of rubber rollers or track, a dashpot, or a slider with friction.

The movable bicycle trainer system 10 described above offers several benefits over previous bicycle trainer systems. In order to reduce peak saddle pressure, which has a significant impact on user comfort, previous trainers would either 1) require a large flywheel-based trainer unit to smooth out the rider's pedal stroke or 2) incorporate realistic movement into the trainer, for instance, allowing for side-to-side or fore and aft tilting movements. To smooth out the rider's pedal stroke, a direct drive trainer unit as shown can rapidly change the resistance based on the position of the pedal stroke, with

greater resistance being generated during the high torque part of the user's pedal stroke and less resistance during the dead spot of the user's pedal cycle.

Additionally, the amount of resistance can be adjusted based on sensor readings, for instance, using accelerometer-based cadence sensors, reed switch sensors, position sensors, and other sensors as would be known to one of ordinary skill in the art. Based on the sensor readings, resistance can be increased and decreased rapidly to allow for a full reversal within each pedal stroke. These changes in resistance can be calculated based on any number of factors, including for instance increase or decrease in torque, increase or decrease in speed, redundantly positive or negative acceleration, increase or decrease in instantaneous power, or derivatives of power. Similarly, the resistance could be calculated based on any combination of these factors. The adjustments in resistance can be achieved, for instance, using electromagnetic coils, although a motor controller including a drive and a brake could similarly be used. However, any number of other methods of generating resistance could similarly be employed. For instance, these could include systems that deposit generated power into resistors, systems that dissipate power through eddy current resistance, and friction-based systems.

Previously, the two options stated above were not compatible with one another primarily because the weight associated with a large flywheel-based trainer unit resulted in significant gyroscopic stability, which made it difficult to simulate realistic movement during use of the trainer system. However, by using the embodiments described above, the movable direct drive-type bicycle trainer system 10 generates both the smooth pedal stroke associated with use of a heavy flywheel-based trainer unit, while also allowing for realistic movement of the system 10 in the form of fore and aft and side-to-side movement.

It should be understood that the invention is not limited in its application to the details of construction and arrangements of the components set forth herein. The invention is capable of other embodiments and of being practiced or carried out in

various ways. Variations and modifications of the foregoing are within the scope of the present invention. It is also understood that the invention disclosed and defined herein extends to all alternative combinations of two or more of the individual features mentioned or evident from the text and/or drawings. All of these different combinations constitute various alternative aspects of the present invention. The embodiments described herein explain the best modes known for practicing the invention and will enable others skilled in the art to utilize the invention.

CLAIMS

I claim:

1. A movable bicycle trainer system comprising:
at least one platform configured to allow realistic movement of a bicycle relative to the at least one platform during operation of the bicycle.
2. The movable bicycle trainer of claim 1, wherein the at least one platform allows for fore and aft movement of the bicycle.
3. The movable bicycle trainer of claim 1, wherein the at least one platform allows for side-to-side movement of the bicycle.
4. The moveable bicycle trainer of claim 1, wherein the bicycle returns to a central position relative to the at least one platform after the realistic movement of bicycle.
5. The moveable bicycle trainer of claim 1, further comprising a rapid response resistance system.
6. A movable bicycle trainer system comprising:
a first platform configured to support a front end of a bicycle; and
a second platform configured to support a rear end of a bicycle;
wherein the first platform is configured to allow realistic movement of the front end of the bicycle fore and aft relative to the first platform; and
wherein the second platform is configured to allow realistic movement of the rear end of the bicycle fore and aft relative to the second platform.

7. The system of claim 6, further comprising a trainer unit mounted to the second platform.

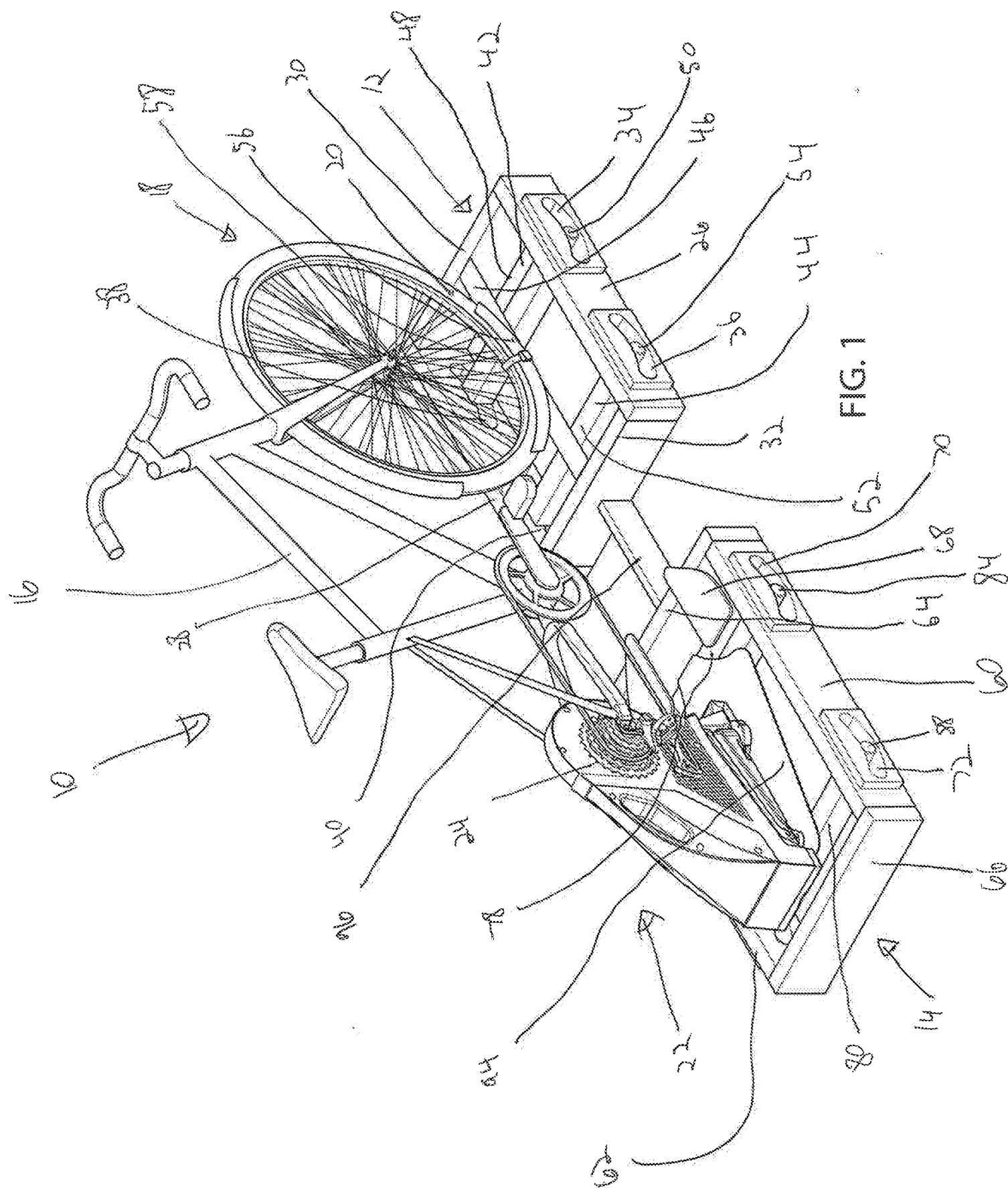
8. A movable bicycle trainer system for use with a bicycle comprising:
- a first platform with:
 - a first side and a second side opposite the first side;
 - a first arcuate slot and a second arcuate slot formed in a first side;
 - a third arcuate slot and a fourth arcuate slot formed in the second side, wherein the first arcuate slot is opposite the third arcuate slot and the second arcuate slot is opposite the fourth arcuate slot;
 - a first support extending from the first arcuate slot to the third arcuate slot, wherein the first support is movable about the first arcuate slot and the third arcuate slot;
 - a second support extending from the second arcuate slot to the fourth arcuate slot, wherein the second support is movable about the second arcuate slot and the fourth arcuate slot;
 - wherein a bicycle tire is supported by the first support and the second support;
 - a second platform with
 - a first side and a second side opposite the first side;
 - a first arcuate slot and a second arcuate slot formed in a first side;
 - a third arcuate slot and a fourth arcuate slot formed in the second side, wherein the first arcuate slot is opposite the third arcuate slot and the second arcuate slot is opposite the fourth arcuate slot;
 - a first support extending from the first arcuate slot to the third arcuate slot, wherein the first support is movable about the first arcuate slot and the third arcuate slot;

a second support extending from the second arcuate slot to the fourth arcuate slot, wherein the second support is movable about the second arcuate slot and the fourth arcuate slot; and

a mounting plate attached to the first support and the second support; wherein a resistance trainer is supported by the mounting plate.

9. The system of claim 8, wherein the first support and the second support allow the bicycle to move fore and aft relative to the first platform and the second platform.

