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Attorneys for Defendant

LifeCORE Fitness, Inc.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA

Woodway USA, Inc.,

Plaintiff,

v.

LifeCORE Fitness, Inc. d/b/a Assault
Fitness,

Defendant.

Case No. 3:22-cv-00492-JO-BLM

**DEFENDANT'S SECOND AMENDED
INVALIDITY CONTENTIONS**

DEMAND FOR JURY TRIAL

1 In accordance with Local Patent Rule 3.3, Defendant LifeCORE Fitness, Inc.
2 (“LifeCORE”) sets forth the following invalidity contentions for U.S. Patent Nos.
3 9.039,580 (the “’580 Patent”), 10,561,884 (the “’884 Patent”), 10,779,745 (the “’745
4 Patent”), and 11,465,005 (the “’005 Patent”) (collectively, the “Asserted Patents”).

5 LifeCORE makes these contentions based upon their present understanding of
6 the Asserted Patents, the asserted claims identified in Plaintiff’s infringement
7 contentions, and certain prior art. LifeCORE’s investigation regarding the Asserted
8 Patents and the potential grounds for invalidity is ongoing, and LifeCORE reserves the
9 right to supplement these Invalidity Contentions with additional prior art, other or
10 additional invalidity analyses, and or other information not included in this disclosure
11 that may become relevant to invalidity as discovery progresses, additional
12 investigations and research is conducted, and/or additional prior art and or other
13 information is discovered. LifeCORE further reserves the right to supplement or
14 modify these Invalidity Contentions to revise, amend, and/or supplement their
15 contentions and/or assert additional defenses under 35 U.S.C. §§ 101, 102, 103, 112
16 and/or 116, including in response to Plaintiff’s infringement theories, Plaintiff’s
17 contentions or any findings as to the priority or invention date of the Asserted Claims,
18 claim construction positions taken or orders issued, expert discovery, or otherwise
19 pursuant to the Federal Rules of Civil Procedure, Local Rules and/or Court Orders.
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21 I. DISCLOSURE OF PRIOR ART

22 LifeCORE identifies the following patents as prior art:

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Patent Number	Country of Origin	Date of Issue	Exhibit
5,897,461	US	4/27/1999	A
19922822 B4	Germany	7/15/2004	B
4,614,337	US	9/30/1986	C
3,642,279	US	2/15/1972	D
5,538,489	US	7/23/1996	E

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3148743U	JP	2/26/2009	F
5,411,455	US	5/2/1992	G
6,042,514	US	3/28/2000	J
3,637,206	US	1/25/1972	K
6,923,746	US	8/2/2005	L

LifeCore identifies the following patent application as prior art:

Application Number	Country of Origin	Date of Publication	Exhibit
2 223 685 A	UK	4/18/1990	H

LifeCore identifies the following publications as prior art:

Title	Date of Publication	Exhibit
The Woodway Loko Owner's Manual	9/26/2006	I
Sclater et al. Mechanisms and Mechanical Devices Sourcebook 3rd Edition, McGraw-Hill (2001)	2001	M

II. ANTICIPATION AND OBVIOUSNESS

A. Anticipation

LifeCORE is not asserting anticipation at this time. LifeCORE reserves its right to add anticipation arguments as discovery and investigations proceed.

B. Obviousness

Based on LifeCORE's present understanding of the asserted claims of the Asserted Patents in view of Plaintiff's infringement contentions, the prior art references standing alone and/or in combination with each other render each of the asserted claims obvious. As these Invalidity Contentions show, each of the elements of the asserted claims was well known and well established in the art before the invention of the Asserted Patents. It would have been obvious to one of ordinary skill in the art to combine one or more of the prior art references listed above with one or more other references to arrive at the claimed invention. Pursuant to Local Patent Rule 3.3, the

1 combinations and disclosures can be found in the attached claim charts. Furthermore,
2 it would have been obvious to persons of ordinary skill in the art, applying nothing
3 more than their own knowledge, experience, and training, to modify any of the prior
4 art references to arrive at that which is claimed in the asserted claims.

5 One of ordinary skill in the art would have been motivated to combine the
6 references disclosed above based on the teachings of the references themselves, the
7 nature of the problem(s) faced, the knowledge of one of ordinary skill in the art,
8 common sense, design needs, market pressures, industry trends, predictability,
9 expectations of success, and the relationship and/or similarity of the systems and/or
10 methods disclosed in the references.

11 These combinations of references would have produced no unexpected results,
12 and each combination at most would represent a known alternative to one of ordinary
13 skill in the art. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 414-18 (2007)
14 (rejecting the Federal Circuit's "rigid" application of a requirement of teaching,
15 suggestion, or motivation to combine and instead applying an "expansive and flexible"
16 approach). Indeed, the Supreme Court held that a person of ordinary skill is "a person
17 of creativity, not an automaton" and "in many cases a person of ordinary skill in the
18 art will be able to fit the teachings of multiple patents together like pieces of a puzzle."
19 *Id.* at 420-21.

20 In particular, the patents-in-suit disclose a treadmill that is, at best, minimally
21 distinct from the prior art references discussed above. It would have been obvious to a
22 skilled artisan to take various elements of prior art treadmills to arrive at the purported
23 invention of the Asserted Patents. This is particularly true given the minimal, at most,
24 amount of modification of the prior art that would be involved in the claims of the
25 Asserted Patents.

26 To the extent Defendant contends that any of the prior art references listed above
27 do not specifically disclose any element of an asserted claim, it would have been
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1 obvious to one of ordinary skill in the art, whether based on the knowledge of one of
2 ordinary skill in the art and/or combining prior art references in the field of treadmills
3 and similar exercise equipment because the combination would be nothing more than
4 a “predictable use of prior art elements according to their established functions.” *KSR*,
5 550 U.S. at 401. This is particularly true given that each and every one of the prior art
6 references is directed to the very same art at issue—a treadmill or similar form of
7 exercise equipment. It would be obvious for one of ordinary skill in the art to review
8 prior art treadmills and exercise devices in designing a new treadmill.

9 **III. GROUNDS OF INVALIDITY BASED ON 35 U.S.C. §112.**

10 LifeCORE further alleges that each and every asserted claim of the Asserted
11 Patents is indefinite under 35 U.S.C. § 112. All of the claims require a safety device
12 that “substantially prevent[s]” rotation or movement. The Asserted Patents do not
13 describe what constitutes “substantially prevent[ing]” rotation or movement other than
14 to say that the term “substantially” is “intended to have a broad meaning in harmony
15 with the common and accepted usage by those of ordinary skill in the art to which the
16 subject matter of this disclosure pertains.” (*See, e.g.*, ’580 Patent at 31:59-62.) This is
17 simply insufficient to allow a person of ordinary skill in the art to know what is meant
18 by “substantially prevent[ing]” rotation or movement.

19 In addition, claims 1 and 21 (and their dependent claims) require the safety
20 device be supported by the “support element.” The specification, however, does not
21 describe what that support element is. As such, the ’745 patent does not provide
22 adequate written description for a “support element,” does not enable a “support
23 element,” and does particularly point out and distinctly claim the subject matter that
24 the applicant regarded as his invention, in violation of 35 U.S.C. §112. Further, claim
25 26 of the ’745 Patent requires that the “support element” be a “rod.” There is no support
26 or enablement of a support element being a rod in the specification or originally filed
27 claims of the ’745 Patent. As such, this claim does not provide adequate written
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1 description for a “rod,” does not enable a “rod,” and does particularly point out and
2 distinctly claim the subject matter that the applicant regarded as his invention, in
3 violation of 35 U.S.C. §112.

4 Also, claims 30, 37, 50, and 57 of the ‘884 Patent requires “the safety device
5 having a first rotatable element and a second rotatable element....” The specification,
6 however, does not describe what the first and second “rotatable” elements are. As such,
7 the ’745 patent does not provide adequate written description for such elements, does
8 not enable such elements, and does particularly point out and distinctly claim the
9 subject matter that the applicant regarded as his invention, in violation of 35 U.S.C.
10 §112.

11 Claim 32 of the ‘884 Patent requires “wherein the curved top profile
12 substantially corresponds to at least a portion of the curved running surface.” The
13 specification, however, does not describe what this is. As such, the ’884 patent does
14 not provide adequate written description for such elements, does not enable such
15 elements, and does particularly point out and distinctly claim the subject matter that
16 the applicant regarded as his invention, in violation of 35 U.S.C. §112.

17 Dated: February 17, 2023

Respectfully Submitted,

18 /s/ John M. Halan

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7 *Attorneys for Defendant and*
8 *Counterclaim-Plaintiff LifeCore Fitness,*
9 *Inc.*

CERTIFICATE OF SERVICE

I, the undersigned, certify and declare that I am over the age of 18 years, employed in the County of Oakland, State of Michigan, and am not a party to the above-entitled action.

I served a true copy of **DEFENDANT'S SECOND AMENDED INVALIDITY CONTENTIONS** by personally delivering it to the person(s) indicated below in the manner as provided in Fed.R.Civ.P. 5(b); by either electronic mail to the electronic address stated below or by depositing it in the United States Mail in a sealed envelope with the postage thereon fully prepaid to the following:

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Executed on February 17, 2023 at Southfield, Michigan.

Please check one of these boxes if service is made by mail:

☐ I hereby certify that I am a member of the Bar of the United States District Court, Central District of California.

☐ I hereby certify that I am employed in the office of a member of the Bar of this Court at whose direction the service was made.

☒ I hereby certify under the penalty of perjury that the foregoing is true and correct.

/s/ Krisanne Schmidt

<u>Claim Chart for Woodway US Patent No. 10,799,745</u>		
	Claims	Prior Art
1	A treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
1.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1
1.2	a front running belt pulley coupled to the frame;	See disclosures in invalidity claim chart for 10,561,884 – e.g., element 40
1.3	a rear running belt pulley coupled to the frame and spaced a distance from the front running belt pulley;	See disclosures in invalidity claim chart for 10,561,884– e.g., element 42
1.4	a plurality of bearings coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.4 and 1.5
1.5	a running belt at least partially supported by at least one of the front running belt pulley and the rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6; see also disclosures in invalidity claim chart for 10,561,884 – e.g., elements 40 and 42
1.6	a support element coupled to the frame; and	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2, 1.7
1.7	a safety device coupled to the running belt, the safety device at least partially supported by the support element, wherein the safety device includes a first safety race element and a second safety race element, wherein at least one of the first and second safety race elements is adapted for rotation relative to the frame, and wherein one of the first and second safety race elements substantially surrounds the other of the one of the first and second safety race elements;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
1.8	wherein one of the first and second safety race elements and the running belt freely 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 one of the first and second safety race elements is substantially prevented from rotation relative to the frame to substantially prevent rotation of the running belt relative to the frame.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6

<u>Claim Chart for Woodway US Patent No. 10,799,745</u>		
	Claims	Prior Art
4	The treadmill of claim 1, wherein the first and second safety race elements of the safety device at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
7	The treadmill of claim 1, wherein the treadmill is a manually powered, non-motorized treadmill.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
8	The 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 adjust a relative vertical incline of at least a portion of the treadmill relative to a surface supporting the treadmill.	See disclosures in invalidity claim chart for 10,561,884 – e.g., element 45
9	The treadmill of claim 1, wherein the frame comprises 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 disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4, 1.5, and 2
10	A treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
10.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1
10.2	a rotatable element coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4 and/or 1.5
10.3	a running belt at least partially supported by the rotatable element, wherein the running belt includes a running surface, at least a portion of which is curved; and	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6
10.4	a first safety race element and a second safety race element, both of which are coupled to the running belt, wherein at least one of the first and second safety race elements is adapted for rotation relative to the frame, and wherein one of the first and second safety race elements substantially surrounds the other of the one of the first and second safety race elements;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6

<u>Claim Chart for Woodway US Patent No. 10,799,745</u>		
	Claims	Prior Art
10.5	wherein one of the first and second safety race elements 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, the one of the first and second safety race elements is substantially prevented from rotation relative to the frame to substantially prevent rotation of the running belt relative to the frame.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
11	The treadmill of claim 10, wherein the treadmill is a manually powered, non-motorized treadmill.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
12	The treadmill of claim 10, wherein the first and second safety race elements of the safety device at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
14	The treadmill of claim 10, wherein the rotatable element comprises a running belt pulley coupled to the frame.	See elements 1.2 and 1.3 above
17	The treadmill of claim 10, wherein the rotatable element comprises a plurality of bearings coupled to the frame, the plurality of bearings at least partially supporting the running belt.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.4 and 1.5
18	A method, comprising: providing a treadmill having a frame with a front end and a rear end;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 25.1
18.1	providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 25.2, 1.4-1.6
18.2	disposing a running belt on the plurality of bearings such that the curved top profile of the plurality of bearings define at least a portion of a curved running surface of the running belt;	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 25.3, 1.4-1.6

<u>Claim Chart for Woodway US Patent No. 10,799,745</u>		
	Claims	Prior Art
18.3	providing a first safety race element coupled to the frame and to the running belt and a second safety race element coupled to the frame, wherein at least one of the first and second safety elements is adapted for rotation relative to the frame, and wherein one of the first and second safety race elements substantially surrounds the other of the one of the first and second safety race elements;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
18.4	permitting rotation of one of the first and second safety race elements and the running belt in a first direction of rotation; and	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 25.4, 1.7, 6
18.5	substantially preventing rotation of the running belt in a second direction, opposite the first direction, by, at least in part, the one of the first and second safety race elements.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 25.4, 1.7, 6
20	The method of claim 18, wherein the treadmill is a manually powered, non-motorized treadmill.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 25.1, 1
21	A treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
21.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1
21.2	a rotatable element coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4 and/or 1.5, see also disclosures in invalidity claim chart for 10,561,884 – e.g., elements 40 and 42
21.3	a running belt at least partially supported by the rotatable element, wherein the running belt includes a running surface, at least a portion of which is curved;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6
21.4	a support element coupled to the frame; and	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2, 1.7
21.5	a safety device coupled to the running belt, the safety device at least partially supported by the support element, wherein the safety device includes a first safety race element and a second safety race element, wherein at least one of the first and second safety race elements is adapted for rotation relative to the frame, and wherein one of the first and second safety race elements substantially surrounds the other of the one of the first and second safety race elements;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6

<u>Claim Chart for Woodway US Patent No. 10,799,745</u>		
	Claims	Prior Art
21.6	wherein one of the first and second safety race elements and the running belt freely 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 one of the first and safety race elements is substantially prevented from rotation relative to the frame to substantially prevent rotation of the running belt.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
22	The treadmill of claim 21, wherein the rotatable element comprises at least one of a front running belt pulley coupled to the frame and a rear running belt pulley coupled to the frame and spaced apart from the front running belt pulley.	See disclosures in invalidity claim chart for 10,561,884 – e.g., elements 40 and 42
23	The treadmill of claim 21, wherein the rotatable element comprises at least one of a front rotatable shaft coupled to the frame and a rear rotatable shaft coupled to the frame and spaced apart from the front rotatable shaft.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.2 and 1.3
24	The treadmill of claim 21, wherein the rotatable element comprises a running belt pulley coupled to the frame.	See disclosures in invalidity claim chart for 10,561,884 – e.g., elements 40 and 42
25	The treadmill of claim 21, wherein the first and second safety race elements of the safety device at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7. 6
26	The treadmill of claim 21, wherein the support element comprises a rod.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.2, and 1.7

<u>Claim Chart for Woodway US Patent No. 11,465,005</u>		
	Claims	Prior Art
1	A manually powered treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
1.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1
1.2	at least one front running belt pulley coupled to the frame;	See disclosures in invalidity claim chart for 10,561,884 – e.g., element 40
1.3	at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;	See disclosures in invalidity claim chart for 10,561,884 – e.g., element 42
1.4	a running belt 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;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6
1.5	a safety device coupled to the frame and the running belt, the safety device having a first element and a second element, the first element substantially surrounding the second element or the second element substantially surrounding the first element;	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.7, 6
1.6	wherein one of the first and second 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, the one of the first and second elements is substantially prevented from rotation relative to the frame to substantially prevent or resist rotation of the running belt relative to the frame.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.7, 6
2	The manually powered treadmill of claim 1, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2
3	The manually powered treadmill of claim 1, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.3

Claim Chart for Woodway US Patent No. 11,465,005		
	Claims	Prior Art
4	The manually powered treadmill of claim 1, wherein the first and second elements of the safety device at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.7, 6
6	The manually powered treadmill of claim 1, further comprising a plurality of bearings coupled to the frame, at least one bearing of the plurality of bearings configured to at least partially support the running belt.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.4-1.6
7	The manually powered treadmill of claim 1, further comprising a rearwardly extending handle coupled to the frame.	<p>The following identified references teach this limitation. For example, see the text and Figs. cited below:</p> <p><u>Socwell '461</u></p> <p>"Referring now to FIGS. 1, 2 and 3, a crossbar 130 may be preferably formed having a generally U-shaped configuration and may be disposed in fixed relation to the first and second sides by means of conventional fasteners."</p> <p style="text-align: center;">***</p> <p>In preferred structure, the crossbar 130 may comprise a pivotal engagement 140 which provides a means for pivotally engaging one or more handles 134, 144 in relation to the opposing sides 126, 128 of the crossbar 130, as illustrated in FIGS. 1, 2 and 3."</p> <p>'461 Patent, 11:62-66, 12:39-43, see also Figs. 1-3.</p> <p><u>Schonenberger '337</u></p> <p>"The apparatus is enclosed in a housing 2 to which also support bars 3 are secured."</p> <p>'337 Patent, 4:5-6, see also Fig. 1</p> <p><u>Majid '279</u></p> <p>'279 Patent, 3:3-5 and Fig. 7.</p> <p><u>Majid '489</u></p> <p>"Referring once more to FIG. 2, the base 11 is attachable to a functional supporting frame 1a. In this embodiment, the functional supporting frame 1a comprises a pair of handrails 14 mounted on opposite longitudinal sides of the base 11 to permit use of the walker apparatus as an exercise walker. The handrails 14 are generally inverted V-shaped, and a hand bar 141 extends between the handrails 14 and has two ends connected adjustably along one side of each of the handrails 14 in a known manner. The walker apparatus is thus ideal for use by small children, physically handicapped</p>

Claim Chart for Woodway US Patent No. 11,465,005		
	Claims	Prior Art
		<p>people, old people and by those who feel more confident holding onto something while exercising.</p> <p>***</p> <p>Referring to FIG. 5, the first preferred embodiment may be attached to a functional, supporting frame 1b that is in the form of a baby stroller. The functional supporting frame 1b comprises an upper frame portion 15, a lower frame portion 16 provided with front and rear wheels 161, 162 and connected to the base 11 to support the base 11 under the upper frame portion 15, and a baby seat 17 secured to the upper frame portion 15. The functional supporting frame 1b may be provided with a removable handle unit 170, which is attached removably to the upper and lower frame portions 15, 16 for pushing the functional supporting frame 1b."</p> <p>'489 Patent, 5:45-56, 5:60-6:3, and Figs. 2, 5</p> <p><u>Commercial Treadmill as Described in Woodway Loko Manual</u></p> <p>Woodway Loko Manual, cover photo.</p> <p><u>Cutter '279</u></p> <p>"A treadmill exerciser 10 embodying the principles of the invention is shown in FIGS. 1 through 8. It comprises a pair of side members 11 and 12, which may be connected together at one end by a rod 13 having threaded ends to receive a pair of nuts 14, with appropriate washers. A tubular spacer 15 fits around the rod 13 and in between the side members 11 and 12 and governs the distance between them there. As will be seen later, several other members are also involved in spacing the side members 11 and 12 apart and still others in holding them together, providing a substantially rigid frame.</p> <p>***</p> <p>Another important feature of the invention, is that the bottom edges 41 and 42 of the side members 11 and 12 are flat over a main portion and therefore rest on the floor and prevent sliding action, so that the weight of the user is transmitted in a vertical plane and he may run without tending to cause movement of the exerciser 10 itself; still the exerciser 10 can readily be moved around from place to place when that is desired and can be stored vertically (FIGS. 7 and 8). For instance, it may be kept under the bed and moved in and out, or it may be moved to the side and stored against the sidewall and various other things are possible. This is made easier by the use of a forward inclined edges 43 and 44 which rise up above the floor level and by an additional roller 45 forward of the belt 30 and not involved with it, lying between the two frame members 11 and 12 and extending below the edges 43 and 44 of this forward inclined portion but not below the edges 41 and 42 of the main portions, and preferably slightly above them. Thus, when the device rests flat on the floor as shown in FIG. 3, the roller 45 does not interfere at all with the ability of the device to resist movement but when the rear end of the device is raised, all the weight of the machine is put onto the roller 45, and the exerciser 10 is easily rolled from place to place, as shown in FIG. 8. When stored vertically, as in FIG. 7, it rests on front edges 46 and 47, which lie perpendicular to the edges 41 and 42."</p>

Claim Chart for Woodway US Patent No. 11,465,005		
	Claims	Prior Art
		'279 Patent 2:66-75, 4:41-66, Figs. 1, 2, 7, 8
8	The manually powered treadmill of claim 1, wherein the running belt includes at least one slat.	<p>The following identified references teach this limitation. For example, see the text and Figs. Cited below:</p> <p><u>Tolkien '822</u></p> <p>"Each roller 2 is coated with rubber 8, thus increasing the frictional adhesion between the belt 12 and the rollers 2 and protecting the roller where the rivet comes in contact therewith. The tension is released on the outer surface of each roller and in the lower area of the belt, facing away from the running surface, such that the belt can travel over the rollers without any notable resistance. Because the spacing between adjacent cross members is very small, and the strips also expand, no space is indicated in the illustration between the cross members in the section of the belt that is currently underneath. The runners 14 placed underneath the running surface prevent the belt from bouncing when in use.</p> <p style="text-align: center;">***</p> <p>Fig. 1 shows a side view of part of a treadmill without a motor. In order to show details clearly, only one third of the belt is shown. The other side is mirror-symmetrical, the middle is an analogous extension of the arc. The running surface is formed by cross members 10 that are transverse to the direction of movement, which are attached with rivets 6 to a continuous belt 12. A resilient plastic strip 4 is attached to one long side of each cross member 10 running transverse to the direction of movement, such that - as can be readily seen in Fig. 1 - two cross members 10 never come in direct contact with one another, but instead are always separated in a cushioning manner by the plastic strip 4. The tension and consequently the shape of the running surface is obtained in the exemplary embodiment by the interactions of the cross members 10, the elastic strips 4 between them, the connections of the cross sections to the belt (by means of rivets 6 in the exemplary embodiment), and the belt itself.</p> <p style="text-align: center;">***</p> <p>1. Treadmill for the fitness exercise with a (between two guide rollers 2 Tread) formed, which is in the region facing the user area so curved away from the user, that the radius of curvature corresponds approximately to the leg length of a user, characterized in that - the running surface (by means of transversely arranged to the direction of transverse struts 10) Is formed and - that the radius of curvature is adjustable."</p> <p>'822 Patent - ¶¶18, 20, Claim 1; <i>see also</i> Fig. 1</p> <p><u>Schonenberger '337</u></p> <p>"The toothed belts 5 (FIG. 4) have a group of step slats 4 secured thereto by means of rivets 9, so that the belts connect the slats 4 to form the endless surface 1.</p> <p style="text-align: center;">***</p>

Claim Chart for Woodway US Patent No. 11,465,005		
	Claims	Prior Art
		<p>At either end of the apparatus (see FIGS. 3 and 12), and within the housing 2 are located rotatable drums, rollers, sheaves, sprockets, or the like, about which the surface 1, which is an endless loop, is placed. The rotatable elements, preferably in the form of two operating drums or rollers 10, are suitably journaled in the frame as seen at 50, FIG. 3. If two sheaves or pulleys are provided at either end of the apparatus, one will be located at either side thereof, suitably journaled and, connected by a transverse shaft 26 (FIG. 8). The rollers or sheaves 10 have a toothed or ribbed circumference. Two endless gear belts 5 (FIGS. 3, 4), one each located at a respective side of the apparatus, and both having internally projecting teeth 7 (FIG. 4), are engaged with the circumference of the ribbed or toothed rollers 10, thus ensuring slipless, positive common drive of both of the toothed belts 5 in the operating direction and preventing lateral dislocation of the endless loop as shown by Arrow A in FIG. 2.</p> <p style="text-align: center;">***</p> <p>Support rollers 12 are provided to prevent bending-through of the belts 5 upon loading of the steps by a person. A support belt 13 is positioned between the upper sides of the support rollers 12 and the lower side of the slats 4. The slats 4, therefore, are supported at their marginal ends by the support rollers 12 with the support belt 13 interposed. Except for the motor 33 and the drive belt 34 thereof, the apparatus is essentially symmetrical with respect to its longitudinal extent and, therefore, the system of belt 5, rollers 12 and support belt 13 is duplicated at the other side."</p> <p>'337 Patent, 4:38-41, 4:14-32, 4:67-5:9, see also 4:32-6:46 and Figs. 1-9.</p> <p><u>Commercial Treadmill as Described in Woodway Loko Manual</u></p> <p>"The patented running surface consists of 60 individual slats fitted on a set of continuous toothed belts."</p> <p>Woodway Loko, pp. 6-7</p> <p><u>Abelbeck '514</u></p> <p>"Referring to the drawings, FIG. 1 shows an isometric view of the preferred embodiment of the invention as it would be used as a treadmill 20. The treadmill deck is comprised of a plurality of individual deck members 22 together making a continuous segmented track 23 which is used as the running surface of the treadmill.</p> <p style="text-align: center;">***</p> <p>Here an alternative support system is used that could just as easily been used on any or all of the previous disclosures, in which the deck member 22 receives the support member 36 that is rotateably secured here to the modified side frame 110, rather than the support member 36 being rotateably secured to the deck member 22, as previously disclosed."</p> <p>'514 Patent at 6:26-31; 10:48-54; see <i>also</i> figures 1, 12.</p>

Claim Chart for Woodway US Patent No. 11,465,005		
	Claims	Prior Art
		See also '461 Patent, 7:32-43.
9	A treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
9.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1
9.2	a rotatable element coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.2-1.5
9.3	a running belt at least partially supported by the rotatable element, wherein the running belt includes a running surface, at least a portion of which is curved; and	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6
9.4	a first element and a second element, both of which are coupled to the running belt, and wherein the first element substantially surrounds the second element or the second element substantially surrounds the first element;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
9.5	wherein one of the first and second elements 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, the one of the first and second elements is substantially prevented from rotation relative to the frame to substantially prevent or resist rotation of the running belt relative to the frame.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7
10	The treadmill of claim 9, wherein only one of the first and second elements is freely rotatable relative to the frame.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
11	The treadmill of claim 9, wherein the treadmill is non-motorized.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
12	The treadmill of claim 9, wherein the first and second elements at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
13	The treadmill of claim 9, further comprising a plurality of bearings coupled to the frame, at least one bearing of the plurality of bearings configured to at least partially support the running belt.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.4-1.6
15	A manually powered treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
15.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1

<u>Claim Chart for Woodway US Patent No. 11,465,005</u>		
	Claims	Prior Art
15.2	at least one front running belt pulley coupled to the frame;	See disclosures in invalidity claim chart for 10,561,884 – e.g., element 40
15.3	at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;	See disclosures in invalidity claim chart for 10,561,884 – e.g., element 42
15.4	a running belt 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	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.2-1.6; see also disclosures in invalidity claim chart for 10,561,884 – e.g., elements 40 and 42
15.5	a safety device coupled to the frame and the running belt, the safety device having an element adapted for rotation relative to the frame in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, the element is substantially prevented from rotation relative to the frame to substantially prevent or resist rotation of the running belt relative to the frame; and	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
15.6	wherein the safety device includes another element, wherein one of the element and the another element substantially surrounds the other of the element and the another element.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
16	The manually powered treadmill of claim 15, further comprising a plurality of bearings coupled to the frame, wherein at least one bearing in the plurality of bearings at least partially supports the running belt.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.4-1.6