10. The system of claim 9, wherein the resistance trainer is a flywheel-based trainer unit.



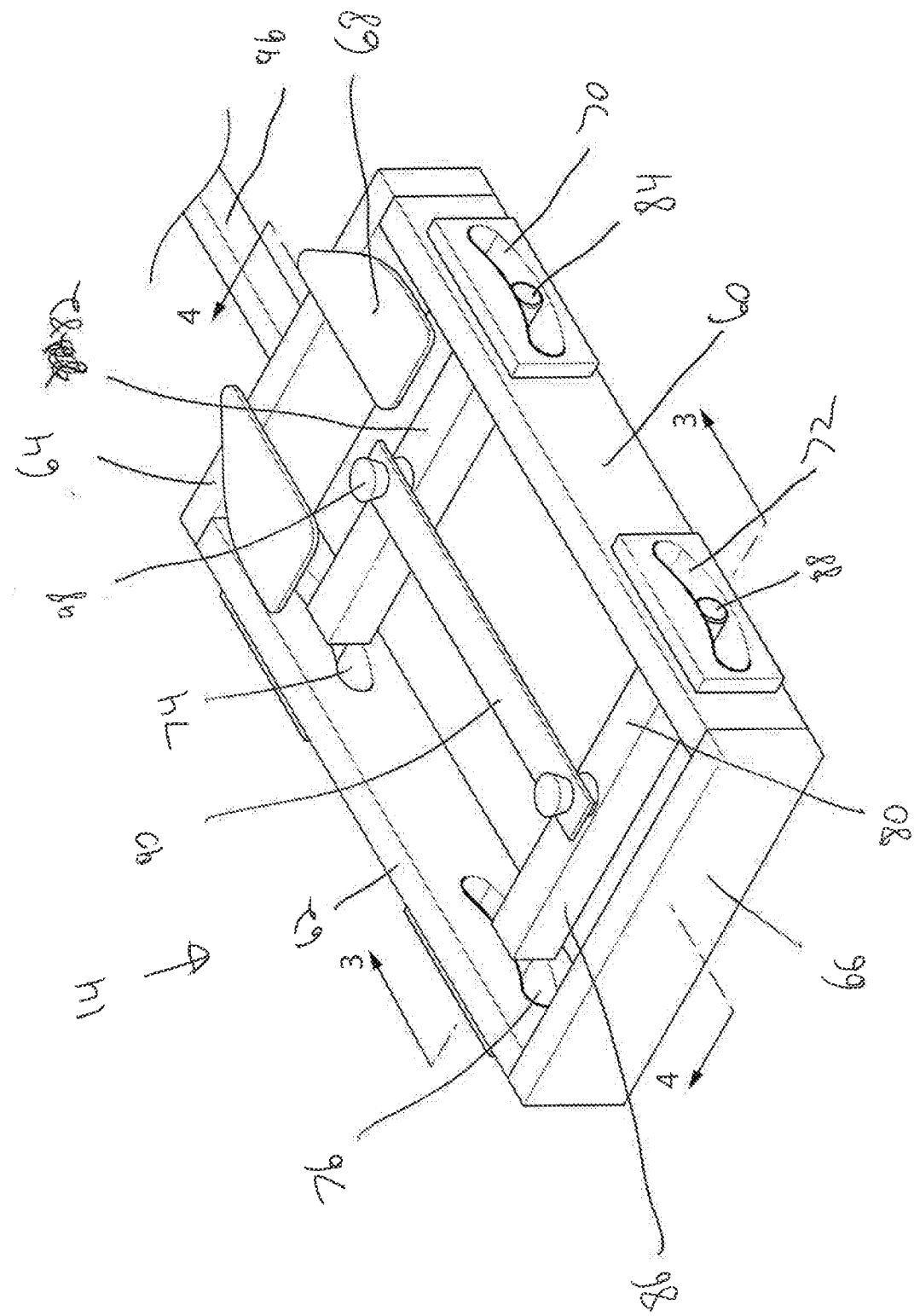
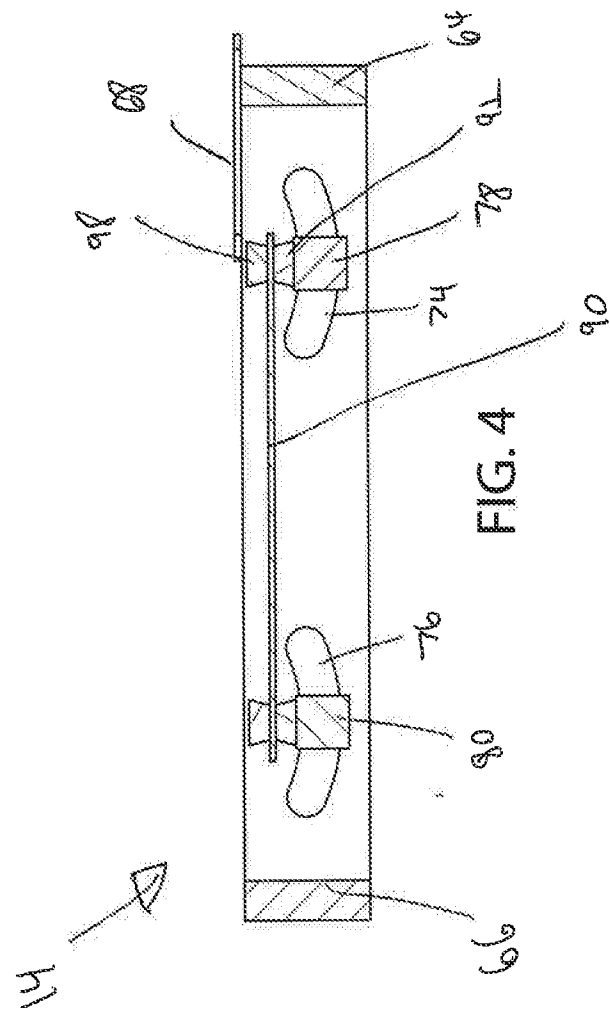
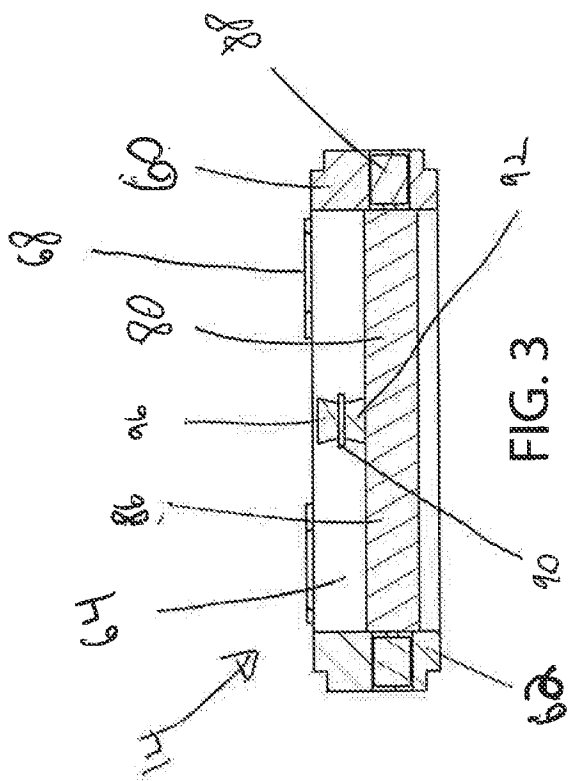