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
1	A manually powered treadmill comprising:	<p>This limitation is taught by any one of U.S. Patent No. 5,897,461 to Socwell (the "'461 Patent," "Socwell '461"), U.S. Patent No. 3,642,279 to Cutter (the "Cutter '279"), U.S. Patent No. 3,637,206 to Chickering (the "'206 Patent," "Chickering '206"), U.S. Patent No. 4,614,337 to Schonenberger (the "'337 Patent," "Schonenberger '337") or DE 199 22 822 to Tollkien (the "Tollkien '822" or "DE '822 Patent") or the commercial treadmill as described in the Loko Owners Manual. For example, see below:</p> <p><u>Socwell '461</u></p> <p>"As shown, the curved deck treadmill 10 comprises a support frame 12 having a first side 20 and a second opposing side 22 and having a deck 56 supportably disposed therebetween.</p> <p style="text-align: center;">***</p> <p>In an alternate embodiment, the curved deck treadmill 10 or the present invention may be implemented without a driving means engagably disposed to a roller in order to facilitate the forced rotation of the belt 16. If so implemented, the rollers 78, 86 and 88 and the deck 56 should be generally calibrated in relation to the belt 16 to provide an optimal frictional resistance to enable a user to safely walk, jog, and/or run thereon, while still providing sufficient resistance to enable a user to exercise.</p> <p style="text-align: center;">***</p> <p>A meaningful disadvantage of prior art motorized exercise treadmills includes the general disposition or placement of the motor in relation to the roller assembly and belt. Accordingly, the motor may be generally disposed either in front of, behind, or at one side of the endless belt. The usual placement or disposition of the motor in relation to prior art exercise treadmills, however, typically minimizes valuable space which could be alternatively allocated to the disposition of other internally working components of the treadmill or for the purpose of increasing the walking surface provided by the dimensional size of the belt."</p> <p>Socwell '461 Patent at 5:23-26; 11:53-61; 2:1-11 (emphasis added); <i>see also</i> figures 1 and 2.</p> <p>Cutter '279</p> <p>"One of the main features of the invention, is the unimpeded belt track that it presents without having to be impeded by any handles, belts, or other support members and without having to use a motor, so that the user of it can run on it, or jog on it, or walk on it, and will have his position located by the concave path."</p> <p>Cutter '279 Patent at 4:10-16; <i>see also</i> figures 1-6.</p> <p><u>Chickering '206</u></p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>"This invention relates to a new type of treadmill exercising device, and more particularly to an exercising device on which the user can simulate the acts of walking, jogging and running without relying on handles, belts or other external supports for maintaining his balance.</p> <p>***</p> <p>Flanges 26 are preferably provided on at least the first and last rollers in each series for maintaining the belts 16 and 25 in proper alignment. A flywheel 27 is also provided which turns with the rollers 13 to maintain momentum and provide a smoother operation of the rollers 13 and belt 16</p> <p>***</p> <p>The first series of rollers 13 and tread surface 16a operate much like a conventional treadmill. As a person walks or runs on the tread surface 160, his weight will cause the rollers 13 and belt 16 to rotate in a counterclockwise motion, carrying the users foot rearwardly and downwardly. When a faster pace is desired, the inclination of the tread surface 16a is increased by moving pins 30 into one of the upper holes 17, or by elevating the forward end of the base 10 with jackscrews 11, or both. A slower pace is attained by reversing these operations.</p> <p>When a person is using the exercise device, during each step his foot moves in an approximate arc. The foot first contacts the tread surface 16a as shown in FIG. I, and moves rearwardly and downwardly, the weight of the person acting to accelerate the motion of the belt 16.</p> <p>***</p> <p>Also with the two-belt model the rear belt and rear series of rollers move only as the exercisor's foot pushes against them. They will then tend to slow down or stop before the next foot comes into engagement. This cyclic-operating characteristic enables the rear belt and rollers to absorb more momentum since they must be accelerated by each foot coming into contact with the rear belt. Thus, the rear belt may move at a slower or intermittent pace, while the forward belt, with its associated flywheel, moves at a faster, more constant pace. One further advantage is that with the two-belt model the inclination of the decelerating area may be adjusted independently of that of the accelerating area."</p> <p>Chickering '206 Patent at 1:1-7, 2:21-26, 2:40-55, 3:26-37 (emphasis added); <i>see also</i> figures 1-3</p> <p><u>Schonenberger '337</u></p> <p>"The physical exercise apparatus illustrated in FIG. 1 is driven by a motor 33 (FIGS. 2, 3) which drives the movable surface 1. A person standing on the surface, when driven, in order to remain thereon, must walk, jog, or run. The apparatus is enclosed in a housing 2 to which also support bars 3 are secured.</p> <p>***</p> <p>This invention allows a runner to use the apparatus in a 5% elevation position without any external motor power.</p> <p>***</p>

<u>Claim Chart for Woodway US Patent No. 9,039,580</u>		
	Claims	Prior Art
		<p>One of the drums 10 is driven by motor 33, or by gravity of earth or by any other suitable motive drive apparatus by means of a drive belt 34 (FIGS. 2, 3), preferably with interposition of a step-down gearing.”</p> <p>Schonenberger '337 Patent at 4:1-6; 6:16-18; 4:34-37 (emphasis added); <i>see also</i> figure 1.</p> <p><u>Tollkien '822</u></p> <p>“Fig. 1 shows a side view of part of a treadmill without a motor. In order to show details clearly, only one third of the belt is shown. The other side is mirror-symmetrical, the middle is an analogous extension of the arc.”</p> <p>Tollkien '822 Patent at [0018]; <i>see also</i> figure 1.</p> <p><u>Commercial Treadmill as Described in Loko Owners Manual</u></p> <p>“This unique transport system provides extremely low friction and can even be used without an external drive, simply by pushing the treadmill to get it started.”</p> <p>Loko -Page 10 & cover photo</p>
1.1	a frame having a front end and a rear end positioned opposite the front end	<p>This limitation is taught by any one of the Socwell '461 Patent, the Cutter '279 Patent, the Chickering '206 Patent, Schonenberger '337 Patent, the commercial treadmill as described in the Loko Owners Manual, or Tollkien '822. For example, see below:</p> <p><u>Socwell '461</u></p> <p>“As shown, the curved deck treadmill 10 comprises a support frame 12 having a first side 20 and a second opposing side 22 and having a deck 56 supportably disposed therebetween.</p> <p style="text-align: center;">***</p> <p>Structurally, the Support frame 12 preferably comprises a first Side 20 and a Second opposing Side 22 which, in combination, provide a means for Structurally Supporting the curved deck treadmill 10 and the various components thereof. In one preferred embodiment of the present invention, the Support frame 12 is preferably formed of a Substantially Sturdy, rigid material which provides Sufficient structural integrity to support the curved deck treadmill 10 and a user exercising thereon.</p> <p style="text-align: center;">***</p> <p>For example, the addition of rib seats 30 and support ribs 54 near the first and second ends 24, 26 of the support frame 12 may increase the overall structural integrity of the deck 56 in relation to the support frame 12. Accordingly, those skilled in the art will readily recognize other possible modifications and adaptations which are consistent with the spirit and scope of the present invention.</p> <p style="text-align: center;">***</p>

<u>Claim Chart for Woodway US Patent No. 9,039,580</u>		
	Claims	Prior Art
		<p>Preferably, the support frame 12 may be formed having a first side 20 being disposed substantially parallel a second opposing side 22, thereby providing a generally longitudinal alignment therebetween. In one presently preferred embodiment of the present invention, because the first side 20 and the second side 22 of the support frame 12 are relatively constructed having a substantially comparable structure and configuration, only the first side 20 will be operatively disclosed in detail herein.</p> <p style="text-align: center;">***</p> <p>As shown in Figure 4, the first side 20 of the support frame 12 may comprise one or more rib seats 30 disposed adjacent the deck slot 32. The rib seats are preferably formed having an internal surface area sufficient for seating at least one end of a support rib 54 disposed therein. As best illustrated in Figure 3, one or more support ribs 54 extend substantially transverse dimensionally between first and second sides 20, 22 of the support frame.</p> <p style="text-align: center;">***</p> <p>An exercise treadmill as defined in claim 17: a. wherein the support frame has a forward and rearward end portion"</p> <p>Socwell '461 Patent at 5:23-26; 5:56-65; 8:27-34; 19:3-9; Claim 18; <i>see also</i> figures 1-4, 6, and 7.</p> <p><u>Cutter '279</u></p> <p>"A treadmill exerciser 10 embodying the principles of the invention is shown in FIGS. 1 through 8. It comprises a pair of side members 11 and 12, which may be connected together at one end by a rod 13 having threaded ends to receive a pair of nuts 14, with appropriate washers. A tubular spacer 15 fits around the rod 13 and in between the side members 11 and 12 and governs the distance between them there. As will be seen later, several other members are also involved in spacing the side members 11 and 12 apart and still others in holding them together, providing a substantially rigid frame."</p> <p>Cutter '279 Patent at 2:66-74; <i>see also</i> figures 1-6 and descriptions thereof.</p> <p><u>Chickering '206</u></p> <p>"The preferred form of the exercising device as shown in FIGS. 1 and 2 has a base 10 which comprises an inclined rectangular frame having two sidewalls 22 and two end walls 23."</p> <p>Chickering '206 Patent at 1:65-68; <i>see also</i> figures 1-3.</p> <p><u>Schonenberger '337</u></p> <p>"The physical exercise apparatus illustrated in FIG. 1 is driven by a motor 33 (FIGS. 2, 3) which drives the movable surface 1. A person standing on the surface, when driven, in order to remain thereon,</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>must walk, jog, or run. The apparatus is enclosed in a housing 2 to which also support bars 3 are secured.</p> <p>***</p> <p>The housing 2 includes frame members 36, 37 (FIG. 2) which provide for physical and structural support. The frame members 36, 37 are only shown schematically. They may have any suitable structure or profile. At either end of the apparatus (see FIGS. 3 and 12), and within the housing 2 are located rotatable drums, rollers, sheaves, sprockets, or the like, about which the surface 1, which is an endless loop, is placed.</p> <p>***</p> <p>The support rollers 12, 12' are journaled to rotate about screws or bolts 21 (FIG. 5). The bolts 21 are held in U-channels 20 (FIG. 7). The U-channels 20 are carried, in turn, by transversely located angle irons, T-rails, or channel rails, or other suitable structural members, seen generally at 32 (FIG. 7) and supported, for example, on, or forming part of the frame members 36, 37 (FIG. 2), or otherwise suitably secured to the frame members and housing 2 of the apparatus. The connection between the U-channels 20 and the rails 32, preferably, is by screws 28, although any other suitable connection may be used such as welding.</p> <p>***</p> <p>The rollers 25 are journaled by ball bearings 27 on a central shaft 26 secured to the frame structure or, in the embodiment shown, to the side wall of the housing 2. The step slats 4 are slightly shorter than the distance between the side walls of the housing 2 to provide for slight lateral clearance.</p> <p>***</p> <p>The frame arrangement with the position of the support members 19, 20 and 32 is clearly shown in FIG. 19, also the position of driving element 10 and support 20 rollers 12, 12a.</p> <p>***</p> <p>Movable surface apparatus for physical exercise and training comprising an elongated essentially rectangular support frame having four corner regions."</p> <p>Schonenberger at 4:1-6; 4:10-17; 5:35-47; 8:10-15; 9:17-21; 13:55-58; see <i>also</i> figures 1-3 and other referenced figures.</p> <p><u>Commercial Treadmill as Described in Loko Owners Manual</u></p> <p>"The installation site must be as flat as possible to ensure minimum deflexion of the frame.</p> <p>***</p> <p>The patented running surface consists of 60 individual slats fitted on a set of continuous toothed belts.</p> <p>***</p> <p>The transport system consists of two support rails, a steel wire reinforced continuous belt and 178 mm Ø. The support rails, with 112 ball bearings, reinforce the running surface and substantially reduce wear and friction.</p>