FIG. 2



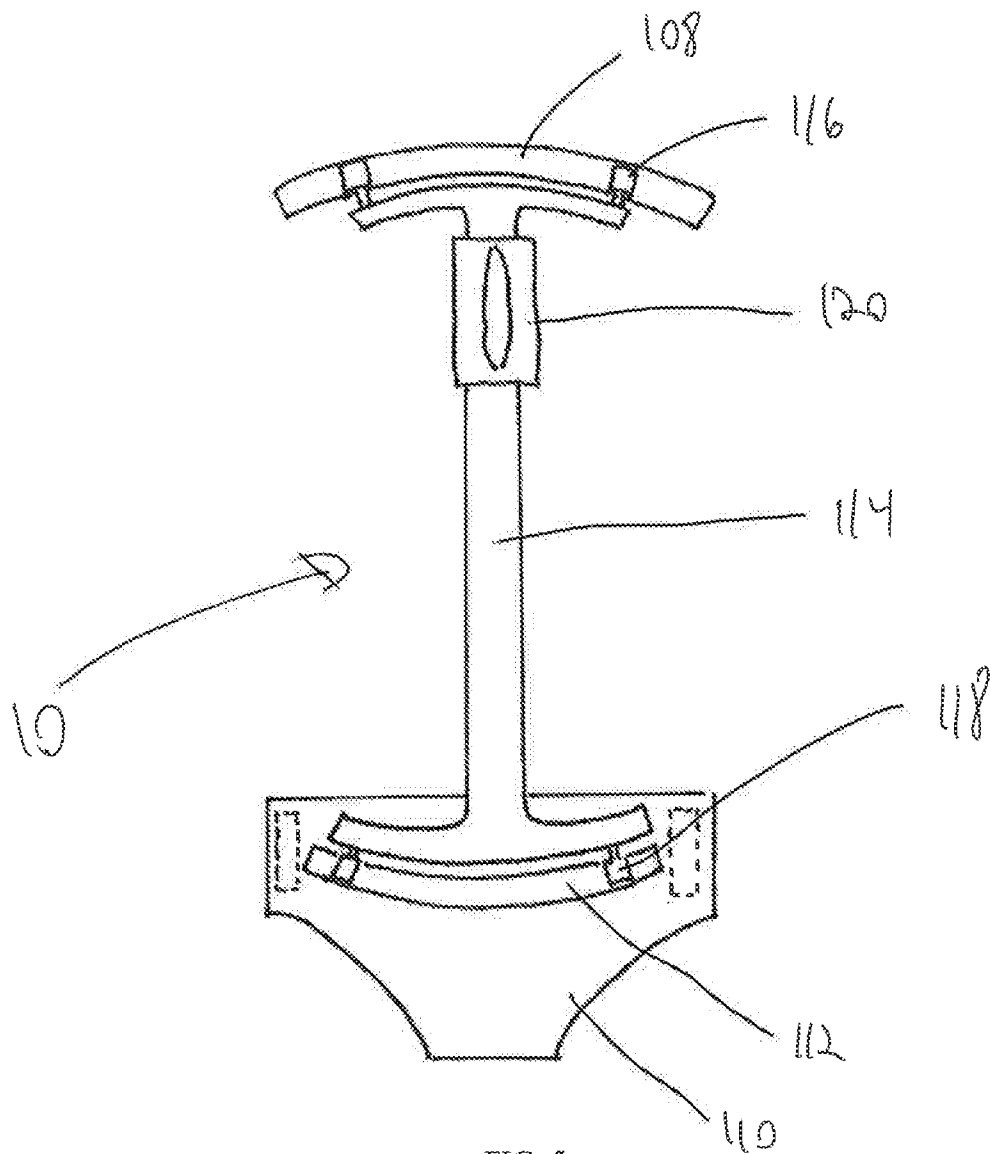
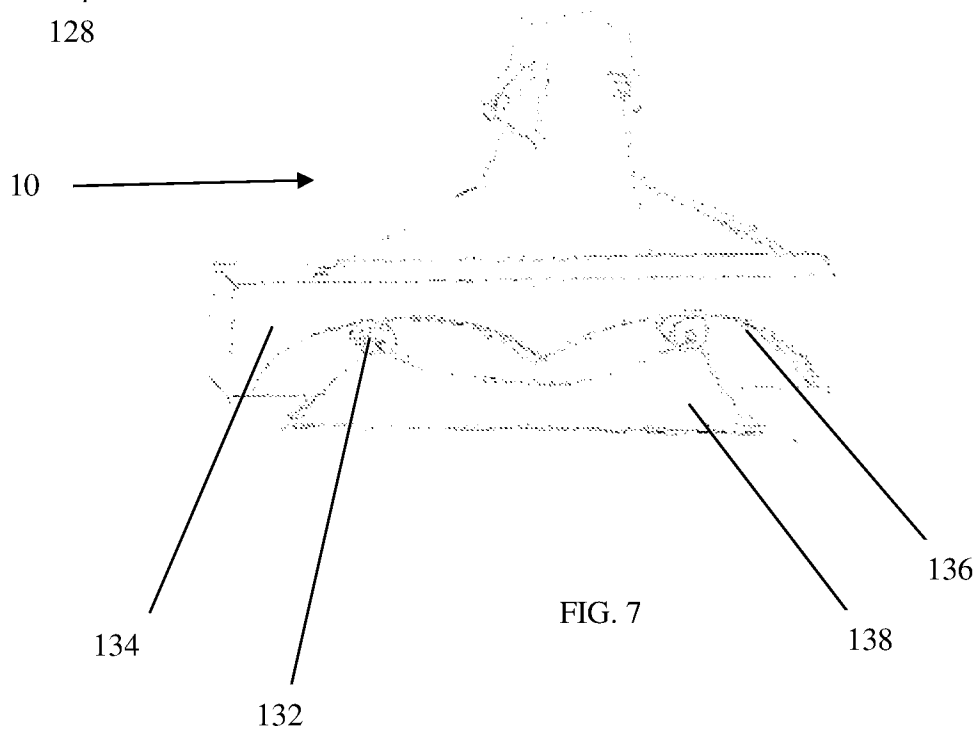
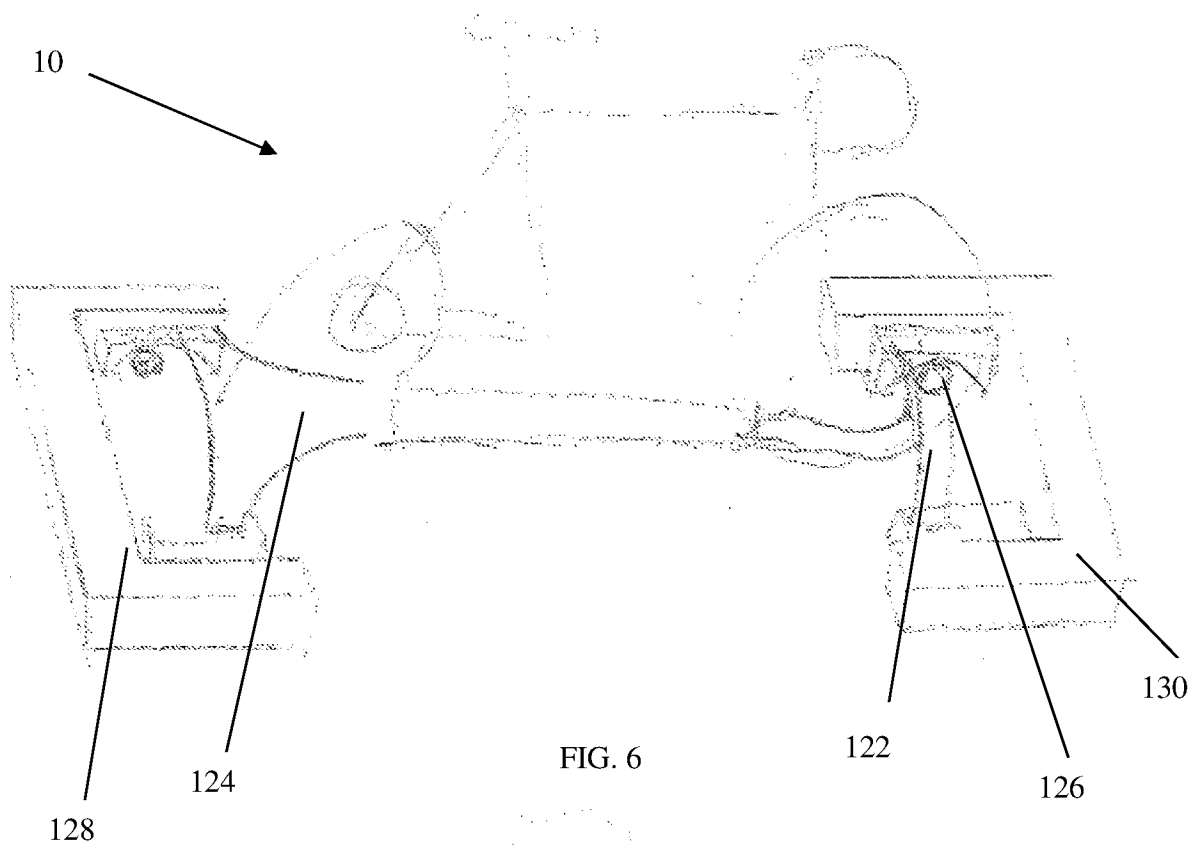