<u>Claim Chart for Woodway US Patent No. 9,039,580</u>		
	Claims	Prior Art
		<p>The two lateral continuous belts have several key functions: they hold the slats together, transfer output to and from the motor to the runner and reduce the running surface from slipping out to the left or right.</p> <p>The two support rails consist of three main components: the support rail, individual ball bearings and mounted roller guides. The smooth area of the lateral belts runs over the ball bearings and roller guides.</p> <p>The support rails also accommodate all ball bearings and roller guides and distribute local load evenly across the whole running surface.</p> <p>The ten roller guides support the running surface and prevent it from slipping out to the left or right.</p> <p>The 56 individual bearings on each side also make an important contribution to even distribution of load across the whole running surface.</p> <p>The deflection rollers transfer the load to and from the motor and prevent the running surface from slipping. The front deflection roller is equipped with an additional crown gear used by the motor. All deflection rollers are equipped with heavy-duty bearings which also reduce friction.</p> <p>This unique transport system provides extremely low friction and can even be used without an external drive, simply by pushing the treadmill to get it started. ***</p> <p>Sometimes the frame bends as a result of movement of the treadmill. If the machine seems to be generally "wobbly", the person using the treadmill can try to press the railing to side or the other. This is one possibility for straightening the frame again and it is not necessary to adjust the feet. ***</p> <p>Disconnect the treadmill from the main power supply and remove the two (2) large screws in the outer covering using a cross-recess screwdriver. The covers can then be lifted up from the frame of the treadmill. . . . Position the two outer coverings on both sides of the frame. ***</p> <p>Mark the position of the right-hand bearing support. This bearing holds the front shaft on the frame."</p> <p>Loko -Pages 8, 10, 32, 35, 36 & cover photo.</p> <p><u>Tollkien '822</u></p> <p>Inherent because a frame is necessary to support rollers 2.</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
.2	a front shaft rotatably coupled to the frame at the front end;	<p>This limitation is taught by any one of the Socwell '461 Patent, Cutter '279 Patent, Chickering '206 Patent, Schonenberger '337 Patent, Tollkien '822 Patent, or the commercial treadmill as described in the Loko Owners Manua. For example, see below:</p> <p><u>Socwell '461</u></p> <p>"As shown, the curved deck treadmill 10 comprises a support frame 12 having a first side 20 and a second opposing side 22 and having a deck 56 supportably disposed therebetween. ... Further, a roller assembly 14 is provided preferably comprising a first and second roller 78, 86. The first roller 78 may be rotatably disposed contiguous the first end 58 of the deck 56 between the first side 20 and the second opposing side 22 of the support frame 12. Correspondingly similar in construction and design, a second roller 86 is preferably disposed contiguous the second end 60 of the deck 56 between the first and second sides 20, 22 of the support frame 12. In preferred operation, a belt 16 is rotatably mounted in relation to the roller assembly 14 and operatively disposed in relation to the deck 56, whereby providing a structurally supported arcuate shaped, movable surface on which a user may exercise.</p> <p style="text-align: center;">***</p> <p>As shown in FIGS. 1 and 3, the first side 20 of the support frame 12 includes a first end 24 and a second opposing end 26. The first and second ends 24, 26 of the first side 20 are preferably disposed in corresponding relation to the first and second ends 58, 60 of the deck 56. As best illustrated in FIGS. 2 and 4, a first journal housing 28 may be formed substantially adjacent the first end 24 of the first side 20 of the support frame 12. Preferably, the first journal housing 28 is formed having an opening readily adapted to receive at least one journaling end (not shown) of the first roller 78. Similarly, a second journal housing 34 may be formed substantially adjacent the second end 26 of the first side 20 of the support frame 12 and include an opening readily adapted to receive at least one journaling end (not shown) of the second roller 86.</p> <p>In preferred design, the journal housings 28, 34 formed at the first and second ends 24, 26 of the first side 20 of the support frame 12, respectively, may be formed having an opening which provides a means for facilitating the introduction of the journaling ends of the respective first and second rollers 78, 86</p> <p style="text-align: center;">***</p> <p>In accordance with one presently preferred embodiment of the present invention, the journal housings 28, 34, 36 formed in the first side 20 of the support frame 12 may be disposed in operative alignment with the journal housings formed in the second side 22 of the support frame 12. This arrangement of the journal housings 28, 34, 36 in both the first and second sides 20, 22 of the support frame 12 preferably provides for the introduction and retention of the journaling ends of the corresponding rollers 78, 86, 88, thereby facilitating a means for rotating the rollers on a substantially fixed axis.</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>Although the journal housings 28, 34, 36 of the first and second sides 20, 22 of the support frame 12 preferably receive the journaling ends of the respective rollers 78, 86, 88, it will be apparent to those skilled in the art that other mechanisms may be constructed and/or numerous other relative dispositions of the respective rollers may be anticipated in accordance with the inventive principles disclosed herein in order to achieve the desired results of the present invention.</p> <p style="text-align: center;">***</p> <p>Referring now to FIG. 5, the curved deck treadmill 10 may include one or more belt securing assemblies 94 which provide a means for retaining the endless belt 16 in a curvilinear configuration being substantially flush with the upper surface 66 of the deck 56. Preferably, the belt securing assemblies 94 provide a means for substantially conforming the inherent flexible nature of the belt 16 to the arcuate configuration of the intermediate portion 62 of the deck 56. In design, one or more belt securing assemblies 94 may be disposed in spaced-apart relation along the upper surface 66 of the intermediate portion 62 of the deck 56, as shown in FIG. 2, to sufficiently retain the belt 16 in operable disposition to the deck 56.</p> <p>In one presently preferred embodiment of the present invention, the belt securing assembly 94 comprises a roller 98 having an axle 100 which rotatably engages a mounting bracket 96. The mounting bracket 96 is preferably disposed in relation to the roller 98 such that the roller 98 may engage the belt 16, thereby substantially retaining a side portion of the belt 16 substantially flush with the deck 56. In preferred operation, as the belt 16 rotates in relation to the roller assembly 14, the rollers 98 of the belt securing assembly 94 preferably rotate in relation thereto. It will be apparent that other belt securing mechanisms may be constructed in accordance with the inventive principles set forth herein</p> <p>FIG. 6 illustrates another preferred embodiment of the present invention wherein those components that are the same as or similar to those employed in the embodiment of the present invention shown in FIGS. 1-5 are designated with the same part numbers."</p> <p>Socwell '461 Patent at 5:22-26; 5:33-45; 6:23-43; 7:8-27; 10:5-28; 13:54-58; <i>see also</i> 16:26-52; figures 2-7 and other referenced figures.</p> <p><u>Cutter '279</u></p> <p>"The inside face of each of the two side members 11 and 12 is provided with a series of journaling sockets 16, arranged along a concavely curving path that is highest at its forward end. Each socket 16 serves as journal for the stub shaft 17 of a roller 18. A slotted rearmost socket 19 supports the rearmost roller 20 of this series by its stub shafts 21, and springs 22 tend to pull the roller 20 toward the rear, i.e., toward the rod 13 to which the springs 22 are preferably anchored. Also, forward of all the rollers 18 and preferably somewhat lower is a pair of sockets 23 that rotatably support the stub shaft 24 of a roller 25."</p> <p>Cutter '279 Patent at 3:1-11; <i>see also</i> figures 1-6.</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p><u>Chickering '206</u></p> <p>"The preferred form of the exercising device as shown in FIGS. 1 and 2 has a base 10 which comprises an inclined rectangular frame having two sidewalls 22 and two end walls 23.</p> <p style="text-align: center;">***</p> <p>Two elongate support arms 14 are provided, one such arm being pivotally mounted at 15 to the inside of each sidewall 22 of base 10. The forward and free end of each arm 14 is supported by a pin inserted through one of several holes 17 provided in each sidewall 22 near its forward end. Two other similar but preferably shorter support arms 19 are carried by base 10, one arm 19 being pivotally connected at 20 to each sidewall 22 and having its rearward and free end supported by a pin (not shown) inserted through one of several holes 24 provided in each sidewall 22 near its rearward end.</p> <p>A first series of transverse parallel rollers 13 have their ends journaled in arms 14. An endless belt 16 of some suitable material such as rubber or heavy cloth, is disposed about the series of rollers 13 to provide a first tread surface 16a.</p> <p>A second series of transverse parallel rollers 18 have their ends journaled in arms 19. An endless belt 25 is disposed about the series of rollers 18 to provide a second tread surface 25a adjacent the first tread surface.</p> <p>Flanges 26 are preferably provided on at least the first and last rollers in each series for maintaining the belts 16 and 25 in proper alignment.</p> <p style="text-align: center;">***</p> <p>In the device shown in FIG. 3, a single series of rollers 29 are provided journaled in the sidewalls 22 of base 10. However, the rollers are so disposed that the forward rollers lie approximately in a plane slanting downwardly from the front of the base, while the rear rollers lie approximately in a plane slanting upward toward the rear of the base 10. Thus, when the endless belt 28 is placed about the rollers, it follows their contour and provides a forward accelerating area and a rear decelerating area which are inclined from the horizontal with each being lowest at their point of nearest proximity.</p> <p>When a single belt is used, it may be necessary to use heavier belting material so that the belt will lie flat upon the rollers without being under tension. When such heavier belting material is used, it may also be desirable to provide larger end rollers as at 29a and 29b to give a larger turning radius for the belt. These larger end rollers could, of course, be used on the two-belt model as well as the single-belt model."</p> <p>Chickering '206 Patent at 1:65-68; 2:2-24; 2-75-3:17; <i>see also</i> figures 1-3.</p> <p><u>Schonenberger '337</u></p>

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		<p>"The housing 2 includes frame members 36, 37 (FIG. 2) which provide for physical and structural support. The frame members 36, 37 are only shown schematically. They may have any suitable structure or profile. At either end of the apparatus (see FIGS. 3 and 12), and within the housing 2 are located rotatable drums, rollers, sheaves, sprockets, or the like, about which the surface 1, which is an endless loop, is placed. The rotatable elements, preferably in the form of two operating drums or rollers 10, are suitably journaled in the frame as seen at 50, FIG. 3. If two sheaves or pulleys are provided at either end of the apparatus, one will be located at either side thereof, suitably journaled and, connected by a transverse shaft 26 (FIG. 8). The rollers or sheaves 10 have a toothed or ribbed circumference. Two endless gear belts 5 (FIGS. 3, 4), one each located at a respective side of the apparatus, and both having internally projecting teeth 7 (FIG. 4), are engaged with the circumference of the ribbed or toothed rollers 10, thus ensuring slipless, positive common drive of both of the toothed belts 5 in the operating direction and preventing lateral dislocation of the endless loop as shown by Arrow A in FIG. 2. The toothed belts 5 are flexible and are made of rubber, or suitable flexible plastic material. One of the drums 10 is driven by motor 33, or by gravity of earth or by any other suitable motive drive apparatus by means of a drive belt 34 (FIGS. 2, 3), preferably with interposition of a step-down gearing."</p> <p>Schonenberger '337 Patent at 4:10-37; <i>see also</i> figures 2, 12 and other referenced figures.</p> <p>Tollkien '822</p> <p>"Fig. 1 shows a side view of part of a treadmill without a motor. In order to show details clearly, only one third of the belt is shown. The other side is mirror-symmetrical, the middle is an analogous extension of the arc.</p> <p>Each roller 2 is coated with rubber 8, thus increasing the frictional adhesion between the belt 12 and the rollers 2 and protecting the roller where the rivet comes in contact therewith. The tension is released on the outer surface of each roller and in the lower area of the belt, facing away from the running surface, such that the belt can travel over the rollers without any notable resistance."</p> <p>Tollkien '822 Patent at [0018]; [0020]; <i>see also</i> figure 1.</p> <p><u>Commercial Treadmill as Described in Loko Owners Manual</u></p> <p>"The patented running surface consists of 60 individual slats fitted on a set of continuous toothed belts. The toothed belts engage the front crown wheel and this in turn engages the drive motor. This makes it completely impossible for the treadmill to slip.</p> <p style="text-align: center;">***</p> <p>The transport system consists of two support rails, a steel wire reinforced continuous belt and 178 mm Ø. The support rails, with 112 ball bearings, reinforce the running surface and substantially reduce wear and friction.</p>

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		<p>The two lateral continuous belts have several key functions: they hold the slats together, transfer output to and from the motor to the runner and reduce the running surface from slipping out to the left or right.</p> <p>The two support rails consist of three main components: the support rail, individual ball bearings and mounted roller guides. The smooth area of the lateral belts runs over the ball bearings and roller guides.</p> <p>The support rails also accommodate all ball bearings and roller guides and distribute local load evenly across the whole running surface.</p> <p>The ten roller guides support the running surface and prevent it from slipping out to the left or right.</p> <p>The 56 individual bearings on each side also make an important contribution to even distribution of load across the whole running surface.</p> <p>The deflection rollers transfer the load to and from the motor and prevent the running surface from slipping. The front deflection roller is equipped with an additional crown gear used by the motor. All deflection rollers are equipped with heavy-duty bearings which also reduce friction.</p> <p>This unique transport system provides extremely low friction and can even be used without an external drive, simply by pushing the treadmill to get it started. ***</p> <p>Mark the position of the right-hand bearing support. This bearing holds the front shaft on the frame."</p> <p>Loko -Pages 10, 36 & cover photo.</p>
1.3	a rear shaft rotatably coupled to the frame at the rear end;	See element 1.2.
1.4	a first bearing rail having a plurality of bearings, the first bearing rail attached to a left side of the frame;	<p>This limitation is taught by any one of the Socwell '461 Patent, the Cutter '279 Patent, the Chickering '206 Patent, the Schonenberger '337 Patent, the commercial treadmill as described in the Loko Owners Manual, the Tollkien'882 Patent, U.S. Patent No. 5,538,489 (the "Majid '489 Patent"); and U.S. Patent No. 6,042,514 to Abelbeck (the "Abelbeck '514 Patent"). For example, see below:</p> <p><u>Socwell '461</u></p>

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		<p>"One presently preferred embodiment of the present invention, designated generally at 10, is best illustrated in FIGS. 1 and 2. As shown, the curved deck treadmill 10 comprises a support frame 12 having a first side 20 and a second opposing side 22 and having a deck 56 supportably disposed therebetween.</p> <p>***</p> <p>In one presently preferred embodiment of the present invention, the deck 56 is preferably formed consisting of a wood laminate having an upper surface 66 that may be impregnated with a wax material to provide a means for reducing the coefficient of friction acting thereon.</p> <p>***</p> <p>As best illustrated in FIGS. 2 and 4, a first journal housing 28 may be formed substantially adjacent the first end 24 of the first side 20 of the support frame 12. Preferably, the first journal housing 28 is formed having an opening readily adapted to receive at least one journaling end (not shown) of the first roller 78. Similarly, a second journal housing 34 may be formed substantially adjacent the second end 26 of the first side 20 of the support frame 12 and include an opening readily adapted to receive at least one journaling end (not shown) of the second roller 86.</p> <p>***</p> <p>Preferably, the support frame 12 may be formed having a first side 20 being disposed substantially parallel a second opposing side 22, thereby providing a generally longitudinal alignment therebetween. In one presently preferred embodiment of the present invention, because the first side 20 and the second side 22 of the support frame 12 are relatively constructed having a substantially comparable structure and configuration, only the first side 20 will be operatively disclosed in detail herein.</p> <p>***</p> <p>In preferred construction, the deck 56 is formed of a substantially sturdy, rigid material to provide sufficient structural integrity to adequately support the weight of a user exercising on the curved deck treadmill 10. In one presently preferred embodiment of the present invention, the deck 56 is preferably formed consisting of a wood laminate having an upper surface 66 that may be impregnated with a wax material to provide a means for reducing the coefficient of friction acting thereon.</p> <p>***</p> <p>Referring now to FIG. 5, the curved deck treadmill 10 may include one or more belt securing assemblies 94 which provide a means for retaining the endless belt 16 in a curvilinear configuration being substantially flush with the upper surface 66 of the deck 56. . . .</p> <p>In one presently preferred embodiment of the present invention, the belt securing assembly 94 comprises a roller 98 having an axle 100 which rotatably engages a mounting bracket 96. The mounting bracket 96 is preferably disposed in relation to the roller 98 such that the roller 98 may engage the belt 16, thereby substantially retaining a side portion of the belt 16 Substantially flush with the deck 56."</p> <p>'461 Patent at 5:20-26; 8:11-15; 6:27-37; 6:10-19; 8:8-16; 10:5-31; <i>see also</i> figures 2, 4, 5 and other referenced figures.</p>

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		<p><u>Cutter '279</u></p> <p>"A pair of rigid side members support a series of rollers along a concave curve with a forward portion higher than the rear.</p> <p style="text-align: center;">***</p> <p>I have found that by arranging a series of rollers along a concavely curved path, and then supporting the belt directly on them, there is neither a wallowing action, nor is there a set angle of inclination; instead there is a concave path tending upward toward the upper end, with each point along the path at a slightly different angle. In my new structure the user, whether walking, running, or jogging, tends to achieve almost at once a natural balance in position at the proper instantaneous angle along the curve. Therefore his position fore-and-aft of the device, his presently current weight, and his actual speed of movement are automatically reconciled to each other. This automatic adjustment is a very important feature of this invention. No additional adjustment need be made to regulate this position, no motor need be used, and once the user has achieved a measure of practice and accustomed himself to the operation of the device, he does not need any handle or harness to be perfectly safe on the exerciser.</p> <p style="text-align: center;">***</p> <p>The inside face of each of the two side members 11 and 12 is provided with a series of journaling sockets 16, arranged along a concavely curving path that is highest at its forward end. Each socket 16 serves as journal for the stub shaft 17 of a roller 18. A slotted rearmost socket 19 supports the rearmost roller 20 of this series by its stub shafts 21, and springs 22 tend to pull the roller 20 toward the rear, i.e., toward the rod 13 to which the springs 22 are preferably anchored. Also, forward of all the rollers 18 and preferably somewhat lower is a pair of sockets 23 that rotatably support the stub shaft 24 of a roller 25."</p> <p>'279 Patent at Abstract, 1:54-70, 3:1-11: <i>see also</i> Figures 1-6.</p> <p><u>Chickering '206</u></p> <p>"The preferred form of the exercising device as shown in FIGS. 1 and 2 has a base 10 which comprises an inclined rectangular frame having two sidewalls 22 and two end walls 23.</p> <p style="text-align: center;">***</p> <p>Antifriction means are carried by the base for supporting an endless belt or belts. These antifriction means preferably comprise transverse parallel rollers. In the embodiment as illustrated in FIGS 1 and 2 a first and second series of such transverse parallel rollers are carried by the base preferably as follows: Two elongate support arms 14 are provided, one such arm being pivotally mounted at 15 to the inside of each sidewall 22 of base 10. The forward and free end of each arm 14 is supported by a pin inserted through one of several holes 17 provided in each sidewall 22 near its forward end. Two other similar but preferably shorter support arms 19 are carried by base 10, one arm 19 being pivotally connected at 20 to each sidewall 22 and having its rearward and free end supported by a pin (not shown) inserted through one of several holes 24 provided in each sidewall 22 near its rearward end.</p>

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		<p>A first series of transverse parallel rollers 13 have their ends 15 journaled in arms 14. An endless belt 16 of some suitable material such as rubber or heavy cloth, is disposed about the series of rollers 13 to provide a first tread surface 16a.</p> <p>A second series of transverse parallel rollers 18 have their ends journaled in arms 19. An endless belt 25 is disposed about the series of rollers 18 to provide a second tread surface 25a adjacent the first tread surface.</p> <p style="text-align: center;">***</p> <p>An alternate form of the exercising device of the present invention is shown in FIG. 3, wherein a single endless belt 28 forms both the accelerating and decelerating areas. In the device shown in FIG. 3, a single series of rollers 29 are provided journaled in the sidewalls 22 of base 10. However, the rollers are so disposed that the forward rollers lie approximately in a plane slanting downwardly from the front of the base, while the rear rollers lie approximately in a plane slanting upward toward the rear of the base 10. Thus, when the endless belt 28 is placed about the rollers, it follows their contour and provides a forward accelerating area and a rear decelerating area which are inclined from the horizontal with each being lowest at their point of nearest proximity."</p> <p>Chickering '206 Patent at 1:65-68; 1:72-2:21; 2:73-3:10; see also figures 1-3.</p> <p><u>Commercial Treadmill as Described in the Loko Owners Manual</u></p> <p>"The patented running surface consists of 60 individual slats fitted on a set of continuous toothed belts.</p> <p style="text-align: center;">***</p> <p>The transport system consists of two support rails, a steel wire reinforced continuous belt and 178 mm Ø. The support rails, with 112 ball bearings, reinforce the running surface and substantially reduce wear and friction.</p> <p>The two lateral continuous belts have several key functions: they hold the slats together, transfer output to and from the motor to the runner and reduce the running surface from slipping out to the left or right.</p> <p>The two support rails consist of three main components: the support rail, individual ball bearings and mounted roller guides. The smooth area of the lateral belts runs over the ball bearings and roller guides.</p> <p>The support rails also accommodate all ball bearings and roller guides and distribute local load evenly across the whole running surface.</p> <p>The ten roller guides support the running surface and prevent it from slipping out to the left</p>

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		<p>or right.</p> <p>The 56 individual bearings on each side also make an important contribution to even distribution of load across the whole running surface.</p> <p>The deflection rollers transfer the load to and from the motor and prevent the running surface from slipping. The front deflection roller is equipped with an additional crown gear used by the motor. All deflection rollers are equipped with heavy-duty bearings which also reduce friction.</p> <p>This unique transport system provides extremely low friction and can even be used without an external drive, simply by pushing the treadmill to get it started."</p> <p>Loko Manual at page 10; <i>see also</i> photos.</p> <p><u>Tollkien '822</u></p> <p>"Fig. 1 shows a side view of part of a treadmill without a motor. In order to show details clearly, only one third of the belt is shown. The other side is mirror-symmetrical, the middle is an analogous extension of the arc. The running surface is formed by cross members 10 that are transverse to the direction of movement, which are attached with rivets 6 to a continuous belt 12. A resilient plastic strip 4 is attached to one long side of each cross member 10 running transverse to the direction of movement, such that – as can be readily seen in Fig. 1 – two cross members 10 never come in direct contact with one another, but instead are always separated in a cushioning manner by the plastic strip 4. The tension and consequently the shape of the running surface is obtained in the exemplary embodiment by the interactions of the cross members 10, the elastic strips 4 between them, the connections of the cross sections to the belt (by means of rivets 6 in the exemplary embodiment), and the belt itself.</p> <p style="text-align: center;">***</p> <p>Each roller 2 is coated with rubber 8, thus increasing the frictional adhesion between the belt 12 and the rollers 2 and protecting the roller where the rivet comes in contact therewith. The tension is released on the outer surface of each roller and in the lower area of the belt, facing away from the running surface, such that the belt can travel over the rollers without any notable resistance. Because the spacing between adjacent cross members is very small, and the strips also expand, no space is indicated in the illustration between the cross members in the section of the belt that is currently underneath. The runners 14 placed underneath the running surface prevent the belt from bouncing when in use."</p> <p>'882 Patent at [0018]; [0020]; <i>see also</i> Figure 1.</p>

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		<p><u>Schonenberger '337</u></p> <p>"The physical exercise apparatus illustrated in FIG. 1 is driven by a motor 33 (FIGS. 2, 3) which drives the movable surface 1. A person standing on the surface, when driven, in order to remain thereon, must walk, jog, or run. The apparatus is enclosed in a housing 2 to which also support bars 3 are secured.</p> <p>***</p> <p>The housing 2 includes frame members 36, 37 (FIG. 2) which provide for physical and structural support. The frame members 36, 37 are only shown schematically. They may have any suitable structure or profile. At either end of the apparatus (see FIGS. 3 and 12), and within the housing 2 are located rotatable drums, rollers, sheaves, sprockets, or the like, about which the surface 1, which is an endless loop, is placed. The rotatable elements, preferably in the form of two operating drums or rollers 10, are suitably journaled in the frame as seen at 50, FIG. 3. If two sheaves or pulleys are provided at either end of the apparatus, one will be located at either side thereof, suitably journaled and, connected by a transverse shaft 26 (FIG. 8). The rollers or sheaves 10 have a toothed or ribbed circumference. Two endless gear belts 5 (FIGS. 3, 4), one each located at a respective side of the apparatus, and both having internally projecting teeth 7 (FIG. 4), are engaged with the circumference of the ribbed or toothed rollers 10, thus ensuring slipless, positive common drive of both of the toothed belts 5 in the operating direction and preventing lateral dislocation of the endless loop as shown by Arrow A in FIG. 2.</p> <p>***</p> <p>Support rollers 12 are provided to prevent bending-through of the belts 5 upon loading of the steps by a person. A support belt 13 is positioned between the upper sides of the support rollers 12 and the lower side of the slats 4. The slats 4, therefore, are supported at their marginal ends by the support rollers 12 with the support belt 13 interposed. Except for the motor 33 and the drive belt 34 thereof, the apparatus is essentially symmetrical with respect to its longitudinal extent and, therefore, the system of belt 5, rollers 12 and support belt 13 is duplicated at the other side." "The support rollers 12, 12' are journaled to rotate about screws or bolts 21 (FIG. 5). The bolts 21 are held in U-channels 20 (FIG. 7). The U-channels 20 are carried, in turn, by transversely located angle irons, T-rails, or channel rails, or other suitable structural members, seen generally at 32 (FIG. 7) and supported, for example, on, or forming part of the frame members 36, 37 (FIG. 2), or otherwise suitably secured to the frame members and housing 2 of the apparatus. The connection between the U-channels 20 and the rails 32, preferably, is by screws 28, although any other suitable connection may be used such as welding. The support rollers 12, 12' are journaled by means of low-friction bearings, for example needle bearings or ball bearings (FIG. 5) although sleeve bearings operating with low friction with respect to bolt 21 may also be used.</p> <p>***</p> <p>The path of the support belts 13, 13' need not be entirely flat and parallel to that of the surface 1. FIG. 12 illustrates, for example, that the terminal rollers 12a are positioned slightly lower than the remaining rollers 12, of which only a few are shown for illustration. The terminal or end rollers 12a may also be slightly larger than the other rollers 12 to provide for a greater turn-around radius which additionally decreases the noise level of operation, and the power requirements.</p>

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		<p>***</p> <p>The rollers 25 are journaled by ball bearings 27 on a central shaft 26 secured to the frame structure or, in the embodiment shown, to the side wall of the housing 2. The step slats 4 are slightly shorter than the distance between the side walls of the housing 2 to provide for slight lateral clearance.</p> <p>***</p> <p>The frame arrangement with the position of the support members 19, 20 and 32 is clearly shown in FIG. 19, also the position of driving element 10 and support 20 rollers 12, 12a.</p> <p>***</p> <p>Movable surface apparatus for physical exercise 55 and training comprising an elongated essentially rectangular support frame having four corner regions...."</p> <p>'337 Patent at 4:1-32, 4:67-5:9, 5:36-52, 7:37-45, 8:10-15, 9:18-22, 13:55-58; <i>see also</i> Figures 2-12.</p> <p><u>Magid '489</u></p> <p>"In this embodiment, the support unit includes an elongate substrate plate 2 secured on a pair of side brackets 24 that extend upwardly from opposite longitudinal sides of the base 11, and endless left and right inner belts 3, 3' wound respectively on left and right sides of the substrate plate 2. The substrate plate 2 has a pair of upwardly extending flanges 25 which extend on opposite longitudinal edges thereof to limit lateral movement of the inner belts 3, 3' and the foot belts 4, 4'.</p> <p>***</p> <p>In the second preferred embodiment, each of the foot belt 4, 4' is wound circulatively on the respective one of the front rollers 41 and on the respective one of the rear rollers 42, and the support unit includes a plurality of adjacent parallel third shafts 27 between the front and rear rollers 41, 42. The third shafts 27 have axes which are parallel to the first and second shafts 411, 421, and two ends which are secured on a pair of side brackets 24' that extend upwardly from opposite longitudinal sides of the base 11. The support unit further includes a plurality of pairs of intermediate left and right rollers 26, 26'. Each of the pairs of intermediate left and right rollers 26, 26' is mounted rotatably on a respective one of the third shafts 27. A spacer 271 is provided on the central portion of each of the third shafts 26 to space apart the left and right rollers 26, 26' thereon. Each of the intermediate right rollers 26' contacts the right foot belt 4', while each of the intermediate left rollers 26 contacts the left foot belt 4. The rollers 26, 26' thus provide a supporting surface for the foot belts 4, 4'. When the user applies a moving weight, such as his left and right feet, on the left and right foot belts 4, 4' between the pair of front rollers 41 and the pair of rear rollers 42, the foot belts 4, 4' will drive frictionally the rollers 26, 26' and the rollers 41, 42. Each of the third shafts 27 further has two opposite end portions provided with a pair of retailers 27a to limit lateral movement of the intermediate left and right rollers 26, 26' thereon."</p> <p>'489 Patent at 4:64-5, 6:54-7:13; <i>see also</i> figures 2, 8 and other patent figures.</p>