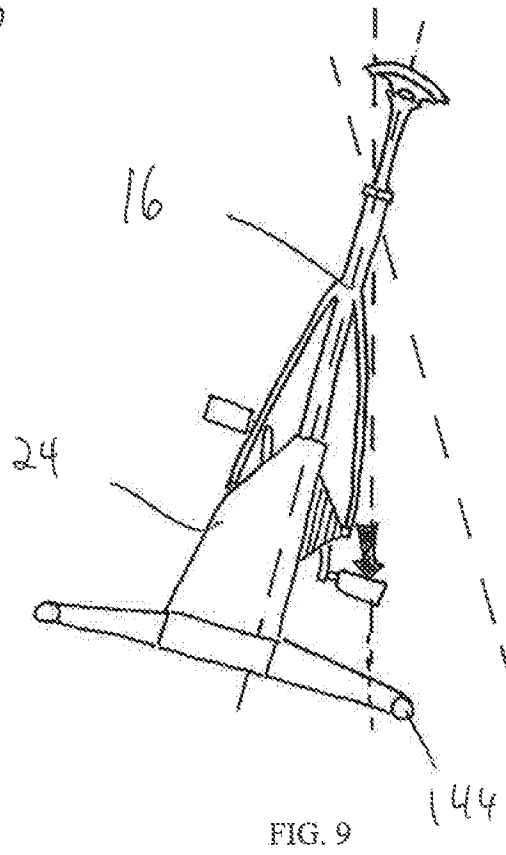
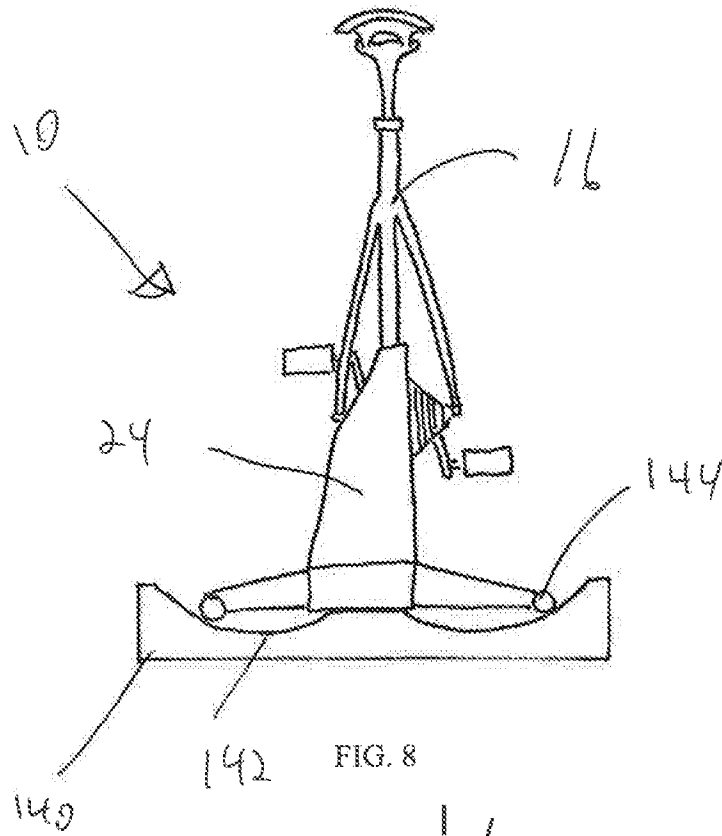
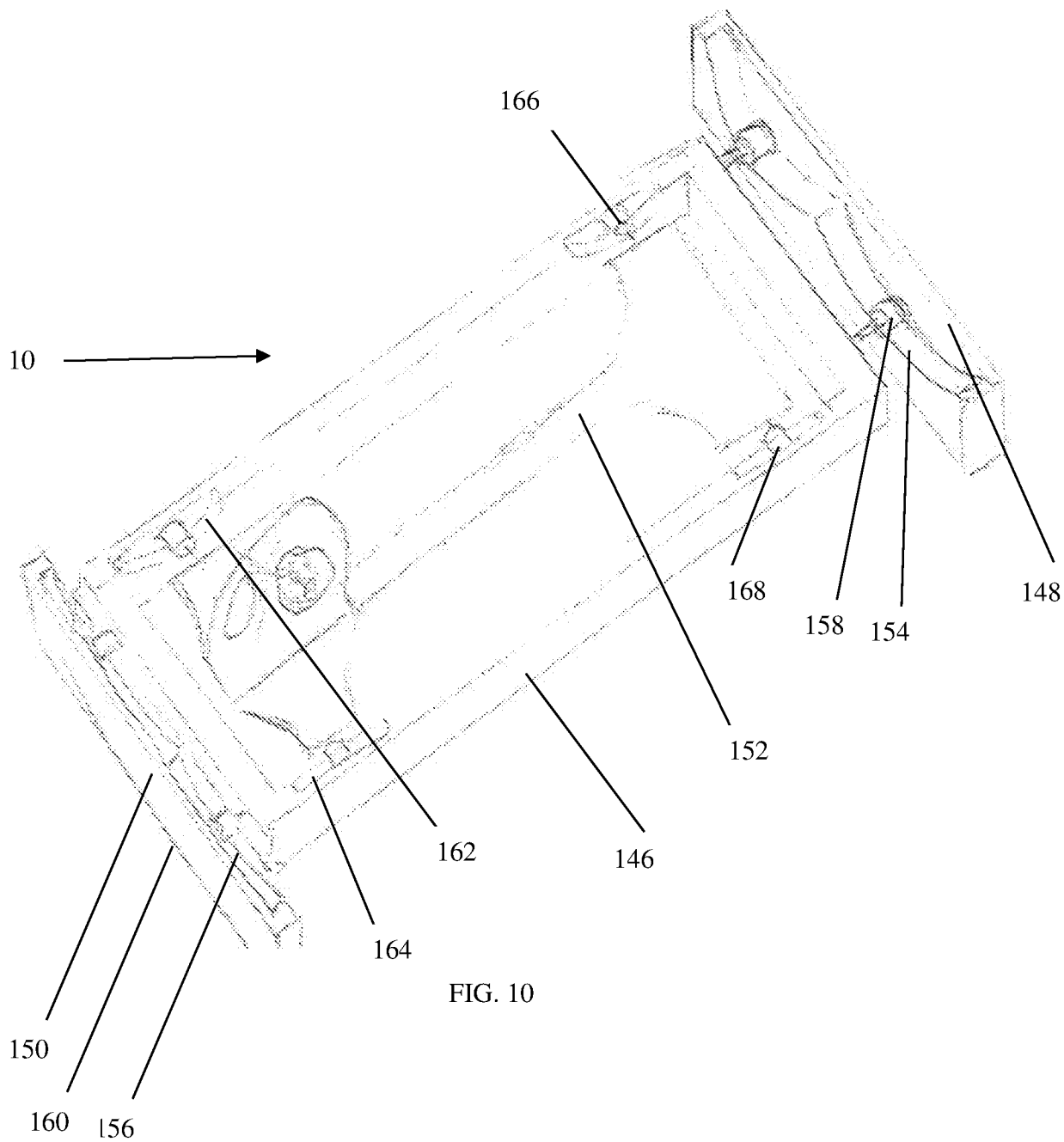