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		<p><u>Abelbeck '514</u></p> <p>"Here an alternative support system is used that could just as easily been used on any or all of the previous disclosures, in which the deck member 22 receives the support member 36 that is rotateably secured here to the modified side frame 110, rather than the support member 36 being rotateably secured to the deck member 22, as previously disclosed.</p> <p style="text-align: center;">***</p> <p>The industry has adapted a minimally functional model for people to run on that has remained virtually unchanged for several decades. Traditional samples are seen in U.S. Pat. No. 5,542,892 to Buhler where a belt (14) is supported by a pad (46) which is supported by a flat and substantially rigid deck (48). The belt is an endless belt which is kept in tension by a front and rear drum pulley. A motor drives a pulley and the friction between the underside of the belt and the surface of the pulley allows the belt to move across the surface of the deck, which is the running surface. The pad assists in absorbing the impact of the user's foot on the running surface.</p> <p>The obvious problem is the friction between the belt and the deck or pad. As previously calculated, a great deal of pressure is generated between these surfaces. Not only does this predispose the belt to wear but the system must maintain enough kinetic energy to pull the user's foot over the deck without it slowing.</p> <p style="text-align: center;">***</p> <p>A sectioned view along line 2-2 is shown in FIG. 2. The bottom portion of the handle frame 26 identifies the front of the treadmill. In this embodiment, the deck members 22 are shown in greater detail in that they are pivotally mounted one to another by pivot tubes 34. Each deck member 22 is supported by a support member 36 which is here shown to be a wheel or ball bearing.</p> <p style="text-align: center;">***</p> <p>The elimination of sliding friction of a traditional deck and belt device to enhance the function, wear characteristics and the life of the product while also eliminating the costly drum pulleys, mechanism and associated frame support structure to drive a beltless conveyor system as disclosed herein, enables a cost efficient combination novel to the industry."</p> <p>Abelbeck '514 Patent at 10:48-54; 1:46-62; 6:42-48; 11:24-26; <i>see also</i> figures 12-13</p>
1.5	a second bearing rail having a plurality of bearings, the second bearing rail attached to a right side of the frame;	See element 1.4.
1.6	a running belt supported by the first bearing rail and the second bearing rail and disposed about the front shaft and the rear shaft, wherein the running belt follows a curved running surface; and	<p>See elements 1.2-1.5, including such disclosures regarding Cutter '279 Patent, Socwell '461 Patent, Tollkien '822 Patent, Schonenberger '337 Patent, Chickering '206 Patent, and Abelbeck '514 Patent. In addition, see the below disclosures:</p> <p><u>Chickering '206</u></p> <p>"An alternate form of the exercising device of the present invention is shown in FIG. 3, wherein a single endless belt 28 forms both the accelerating and decelerating areas. In the device shown in FIG.</p>

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		<p>3, a single series of rollers 29 are provided journaled in the sidewalls 22 of base 10. However, the rollers are so disposed that the forward rollers lie approximately in a plane slanting downwardly from the front of the base, while the rear rollers lie approximately in a plane slanting upward toward the rear of the base 10. Thus, when the endless belt 28 is placed about the rollers, it follows their contour and provides a forward accelerating area and a rear decelerating area which are inclined from the horizontal with each being lowest at their point of nearest proximity.</p> <p>***</p> <p>The relative inclinations of the first and second series of rollers 13 and 18, and consequently of the tread surfaces 16a and 25a, to each other and to the horizontal can be adjusted by means of the support pins in holes 17 and 24 and by means of the elevating jackscrews 11. In the operation of the exercising device, the first and second series of rollers 13 and 18, respectively, will be so disposed that the first tread surface 16a will provide an accelerating area inclined downwardly from the forward end of base 10, while the second tread surface 25a provides a decelerating area inclined upwardly toward the rear end of base 10. The upwardly sloping decelerating area offers enough resistance to the users foot to enable him to maintain his balance and position on the exercising device.</p> <p>***</p> <p>This disclosure relates to a new type of treadmill exercising device having a base, rollers carried by the base, and an endless belt disposed about the rollers to provide a tread surface. The tread surface inclines upward toward each end to provide a forward accelerating area and a rear decelerating area. This abstract is not to be construed in any way to define or limit the invention set forth below.</p> <p>***</p> <p>2. An exercising device according to claim 1, wherein said accelerating and decelerating areas are inclined from the horizontal each being lowest at their point of nearest proximity."</p> <p>Chickering '206 Patent at 2:73-3:10, 2:27-39, Abstract, Claim 2, see also figures 1 and 3</p> <p><u>Cutter '279</u></p> <p>"A pair of rigid side members support a series of rollers along a concave curve with a forward portion higher than the rear.</p> <p>***</p> <p>The inside face of each of the two side members 11 and 12 is provided with a series of journaling sockets 16, arranged along a concavely curving path that is highest at its forward end. Each socket 16 serves as journal for the stub shaft 17 of a roller 18. A slotted rearmost socket 19 supports the rearmost roller 20 of this series by its stub shafts 21, and springs 22 tend to pull the roller 20 toward the rear, i.e., toward the rod 13 to which the springs 22 are preferably anchored. Also, forward of all the rollers 18 and preferably somewhat lower is a pair of sockets 23 that rotatably support the stub shaft 24 of a roller 25.</p> <p>***</p> <p>I have found that by arranging a series of rollers along a concavely curved path, and then supporting the belt directly on them, there is neither a wallowing action, nor is there a set angle of inclination; instead there is a concave path tending upward toward the upper end, with each point along the path</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>at a slightly different angle. In my new structure the user, whether walking, running, or jogging, tends to achieve almost at once a natural balance in position at the proper instantaneous angle along the curve. Therefore his position fore-and-aft of the device, his presently current weight, and his actual speed of movement are automatically reconciled to each other. This automatic adjustment is a very important feature of this invention. No additional adjustment need be made to regulate this position, no motor need be used, and once the user has achieved a measure of practice and accustomed himself to the operation of the device, he does not need any handle or harness to be perfectly safe on the exerciser.</p> <p style="text-align: center;">***</p> <p>The inside face of each of the two side members 11 and 12 is provided with a series of journaling sockets 16, arranged along a concavely curving path that is highest at its forward end. Each socket 16 serves as journal for the stub shaft 17 of a roller 18. A slotted rearmost socket 19 supports the rearmost roller 20 of this series by its stub shafts 21, and springs 22 tend to pull the roller 20 toward the rear, i.e., toward the rod 13 to which the springs 22 are preferably anchored. Also, forward of all the rollers 18 and preferably somewhat lower is a pair of sockets 23 that rotatably support the stub shaft 24 of a roller 25."</p> <p>'279 Patent at Abstract, 1:54-70, 3:1-11; see also Figures 1-6.</p> <p><u>Socwell '461</u></p> <p>"As shown, the curved deck treadmill 10 comprises a support frame 12 having a first side 20 and a second opposing side 22 and having a deck 56 supportably disposed therebetween. ... Further, a roller assembly 14 is provided preferably comprising a first and second roller 78, 86. The first roller 78 may be rotatably disposed contiguous the first end 58 of the deck 56 between the first side 20 and the second opposing side 22 of the support frame 12. Correspondingly similar in construction and design, a second roller 86 is preferably disposed contiguous the second end 60 of the deck 56 between the first and second sides 20, 22 of the support frame 12. In preferred operation, a belt 16 is rotatably mounted in relation to the roller assembly 14 and operatively disposed in relation to the deck 56, whereby providing a structurally supported arcuate shaped, movable surface on which a user may exercise.</p> <p style="text-align: center;">***</p> <p>As shown in FIGS. 1 and 3, the first side 20 of the support frame 12 includes a first end 24 and a second opposing end 26. The first and second ends 24, 26 of the first side 20 are preferably disposed in corresponding relation to the first and second ends 58, 60 of the deck 56. As best illustrated in FIGS. 2 and 4, a first journal housing 28 may be formed substantially adjacent the first end 24 of the first side 20 of the support frame 12. Preferably, the first journal housing 28 is formed having an opening readily adapted to receive at least one journaling end (not shown) of the first roller 78. Similarly, a second journal housing 34 may be formed substantially adjacent the second end 26 of the first side 20 of the support frame 12 and include an opening readily adapted to receive at least one journaling end (not shown) of the second roller 86.</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>In preferred design, the journal housings 28, 34 formed at the first and second ends 24, 26 of the first side 20 of the support frame 12, respectively, may be formed having an opening which provides a means for facilitating the introduction of the journaling ends of the respective first and second rollers 78, 86</p> <p style="text-align: center;">***</p> <p>In accordance with one presently preferred embodiment of the present invention, the journal housings 28, 34, 36 formed in the first side 20 of the support frame 12 may be disposed in operative alignment with the journal housings formed in the second side 22 of the support frame 12. This arrangement of the journal housings 28, 34, 36 in both the first and second sides 20, 22 of the support frame 12 preferably provides for the introduction and retention of the journaling ends of the corresponding rollers 78, 86, 88, thereby facilitating a means for rotating the rollers on a substantially fixed axis.</p> <p>Although the journal housings 28, 34, 36 of the first and second sides 20, 22 of the support frame 12 preferably receive the journaling ends of the respective rollers 78, 86, 88, it will be apparent to those skilled in the art that other mechanisms may be constructed and/or numerous other relative dispositions of the respective rollers may be anticipated in accordance with the inventive principles disclosed herein in order to achieve the desired results of the present invention.</p> <p style="text-align: center;">***</p> <p>Referring now to FIG. 5, the curved deck treadmill 10 may include one or more belt securing assemblies 94 which provide a means for retaining the endless belt 16 in a curvilinear configuration being substantially flush with the upper surface 66 of the deck 56. Preferably, the belt securing assemblies 94 provide a means for substantially conforming the inherent flexible nature of the belt 16 to the arcuate configuration of the intermediate portion 62 of the deck 56. In design, one or more belt securing assemblies 94 may be disposed in spaced-apart relation along the upper surface 66 of the intermediate portion 62 of the deck 56, as shown in FIG. 2, to sufficiently retain the belt 16 in operable disposition to the deck 56.</p> <p>In one presently preferred embodiment of the present invention, the belt securing assembly 94 comprises a roller 98 having an axle 100 which rotatably engages a mounting bracket 96. The mounting bracket 96 is preferably disposed in relation to the roller 98 such that the roller 98 may engage the belt 16, thereby substantially retaining a side portion of the belt 16 substantially flush with the deck 56. In preferred operation, as the belt 16 rotates in relation to the roller assembly 14, the rollers 98 of the belt securing assembly 94 preferably rotate in relation thereto. It will be apparent that other belt securing mechanisms may be constructed in accordance with the inventive principles set forth herein</p> <p>FIG. 6 illustrates another preferred embodiment of the present invention wherein those components that are the same as or similar to those employed in the embodiment of the present invention shown in FIGS. 1-5 are designated with the same part numbers."</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>Socwell '461 Patent at 5:22-26; 5:33-45; 6:23-43; 7:8-27; 10:5-28; 13:54-58; <i>see also</i> 16:26-52; figures 2-7 and other referenced figures.</p> <p><u>Tolkien '822</u></p> <p>"Each roller 2 is coated with rubber 8, thus increasing the frictional adhesion between the belt 12 and the rollers 2 and protecting the roller where the rivet comes in contact therewith. The tension is released on the outer surface of each roller and in the lower area of the belt, facing away from the running surface, such that the belt can travel over the rollers without any notable resistance. Because the spacing between adjacent cross members is very small, and the strips also expand, no space is indicated in the illustration between the cross members in the section of the belt that is currently underneath. The runners 14 placed underneath the running surface prevent the belt from bouncing when in use.</p> <p style="text-align: center;">***</p> <p>Fig. 1 shows a side view of part of a treadmill without a motor. In order to show details clearly, only one third of the belt is shown. The other side is mirror-symmetrical, the middle is an analogous extension of the arc. The running surface is formed by cross members 10 that are transverse to the direction of movement, which are attached with rivets 6 to a continuous belt 12. A resilient plastic strip 4 is attached to one long side of each cross member 10 running transverse to the direction of movement, such that – as can be readily seen in Fig. 1 – two cross members 10 never come in direct contact with one another, but instead are always separated in a cushioning manner by the plastic strip 4. The tension and consequently the shape of the running surface is obtained in the exemplary embodiment by the interactions of the cross members 10, the elastic strips 4 between them, the connections of the cross sections to the belt (by means of rivets 6 in the exemplary embodiment), and the belt itself."</p> <p>'882 Patent at ¶¶18, 20; <i>see also</i> Figure 1.</p> <p><u>Schonenberger '337</u></p> <p>"At either end of the apparatus (see FIGS. 3 and 12), and within the housing 2 are located rotatable drums, rollers, sheaves, sprockets, or the like, about which the surface 1, which is an endless loop, is placed. The rotatable elements, preferably in the form of two operating drums or rollers 10, are suitably journaled in the frame as seen at 50, FIG. 3. If two sheaves or pulleys are provided at either end of the apparatus, one will be located at either side thereof, suitably journaled and, connected by a transverse shaft 26 (FIG. 8). The rollers or sheaves 10 have a toothed or ribbed circumference. Two endless gear belts 5 (FIGS. 3, 4), one each located at a respective side of the apparatus, and both having internally projecting teeth 7 (FIG. 4), are engaged with the circumference of the ribbed or toothed rollers 10, thus ensuring slipless, positive common drive of both of the toothed belts 5 in the operating direction and preventing lateral dislocation of the endless loop as shown by Arrow A in FIG. 2.</p> <p style="text-align: center;">***</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>Support rollers 12 are provided to prevent bending-through of the belts 5 upon loading of the steps by a person. A support belt 13 is positioned between the upper sides of the support rollers 12 and the lower side of the slats 4. The slats 4, therefore, are supported at their marginal ends by the support rollers 12 with the support belt 13 interposed. Except for the motor 33 and the drive belt 34 thereof, the apparatus is essentially symmetrical with respect to its longitudinal extent and, therefore, the system of belt 5, rollers 12 and support belt 13 is duplicated at the other side.</p> <p>***</p> <p>The support rollers 12, 12' are journaled to rotate about screws or bolts 21 (FIG. 5). The bolts 21 are held in U-channels 20 (FIG. 7). The U-channels 20 are carried, in turn, by transversely located angle irons, T-rails, or channel rails, or other suitable structural members, seen generally at 32 (FIG. 7) and supported, for example, on, or forming part of the frame members 36, 37 (FIG. 2), or otherwise suitably secured to the frame members and housing 2 of the apparatus. The connection between the U-channels 20 and the rails 32, preferably, is by screws 28, although any other suitable connection may be used such as welding. The support rollers 12, 12' are journaled by means of low-friction bearings, for example needle bearings or ball bearings (FIG. 5) although sleeve bearings operating with low friction with respect to bolt 21 may also be used.</p> <p>***</p> <p>The path of the support belts 13, 13' need not be entirely flat and parallel to that of the surface 1. FIG. 12 illustrates, for example, that the terminal rollers 12a are positioned slightly lower than the remaining rollers 12, of which only a few are shown for illustration. <u>The terminal or end rollers 12a may also be slightly larger than the other rollers 12</u> to provide for a greater turn-around radius which additionally decreases the noise level of operation, and the power requirements.</p> <p>***</p> <p>The rollers 25 are journaled by ball bearings 27 on a central shaft 26 secured to the frame structure or, in the embodiment shown, to the side wall of the housing 2. The step slats 4 are slightly shorter than the distance between the side walls of the housing 2 to provide for slight lateral clearance.</p> <p>This invention allows a runner to use the apparatus in a 5% elevation position without any external motor power.</p> <p>***</p> <p>One of the drums 10 is driven by motor 33, <u>or by gravity of earth</u> or by any other suitable motive drive apparatus by means of a drive belt 34 (FIGS. 2, 3), preferably with interposition of a step-down gearing.</p> <p>***</p> <p>The toothed belts 5 (FIG. 4) have a group of step slats 4 secured thereto by means of rivets 9, so that the belts connect the slats 4 to form the endless surface 1."</p> <p>'337 Patent at 4:14-32, 4:67-5:9, 5:36-52, 7:37-45, 8:10-15, 6:16-18, 4:34-37, 4:38-41; see also Figures 2-12. (Emphasis added)</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p><u>Abelbeck '514</u></p> <p>"Referring to the drawings, FIG. 1 shows an isometric view of the preferred embodiment of the invention as it would be used as a treadmill 20. The treadmill deck is comprised of a plurality of individual deck members 22 together making a continuous segmented track 23 which is used as the running surface of the treadmill.</p> <p style="text-align: center;">***</p> <p>Here an alternative support system is used that could just as easily been used on any or all of the previous disclosures, in which the deck member 22 receives the support member 36 that is rotatably secured here to the modified side frame 110, rather than the support member 36 being rotatably secured to the deck member 22, as previously disclosed."</p> <p>'514 Patent at 6:26-31; 10:48-54; <i>see also</i> figures 1, 12.</p> <p>The commercial treadmill as described in the Loko Owners Manual also discloses at least a running belt supported by the first bearing rail and the second bearing rail and disposed about the front shaft and the rear shaft (see elements 1.2 and 1.4).</p>
1.7	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.	<p>This limitation is taught and/or suggested by any one of Magid'489 Patent; UK Patent No. GB 2 223 685 A to Chen ("Chen '685 Patent"); JP Patent No. JP3148743U; U.S. Patent No. 5,411,455 to Haber ("Haber '455 Patent"), Socwell '461, and/or Sclater. For example, see below:</p> <p><u>Magid '489</u></p> <p>"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 unidirectional rotation of the front rollers 451, 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."</p> <p>'489 Patent at Col. 4:46-60; <i>see also</i> figures 2, 5.</p> <p><u>Chen '685</u></p> <p>"Belt transmission assembly 100 includes a first belt wheel 101 secured to following shaft 75, a second belt wheel 110 fixed to shaft 13 and a belt 115 mounted on and between belt wheels 101, 110. First belt wheel 101 includes as shown in Figs. 6 & 7 an inner wheel 102 secured to following shaft 75 and having a plurality of cut peripheral portions 103, a plurality of pawls 104 respectively mounted on peripheral portions 103, a plurality of springs 105 respectively mounted between portions 103 and pawls 104 for respectively urging outwardly pawls 104, and an outer wheel 106 which is uni-</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p>directionally rotatably mounted on inner wheel 102 by means of two bearings 107 and an internal sawtoothed surface 108 provided therein engagable with pawls 104 and includes an annular peripheral groove 109 for engaging therein a segment of belt 115 in order to thus form a free coupling function between belt wheel 101 and following shaft 75. Thus, a clockwise rotation of following shaft 75 will carry outer wheel 106 to rotate therewith and following shaft 75 will permit outer wheel 106 to clockwise rotate faster than inner wheel 102.</p> <p>Following wheel 80 includes a fixed half 81, and a movable half 82 being loaded thereon with a spring 84 positioned by a Positioner 83 retained on following shaft 75 by a retaining ring 831, wherein halves 81, 82 are slidably but non-rotatably secured to following shaft 75 by a key 85 and a keyway 86 provided therebetween and thus form therebetween a corresponding annular groove having a variable clearance width."</p> <p>'685 Patent at 7:17-8:6, 6:7-14; <i>see also</i> figures.</p> <p><u>JP 3148743</u></p> <p>"As shown in Figure 6, when the motivity member 50 is energized, the motivity member 50 drives pulley 52, belt 54, pulley 53, and shaft 21 in the front-roller assembly 20; and, in the direction of that rotation, the one-way rotatable bearing 22 can rotate the front roller 23, thereby causing the jogging belt 40 to be driven by the front roller 23. Hence, the present design can be used as a jogging-type health apparatus.</p> <p>As shown in Figure 7, when the user jogs on the jogging belt 40 in the state in which the motivity member 50 is not energized, the direction of the jogging belt 40's rotation matches the direction of the one-way rotatable bearing 22's rotation; thus, the shaft 21 is not driven by the motivity, nor is the braking force by the motivity member 50 is applied to the jogging belt 40. Hence, the present design can be used as rehabilitation equipment."</p> <p>JP3148743U at ¶¶ 13-14; <i>see also</i> figures.</p> <p><u>Haber '455</u></p> <p>"A user propelled manual treadmill having a one-way clutch that has clutch bearings seated with in pockets. The one-way clutch is located within a tread supporting drum at the front."</p> <p>"18. The treadmill recited in claim 17, wherein said rotatable clutch is a one way clutch that is coupled to said hollow drum to rotate said drum only when said clutch is rotated by said shaft in one particular direction."</p> <p>'455 Patent at 1:59-61, Claim 18, <i>see also</i> 3:17-4:52 and Figs. 3-5.</p>