FIG. 5







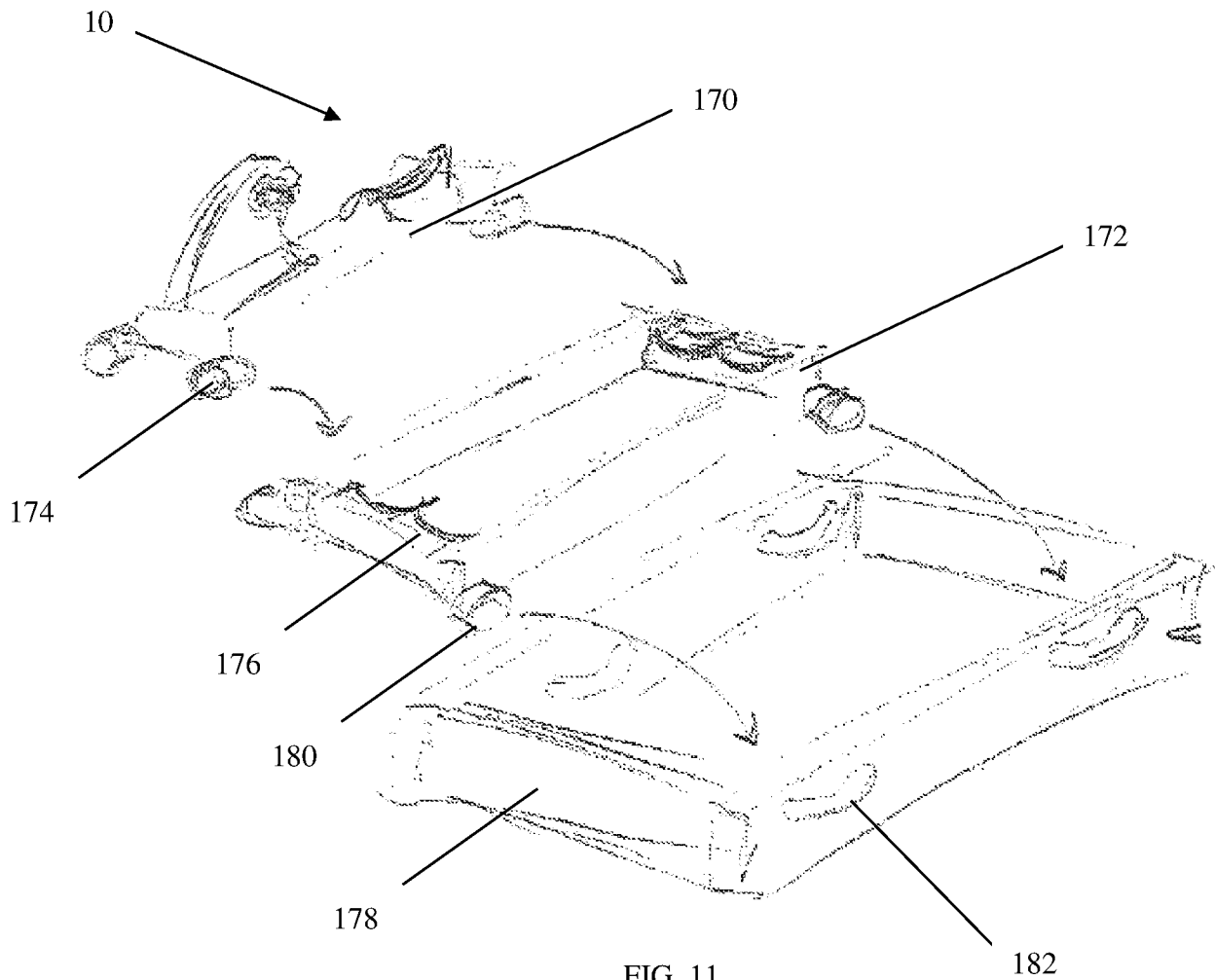


FIG. 11

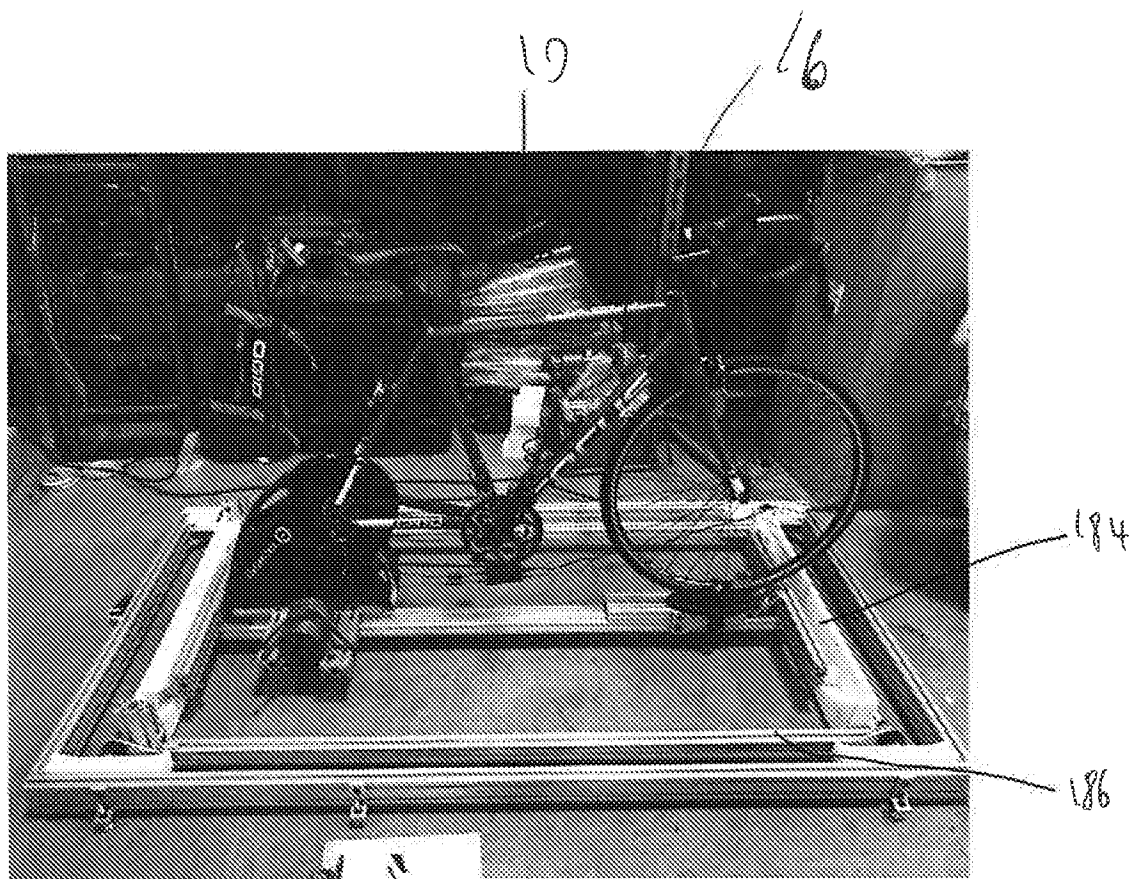


FIG. 12

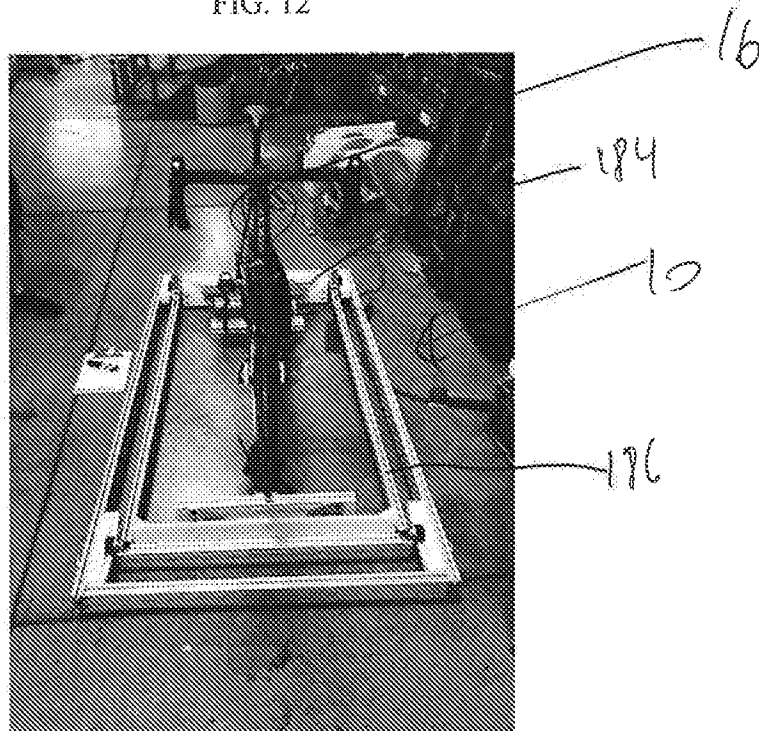
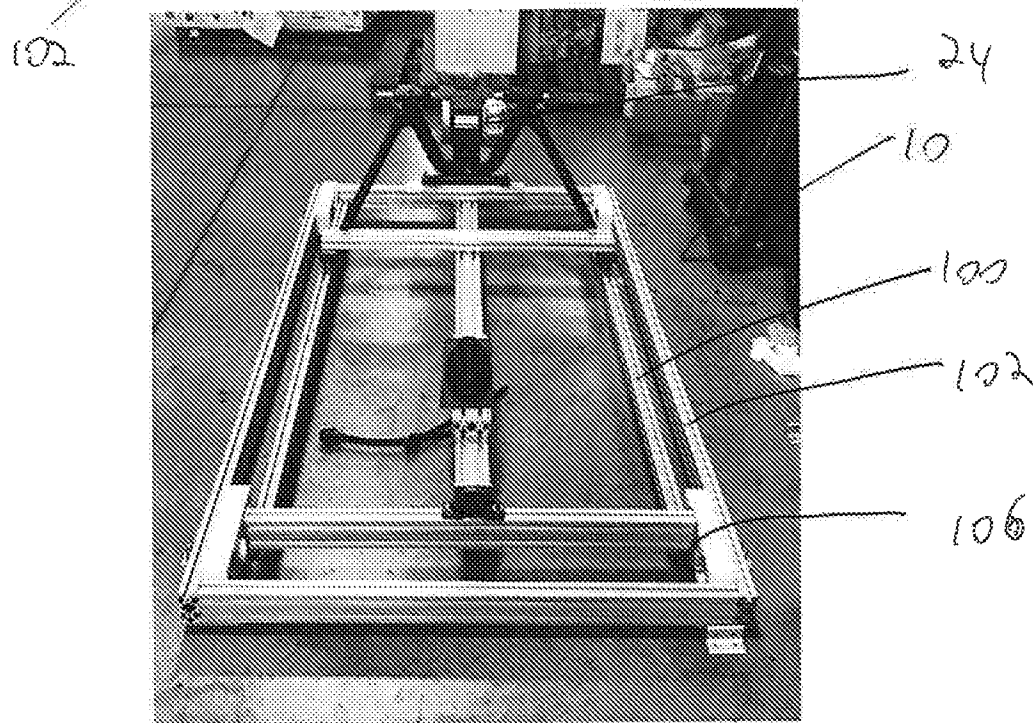