Claim Chart for Woodway US Patent No. 9,039,580		
	Claims	Prior Art
		<p><u>Socwell '461</u></p> <p>"In addition, if sufficient frictional resistance is not found in relation to the rotation of the free-moving rollers rotatably engaging the belt, a user attempting to exercise on the treadmill may suffer from injuries sustained as a result of an uncontrolled rotation of the anti-friction rollers engaging the belt. In particular, if the rollers supportably disposed in relation to the endless belt are so easily moveable, the user may potentially lose his equilibrium or balance and fall from the exercise treadmill resulting in possible injuries.</p> <p>In an attempt to reduce the potential dangers associated with falling from prior art exercise treadmills comprising anti-frictional, free-moving rollers, those skilled in the art developed rollers providing frictional resistance in relation to the inherent rotation of the rollers and the belt.</p> <p>***</p> <p>In one presently preferred embodiment of the present invention, the belt securing assembly 94 comprises a roller 98 having an axle 100 which rotatably engages a mounting bracket 96. The mounting bracket 96 is preferably disposed in relation to the roller 98 such that the roller 98 may engage the belt 16, thereby substantially retaining a side portion of the belt 16 substantially flush with the deck 56. In preferred operation, as the belt 16 rotates in relation to the roller assembly 14, the rollers 98 of the belt securing assembly 94 preferably rotate in relation thereto. It will be apparent that other belt securing mechanisms may be constructed in accordance with the inventive principles set forth herein. Correspondingly, those skilled in the art may recognize other possible modifications and/or adaptations which are consistent with the spirit and scope of the present invention."</p> <p>'461 Patent, 1:28-41; 10:17-31; <i>see also</i> Figs. 2-9.</p> <p>This limitation is also taught by Sclater et al. Mechanisms and Mechanical Devices Sourcebook 3rd Edition, McGraw-Hill (2001) ("Sclater")</p> <p><u>Sclater</u></p> <p>"Sprags combined with cylindrical rollers in a bearing assembly can provide a simple, low-cost method for meeting the torque and bearing requirements of most machine applications. Designed and built by Est. Nicot of Paris, this unit gives one-direction only torque transmission in an overrunning clutch. In addition, it also serves as a roller bearing.</p> <p>***</p> <p>Races are concentric; a locking ramp is provided by the sprag profile, which is composed of two nonconcentric curves of different radius. A spring-loaded pin holds the sprag in the locked position until the torque is applied in the running direction. A stock roller bearing cannot be converted because the hard-steel races of the bearing are too brittle to handle the locking impact of the sprag. The sprags and rollers can be mixed to give any desired torque value.</p>

<u>Claim Chart for Woodway US Patent No. 9,039,580</u>		
	Claims	Prior Art
		<p>***</p> <p>Fig. 1 Precision sprags act as wedges and are made of hardened alloy steel. In the formsprag clutch, torque is transmitted from one race to another by the wedging action of sprags between the races in one direction; in the other direction the clutch freewheels.</p> <p>***</p> <p>Fig. 4 With cylindrical inner and outer races, sprags can transmit torque. Energizing springs serve as a cage to hold the sprags. (A) Compared to rollers, the shape of a sprag permits a greater number within a limited space; thus higher torque loads are possible. Special cam surfaces are not required, so this version can be installed inside gear or wheel hubs. (B) Rolling action wedges the sprags tightly between the driving and driven members. A relatively large wedging angle ensures positive engagement.”</p> <p>Sclater at 312-318.</p>
2	The manually powered treadmill of claim 1, wherein the frame includes at least one cross-member, a left side member, and a right side member; and wherein the at least one cross-member extends between the left side member and the right side member.	See element 1.1.
3	The manually powered treadmill of claim 2, wherein each one of the first and second bearing rails are coupled to at least one of the at least one cross-member.	See element 1.1.
5	The manually powered treadmill of claim 1, wherein each one of the first bearing rail and the second bearing rail define in part a top profile corresponding to the curved running surface.	See claim elements 1.4-1.6.
6	The manually powered treadmill of claim 1, wherein the safety device includes a one-way bearing.	See element 1.7.
10	The manually powered treadmill of claim 1, further comprising a handrail attached to the frame and structured to provide a support structure for the user of the manually powered treadmill.	<p>This limitation is taught by any one of Socwell '461, Cutter '279, Schonenberger '337, Majid '489t, the commercial treadmill as described in the Woodway Loko Manual, or Chickering '206. For example, see below:</p> <p><u>Socwell '461</u></p> <p>“Referring now to FIGS. 1, 2 and 3, a crossbar 130 may be preferably formed having a generally U-shaped configuration and may be disposed in affixed relation to the first and second sides by means of conventional fasteners.”</p> <p>'461 Patent at 11:62-66; <i>see also</i> fig. 1.</p>

<u>Claim Chart for Woodway US Patent No. 9,039,580</u>		
	Claims	Prior Art
		<p><u>Cutter '279</u></p> <p>"The handle 33 may comprise a generally U-shaped member having two parallel side rods 34 and 35 and a horizontal cross member 36. The length of the side rods 34 and 35 is such that when the handle 33 is at its normal unused position, the cross member 36 lies to the rear of the belt .30 and the roller 20. A threaded rod 37 extends through the rigid side members 11 and 12, and the handle 33 is pivoted on it and held there by nuts 38. A concave recess 39 in each of the side frame members 11, 12 enables seating of the side rods 34 and 35 when they are erected, and the nuts 38 then hold the handle 33 firmly in its erected position, whenever that is desired. No such expedient is needed when the handle 33 is in its inactive position, of course."</p> <p>Cutter '279 at 4:28-41; <i>see also</i> figures 1-8.</p> <p><u>Schonenberger '337</u></p> <p>"The apparatus is enclosed in a housing 2 to which also support bars 3 are secured."</p> <p>'337 Patent , 4:5-6, <i>see also</i> Fig. 1</p> <p><u>Majid '489</u></p> <p>'489 Patent, 5:45-52; <i>see also</i> Fig. 2</p> <p><u>Commercial Treadmill as Described in Woodway Loko Manual</u></p> <p>Woodway Loko Manual, cover photo.</p> <p><u>Chickering '206</u></p> <p>"While the exercising device is usable without external supports such as handles, railings and the like, such supports may be provided, if desired, without departing from the spirit of the invention."</p> <p>The '206 Patent at 3:38-41; <i>see also</i> figures.</p>
25.1	A method, comprising: providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and rear end;	See elements 1.0 and 1.1
25.2	providing a first bearing rail and a second bearing rail, the first and second bearing rails each comprising a plurality of bearings and extending longitudinally on the frame,	See elements 1.4 through 1.6

<u>Claim Chart for Woodway US Patent No. 10,561,884</u>		
	Claims	Prior Art
30	A manually powered treadmill comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
30.1	a frame having a front end and a rear end positioned opposite the front end	See disclosures in invalidity claim chart for 9,039,580 - e.g., element 1.1
30.2	a front shaft coupled to the frame proximate the front end;	See disclosures in invalidity claim chart for 9,039,580 - e.g., element 1.2
30.3	a rear shaft coupled to the frame proximate the rear end;	See disclosures in invalidity claim chart for 9,039,580 - e.g., element 1.3
30.4	a plurality of bearings coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 - e.g., elements 1.4 & 1.5
30.5	a running belt at least partially supported by the plurality of bearings, wherein the running belt comprises a curved running surface; and	See disclosures in invalidity claim chart for 9,039,580 - e.g., element 1.6
30.6	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;	See disclosures in invalidity claim chart for 9,039,580 - e.g., element 1.7 and 6
30.7	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.	See disclosures in invalidity claim chart for 9,039,580 - e.g., element 1.7 and 6