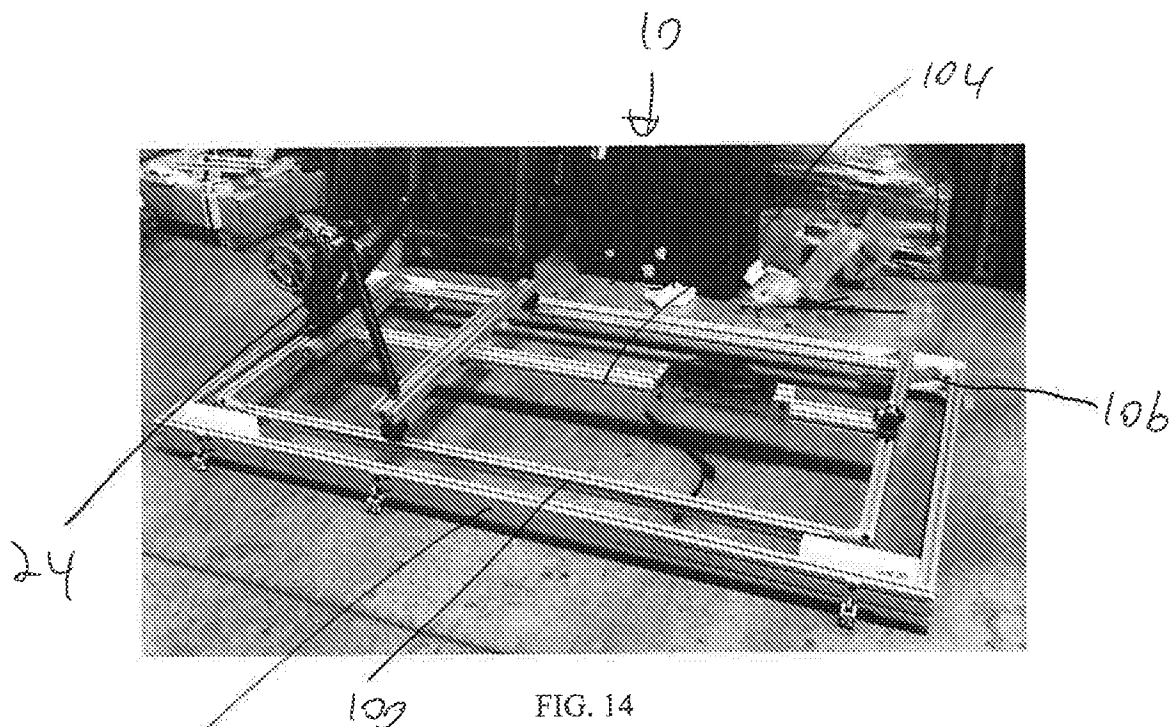
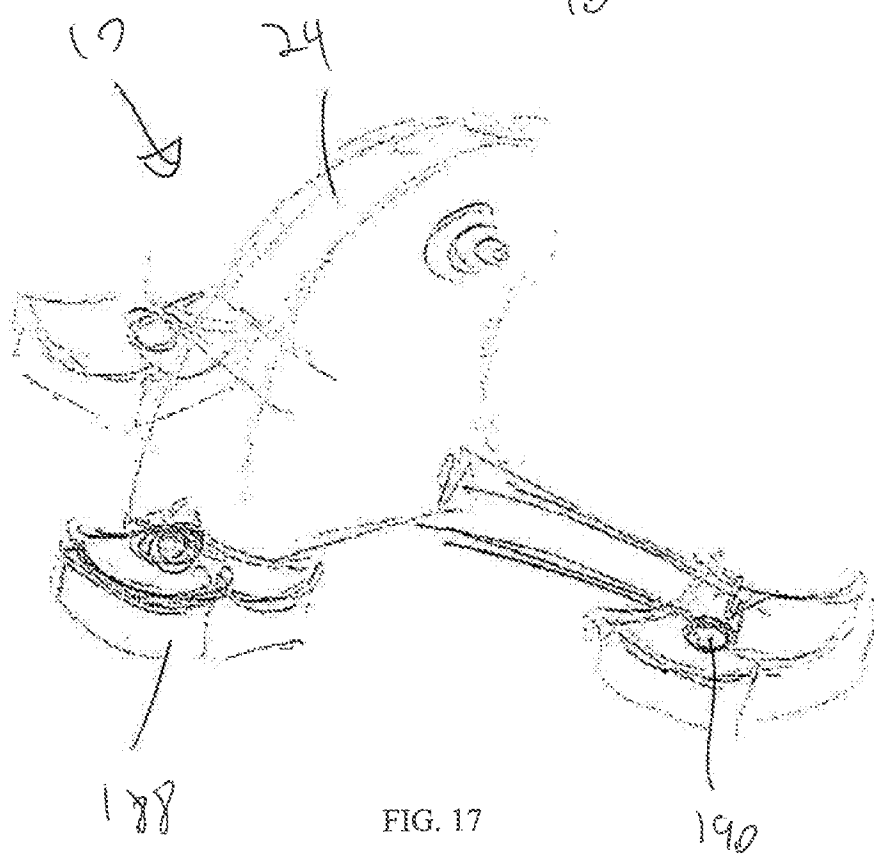
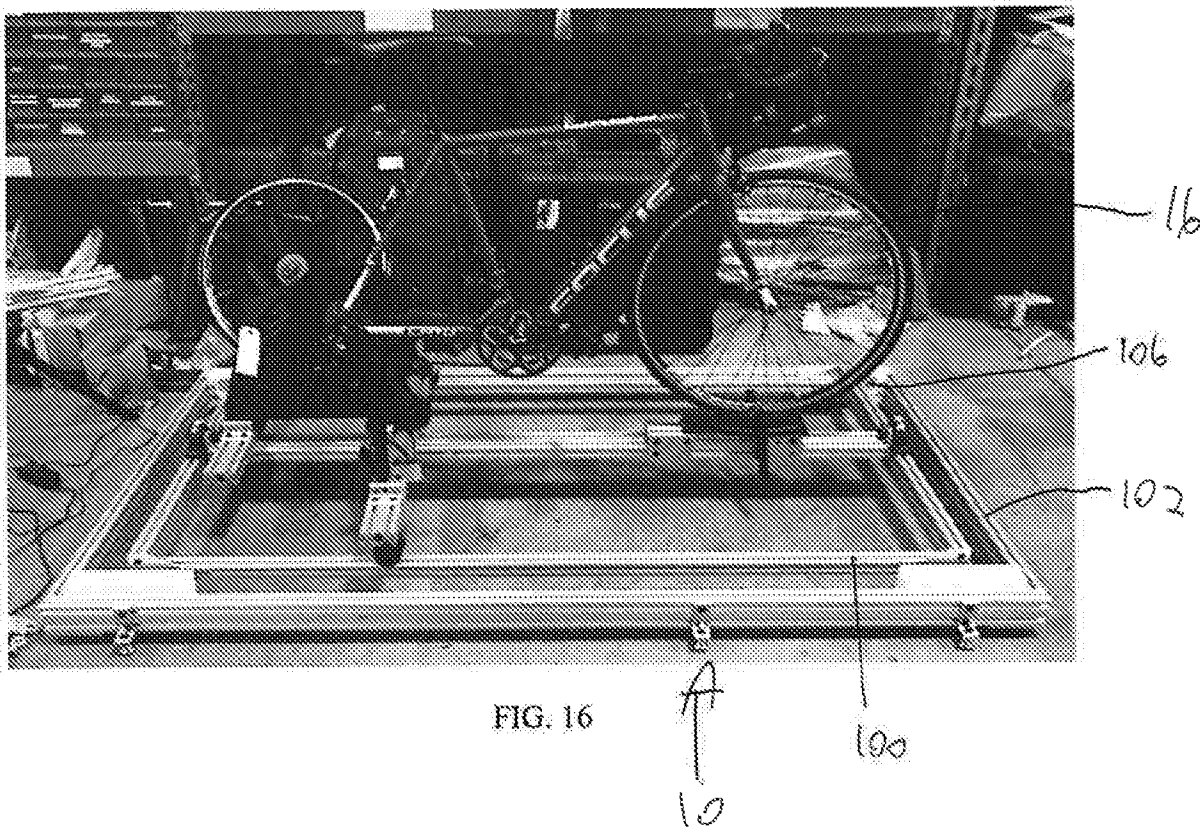
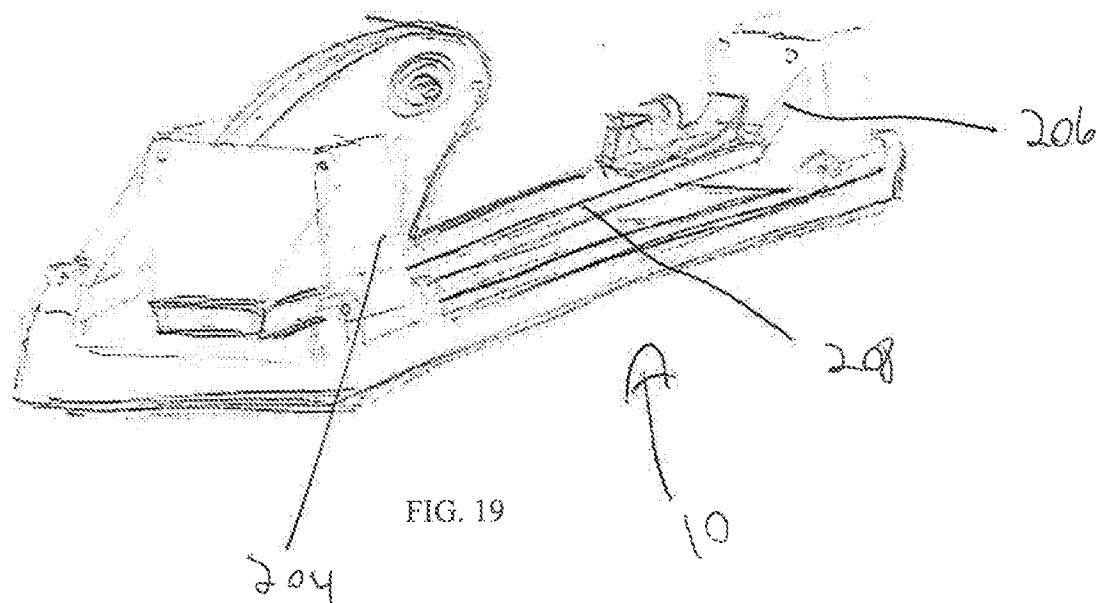
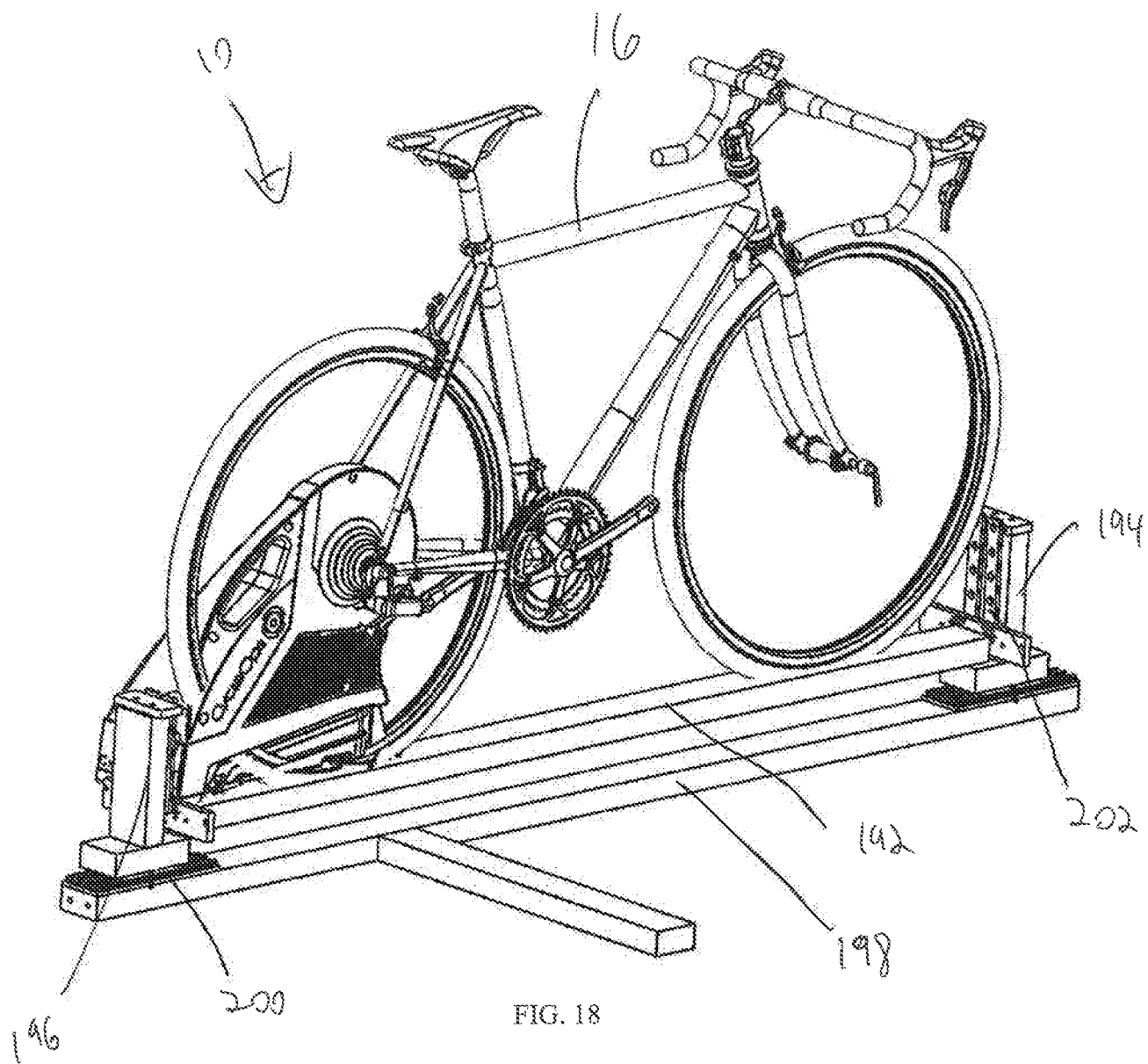


FIG. 13







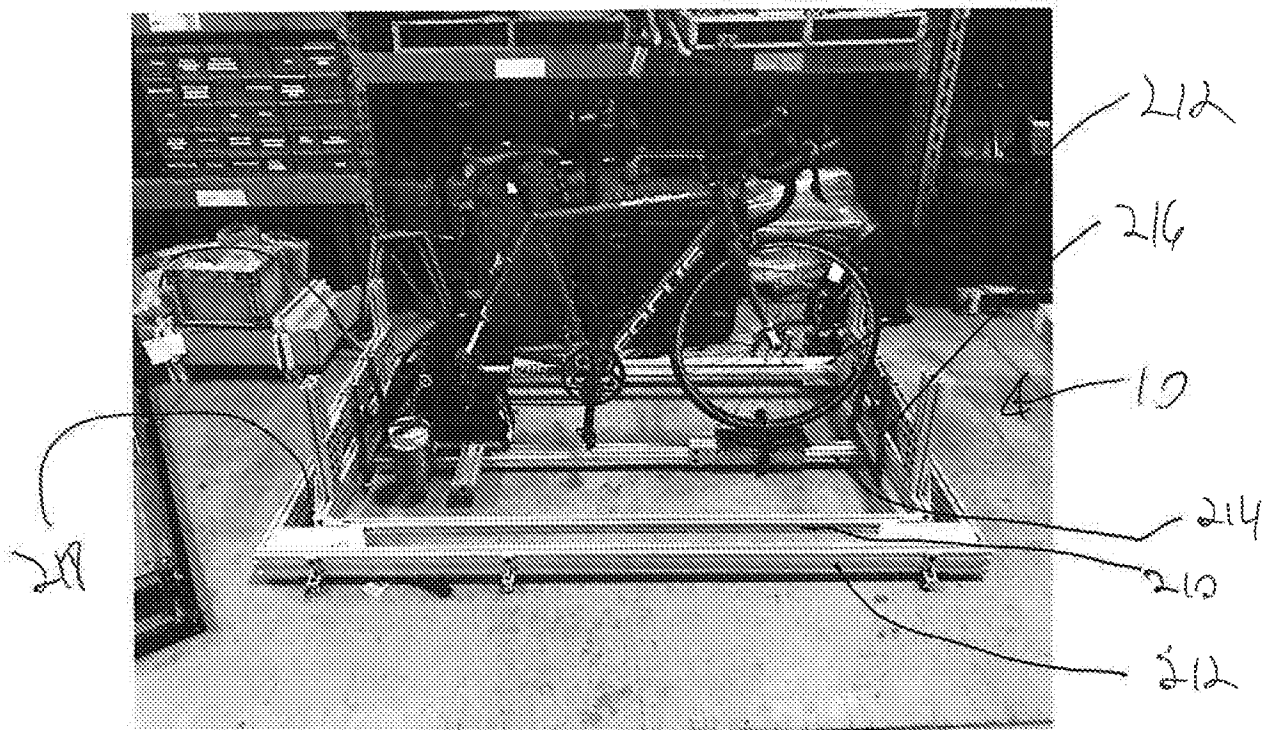


FIG. 20

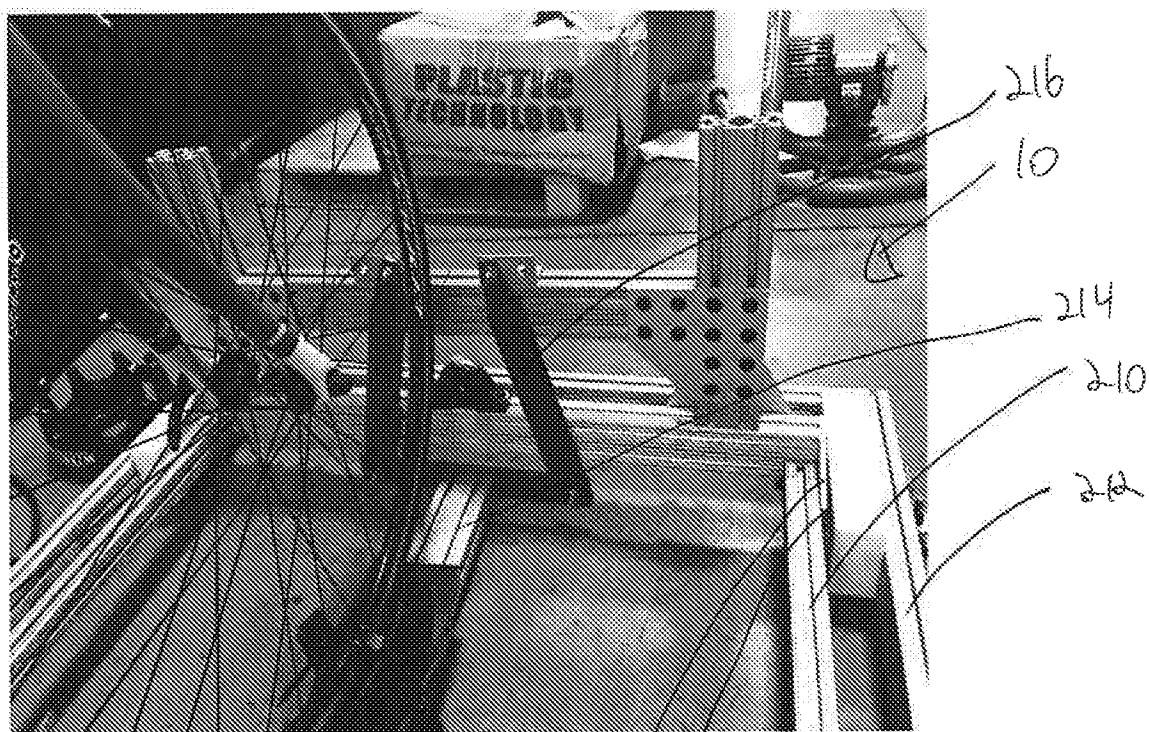


FIG. 21

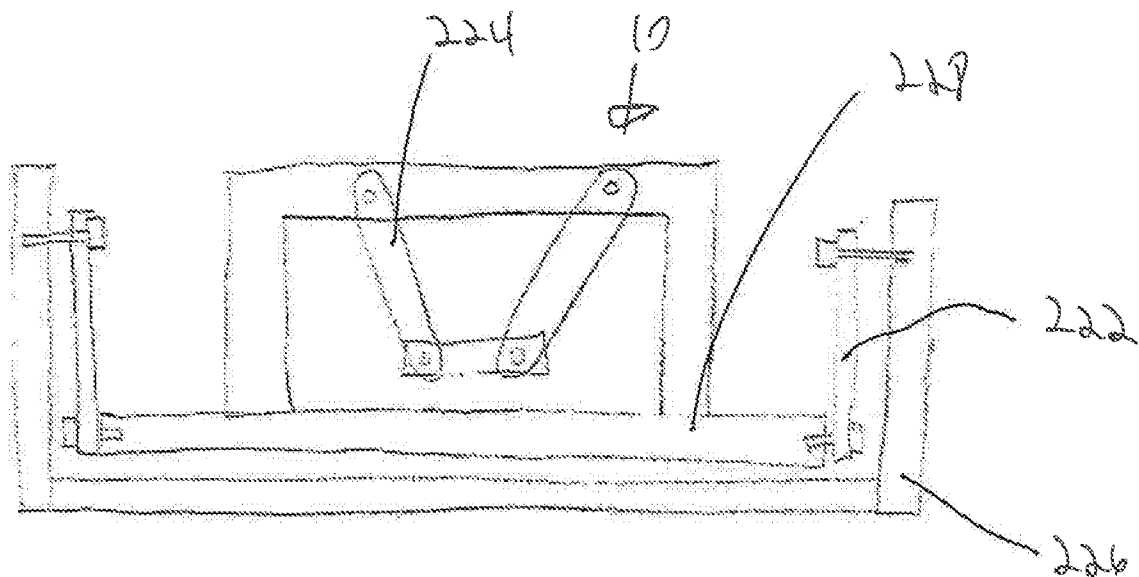


FIG. 22

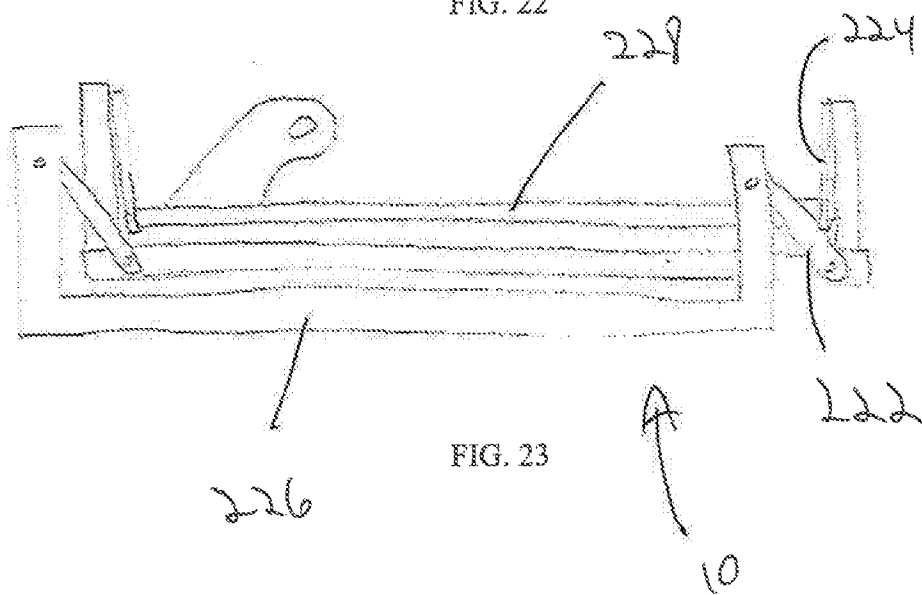


FIG. 23

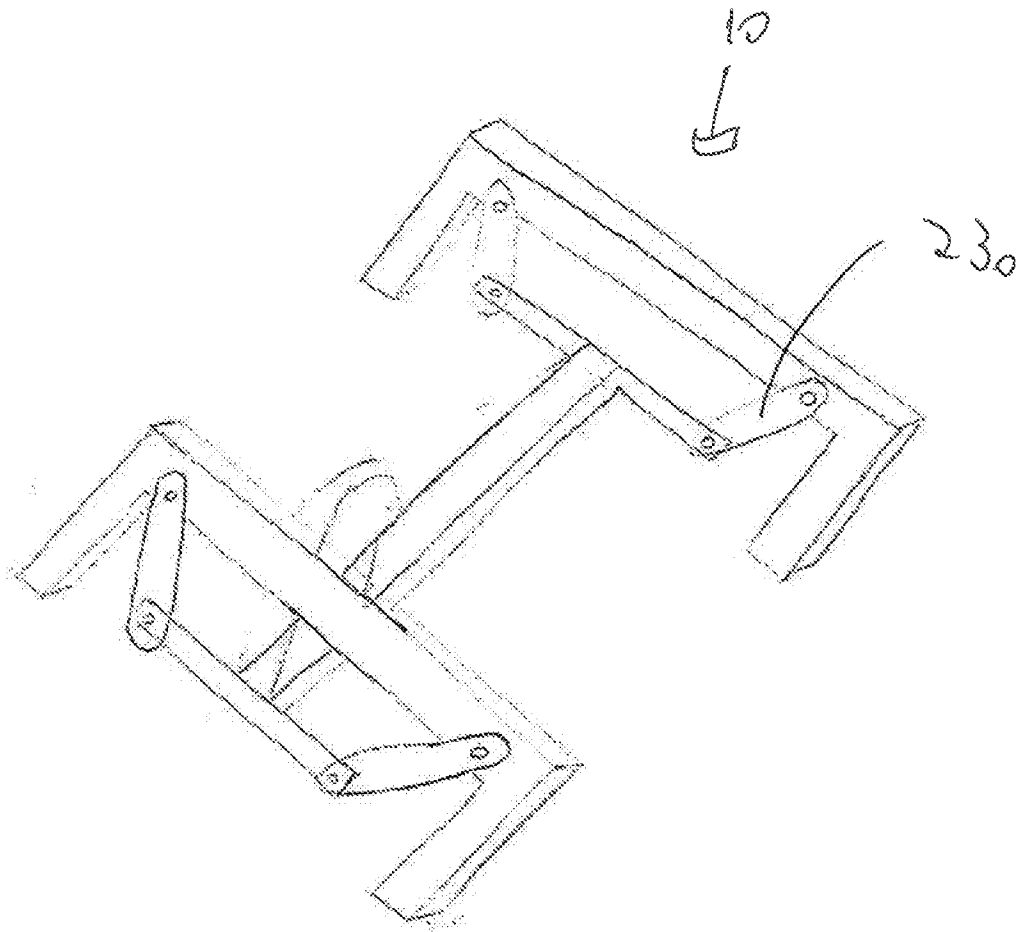


FIG. 24

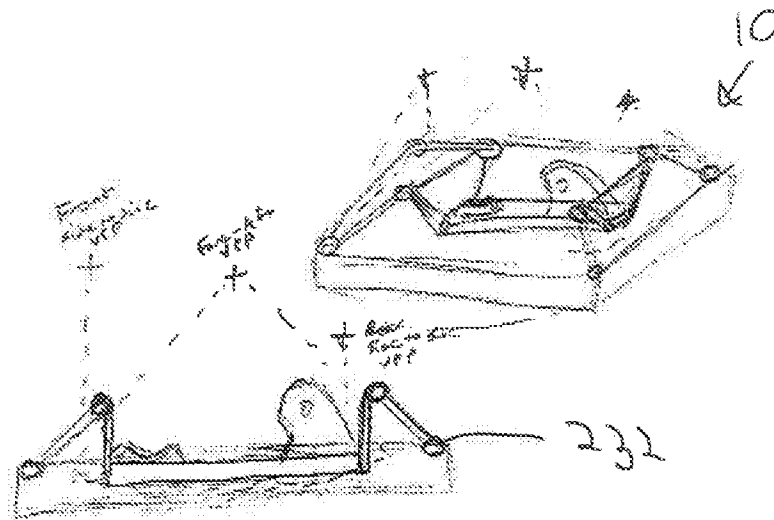


FIG. 25

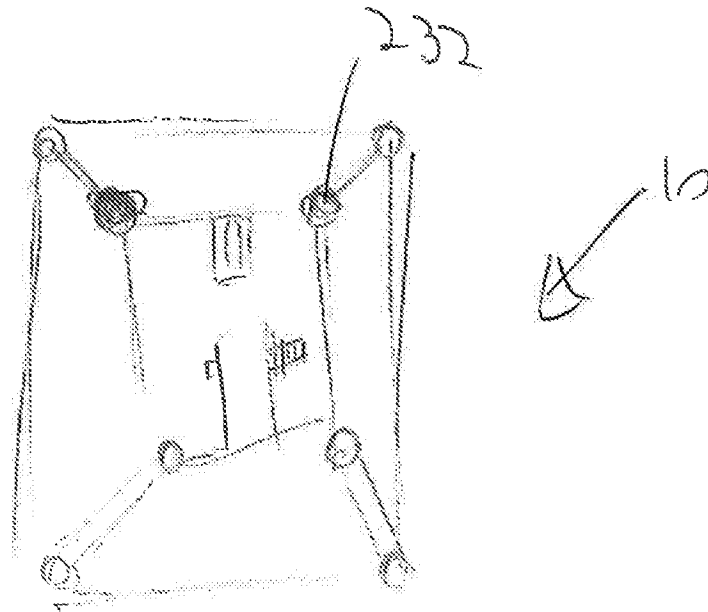


FIG. 26

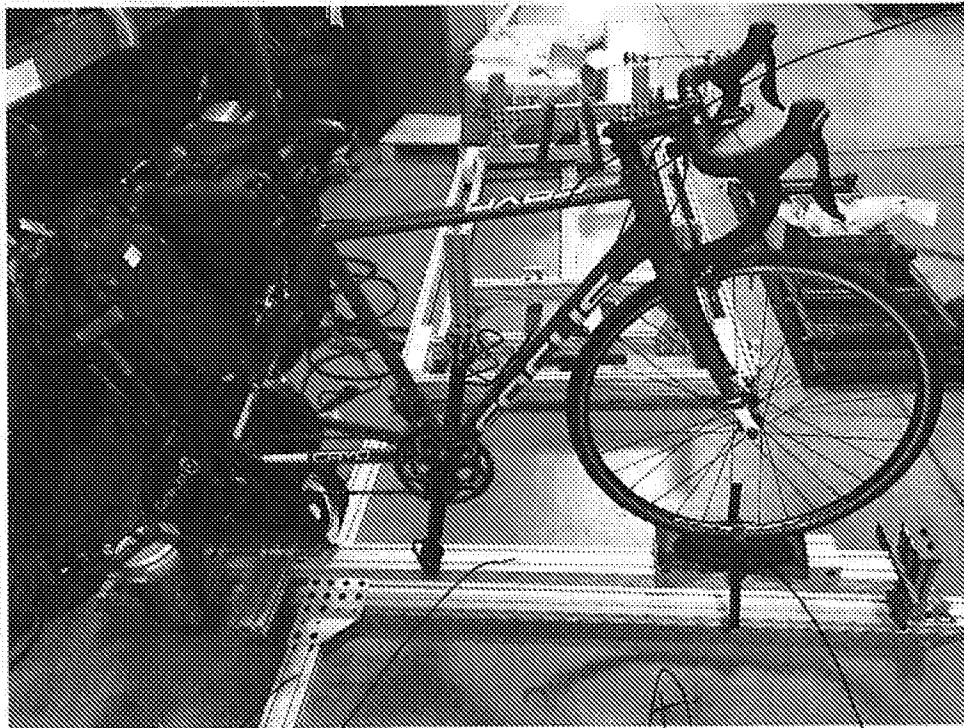
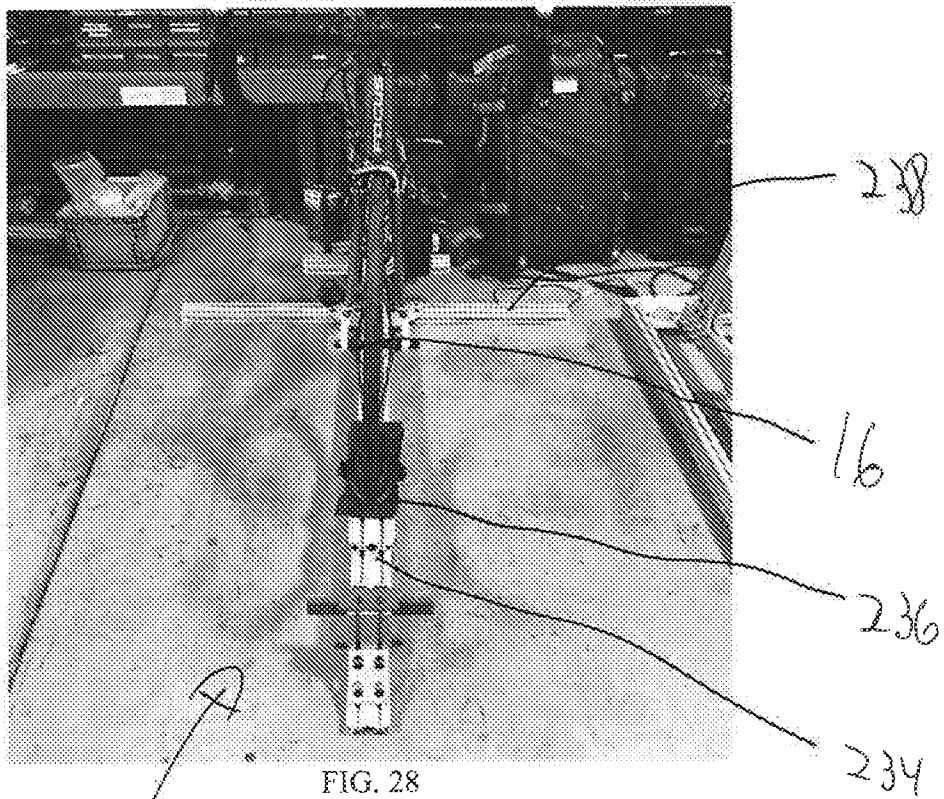


FIG. 27



Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Movable Bicycle Trainer With Rapid Resistance Control To Simulate Outdoor Conditions		
First Named Inventor/Applicant Name:		Benjamin Raymond Bass		
Filer:		Andrew S. McConnell/Dawn Oleszak		
Attorney Docket Number:		376.633		
Filed as Small Entity				
Filing Fees for Provisional				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
PROVISIONAL APPLICATION FILING FEE	2005	1	130	130
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				130

Electronic Acknowledgement Receipt

EFS ID:	30109128
Application Number:	62546748
International Application Number:	
Confirmation Number:	3742
Title of Invention:	Movable Bicycle Trainer With Rapid Resistance Control To Simulate Outdoor Conditions
First Named Inventor/Applicant Name:	Benjamin Raymond Bass
Customer Number:	23598
Filer:	Andrew S. McConnell/Dawn Oleszak
Filer Authorized By:	Andrew S. McConnell
Attorney Docket Number:	376.633
Receipt Date:	17-AUG-2017
Filing Date:	
Time Stamp:	14:44:51
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 130
RAM confirmation Number	081817INTEFSW00001113501170
Deposit Account	501170
Authorized User	Dawn Oleszak

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37 CFR 1.16 (National application filing, search, and examination fees)

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IPR 2024-01294

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ProvisionalApplication.pdf	1667545	yes	27
			1731ee05f8930c018d7f376cdd3cb79069f8cb9e		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Provisional Cover Sheet (SB16)		1	2	
	Application Data Sheet		3	8	
	Specification		9	24	
	Claims		25	27	
Warnings:					
Information:					
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Information:					
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62/546,748	08/17/2017		130	376.633		

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FILING RECEIPT



Date Mailed: 08/23/2017

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. 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)

Benjamin Raymond Bass, Madison, WI;

Applicant(s)

Saris Cycling Group, Inc., Madison, WI;

Power of Attorney:

Andrew McConnell--32272

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: 08/22/2017

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 62/546,748**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Movable Bicycle Trainer With Rapid Resistance Control To Simulate Outdoor Conditions

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

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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.

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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