Claim Chart for Woodway US Patent No. 10,561,884		
	Claims	Prior Art
31	The manually powered treadmill of claim 30, 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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.4, 1.5, 2
32	The manually powered treadmill of claim 31, 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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.6, 5
33	The manually powered treadmill of claim 30, wherein the first and second rotatable elements of the safety device at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.7, 6
34	The manually powered treadmill of claim 30, 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.	<p>This limitation is taught by any one of the Socwell '461 Patent, the Chen '685 Patent, the Tolkien '822 Patent, the Chickering '206 Patent, or the commercial treadmill as described in the Loko Owners Manual.</p> <p><u>Socwell '461</u></p> <p>The force absorbing member 40 may also include a means for stabilizing the curved deck treadmill 10 at an elevated position So as to provide a means for inclining the front end 24 of the Support frame 12 for increasing user workout. In this regard, the force absorbing member 40 may comprise a gas or oil filled shock or, in the alternative, an electric gear motor having a locking shaft which elevates the front end 24 of the support frame 12. It will be apparent that other mechanisms may be constructed in accordance with the inventive principles Set forth herein. It is intended, therefore, that the example provided herein be viewed as exemplary of the principles of the present invention, and not as restrictive to a particular structure for implementing those principles.</p> <p>'461 Patent, 9:43-56; <i>see also</i> patent figures.</p> <p><u>Chen GB 2 223 685</u></p> <p>Elevator 120 includes two spaced upright legs having two rack portions 126, two housings 125 respectively housing therein spaced legs and secured to machine frame 10, a shaft 121 fixing thereto</p>

Claim Chart for Woodway US Patent No. 10,561,884		
	Claims	Prior Art
		<p>a middle worm gear 123 and two opposite end gears 122 rotatably connected respectively to housings 125 and respectively meshing with rack portions 128, a worm 124 fixing thereon a sprocket and mounting thereon a sprocket, and a chain 128 mounted on and between the sprockets of worm 124 and motor 127.</p> <p>GB 2 223 685 – Page 8:14-23; <i>see also</i> Figs. 8, 10, 11</p> <p><u>Tolkien DE 1992 2822</u></p> <p>The treadmill is driven either by a motor or by the user and can be adjusted generally within certain angle of inclination.</p> <p>DE 1992 2822 – Para. [002]</p> <p><u>Chickering '206</u></p> <p>"The preferred form of the exercising device as shown in FIGS. 1 and 2 has a base 10 which comprises an inclined rectangular frame having two sidewalls 22 and two end walls 23. The base may be of any suitable material such as wood or metal. Jackscrews 11 are provided at the forward corners of base 10 for adjusting its angle of inclination. Leveling buttons 12 may be used on the rear corners to keep the base steady."</p> <p>'206 Patent at 1:65-71, <i>see also</i> figures 1-3.</p> <p><u>Commercial Treadmill as Described in Loko Owners Manual</u></p> <p>"The treadmills in the LOKO S 55 series are fitted with a lifting mechanism consisting of a threaded spindle and pinion, with a maximum incline angle of 0 %. The lifting system is started by a DC gear motor, with the drive power being transferred to a set of pinions by a chain and chain wheel. These pinions raise and lower the treadmill by means of the threaded spindle, are fitted with rubber feet, and absorb a large proportion of the weight of the treadmill and the body weight of the running during an incline run."</p> <p>Loko -Page 25 & cover photo</p>
37	A manually powered treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1 & 1.4
37.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1

<u>Claim Chart for Woodway US Patent No. 10,561,884</u>		
	Claims	Prior Art
37.2	a first plurality of bearings coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4
37.3	a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.5
37.4	a front shaft assembly coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2
37.5	a rear shaft assembly coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.3
37.6	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	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6
37.7	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;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
37.8	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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6

<u>Claim Chart for Woodway US Patent No. 10,561,884</u>		
	Claims	Prior Art
38	The manually powered treadmill of claim 37, wherein the first and second rotatable elements of the safety device at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
39	The manually powered treadmill of claim 37, wherein the front shaft assembly comprises a front shaft coupled to frame.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2

40	The manually powered treadmill of claim 39, wherein the front shaft assembly comprises at least one front running belt pulley coupled to the front shaft.	<p>See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2. See also the additional disclosures of the Cutter '279 Patent, the Schonenberger Patent, the Socwell '461 Patent, U.S. 6,923,746 to Skowronski ("the Skowronski '746 Patent") or the commercial treadmill as described in the Loko Owners Manual. For example, see below:</p> <p><u>Skowronski '746</u></p> <p>"Exercise treadmills typically have an endless running surface which is extended between and movable around two substantially parallel pulleys at each end of the treadmill. The running surface may be comprised of a belt of a rubber-like material or alternatively, the running surface may be comprised of a number of slats positioned substantially parallel to one another attached to one or more bands which are extended around the pulleys. In either case, the belt or band is relatively thin. . . .</p> <p>The belt is typically Supported along at least its upper length between the pulleys by one of several well-known designs in order to Support the weight of the user. For example. rollers may be positioned directly below the belt to Support the weight of the user.</p> <p style="text-align: center;">***</p> <p>A front belt pulley 22 is rotatably mounted on a first axle 24. A Second, rear belt pulley 28 is rotatably supported on a second axle 30 which is in turn secured to the frame portions 26 and 26' within the frame portions 12 and 12" by fasteners 31 and 31', respectively. . . . The rear belt pulley 28 is positioned substantially parallel to the front pulley 22. The belt 20 is looped around pulleys 22 and 28 for movement there around, to form an upper run or length and a lower run or length of the belt.</p> <p>The front pulley 22 and rear belt pulley 28 can be of any type of construction. . . .</p> <p style="text-align: center;">***</p> <p>Pulleys 22 and 28 are also preferably of a molded plastic construction. Suitable materials from which pulleys 22 and 28 can be molded include glass-filled polypropylene, polystyrene, polycarbonate, polyurethane and polyester.</p> <p>1:31-39; 1:44-48; 6:48-52; 7:49-53; <i>see also</i> patent figures.</p> <p><u>Cutter '279</u></p> <p>The inside face of each of the two side members 11 and 12 is provided with a series of journaling sockets 16, arranged along a concavely curving path that is highest at its forward end. Each socket 16 serves as journal for the stub shaft 17 of a roller 18. A slotted rearmost socket 19 supports the rearmost roller 20 of this series by its stub shafts 21, and springs 22 tend to pull the roller 20 toward the rear, i.e., toward the rod 13 to which the springs 22 are preferably anchored. Also, forward of all the rollers 18 and preferably somewhat lower is a pair of sockets 23 that rotatably support the stub shaft 24 of a roller 25.</p> <p style="text-align: center;">***</p> <p>Being inboard, the flywheels 26 and 27 can be directly attached to the belt pulley or roller 25 and are not required to be dependent upon a set screw attached to a shaft.</p> <p style="text-align: center;">* * *</p>
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		<p>A continuous belt 30 extends around the rollers 18, 20 and 25 and is supported by and trained on them.</p> <p>Cutter '279 Patent at 3:1-34; <i>see also</i> figures 1-6.</p> <p><u>Schonenberger '337</u></p> <p>"At either end of the apparatus (see FIGS. 3 and 12), and within the housing 2 are located rotatable drums, rollers, sheaves, sprockets, or the like, about which the surface 1, which is an endless loop, is placed. The rotatable elements, preferably in the form of two operating drums or rollers 10, are suitably journaled in the frame as seen at 50, FIG. 3. If two sheaves or pulleys are provided at either end of the apparatus, one will be located at either side thereof, suitably journaled and, connected by a transverse shaft 26 (FIG. 8). The rollers or sheaves 10 have a toothed or ribbed circumference. Two endless gear belts 5 (FIGS. 3, 4), one each located at a respective side of the apparatus, and both having internally projecting teeth 7 (FIG. 4), are engaged with the circumference of the ribbed or toothed rollers 10, thus ensuring slipless, positive common drive of both of the toothed belts 5 in the operating direction and preventing lateral dislocation of the endless loop as shown by Arrow A in FIG. 2. The toothed belts 5 are flexible and are made of rubber, or suitable flexible plastic material. One of the drums 10 is driven by motor 33, or by gravity of earth or by any other suitable motive drive apparatus by means of a drive belt 34 (FIGS. 2, 3), preferably with interposition of a step-down gearing."</p> <p>Schonenberger '337 Patent at 4:14-37; <i>see also</i> patent figures.</p> <p><u>Socwell '461</u></p> <p>"Further, a roller assembly 14 is provided preferably comprising a first and second roller 78, 86. The first roller 78 may be rotatably disposed contiguous the first end 58 of the deck 56 between the first side 20 and the second opposing side 22 of the support frame 12. Correspondingly similar in construction and design, a second roller 86 is preferably disposed contiguous the second end 60 of the deck 56 between the first and second sides 20, 22 of the support frame 12. In preferred operation, a belt 16 is rotatably mounted in relation to the roller assembly 14 and operatively disposed in relation to the deck 56, whereby providing a structurally supported arcuate shaped, movable surface on which a user may exercise.</p> <p style="text-align: center;">***</p> <p>Preferably, the support frame 12 may be formed having a first side 20 being disposed substantially parallel a second opposing side 22, whereby providing a generally longitudinal alignment therebetween. In one presently preferred embodiment of the present invention, because the first side 20 and the second side 22 of the support frame 12 are relatively constructed having a substantially comparable structure and configuration, only the first side 20 will be operatively disclosed in detail herein. Whereas, any structural variation(s) which exist between the first side 20 and the second opposing side 22 will be further disclosed, whereby noting such variation(s). As shown in FIGS. 1 and 3, the first side 20 of the support frame 12 includes a first end 24 and a second opposing end 26. The first and second ends 24, 26 of the first side 20 are preferably disposed in corresponding relation to the first and second ends 58, 60 of the deck 56. As best illustrated in FIGS. 2 and 4, a first journal housing 28 may be formed substantially adjacent the first</p>
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	<p>end 24 of the first side 20 of the support frame 12. Preferably, the first journal housing 28 is formed having an opening readily adapted to receive at least one journaling end (not shown) of the first roller 78. Similarly, a second journal housing 34 may be formed substantially adjacent the second end 26 of the first side 20 of the support frame 12 and include an opening readily adapted to receive at least one journaling end (not shown) of the second roller 86.</p> <p>In preferred design, the journal housings 28, 34 formed at the first and second ends 24, 26 of the first side 20 of the support frame 12, respectively, may be formed having an opening which provides a means for facilitating the introduction of the journaling ends of the respective first and second rollers 78, 86.</p> <p style="text-align: center;">***</p> <p>"In preferred arrangement, a pulley 80 is disposably mounted to the first roller 78 at the first end 24 of the support frame 12. In operation, a pulley belt 82 may be engageably disposed between the pulley 80 and the motor 84 to provide a means for correspondingly rotating the first roller 78 upon the forced rotation of the pulley belt 82 by the motor 84."</p> <p>'461 Patent, 11:38-45, <i>see also</i> figures 1-7.</p> <p>Skowronski '746</p> <p>"A drive assembly for the belt 20 is generally illustrated in the Figures, and more particularly in FIGS. 2B, 3B and 3C. A front belt pulley 22 is rotatably mounted on a first axle 24. A second, rear belt pulley 28 is rotatably supported on a second axle 30 which is in turn secured to the frame portions 26 and 26' within the frame portions 12 and 12' by fasteners 31 and 31', respectively."</p> <p>'746 Patent, 6:46-52, <i>see also</i> figure 2A</p> <p><u>Chickering '206</u></p> <p>"A first series of transverse parallel rollers 13 have their ends 15 journaled in arms 14. An endless belt 16 of some suitable material such as rubber or heavy cloth, is disposed about the series of rollers 13 to provide a first tread surface 16a.</p> <p>A second series of transverse parallel rollers 18 have their ends journaled in arms 19. An endless belt 25 is disposed about the series of rollers 18 to provide a second tread surface 25a adjacent the first tread surface.</p> <p style="text-align: center;">***</p> <p>In the device shown in FIG. 3, a single series of rollers 29 are provided journaled in the sidewalls 22 of base 10. However, the rollers are so disposed that the forward rollers lie approximately in a plane slanting downwardly from the front of the base, while the rear rollers lie approximately in a plane slanting upward toward the rear of the base 10."</p> <p>Chickering '206 Patent at 2:14-21; 2:75-3:6; <i>see also</i> figures 1-3.</p> <p><u>Commercial Treadmill as Described in Loko Owners Manual</u></p> <p>"The patented running surface consists of 60 individual slats fitted on a set of continuous</p>
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Claim Chart for Woodway US Patent No. 10,561,884		
	Claims	Prior Art
		<p>toothed belts. The toothed belts engage the front crown wheel and this in turn engages the drive motor. This makes it completely impossible for the treadmill to slip.</p> <p>***</p> <p>The transport system consists of two support rails, a steel wire reinforced continuous belt and 178 mm Ø. The support rails, with 112 ball bearings, reinforce the running surface and substantially reduce wear and friction.</p> <p>The two lateral continuous belts have several key functions: they hold the slats together, transfer output to and from the motor to the runner and reduce the running surface from slipping out to the left or right.</p> <p>The two support rails consist of three main components: the support rail, individual ball bearings and mounted roller guides. The smooth area of the lateral belts runs over the ball bearings and roller guides.</p> <p>The support rails also accommodate all ball bearings and roller guides and distribute local load evenly across the whole running surface.</p> <p>The ten roller guides support the running surface and prevent it from slipping out to the left or right.</p> <p>The 56 individual bearings on each side also make an important contribution to even distribution of load across the whole running surface.</p> <p>The deflection rollers transfer the load to and from the motor and prevent the running surface from slipping. The front deflection roller is equipped with an additional crown gear used by the motor. All deflection rollers are equipped with heavy-duty bearings which also reduce friction.</p> <p>This unique transport system provides extremely low friction and can even be used without an external drive, simply by pushing the treadmill to get it started."</p> <p>Loko -Page 10 & cover photo.</p>
	The manually powered treadmill of claim 37, wherein the rear shaft assembly comprises a rear shaft coupled to the frame.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.3

<u>Claim Chart for Woodway US Patent No. 10,561,884</u>		
	Claims	Prior Art
42	The manually powered treadmill of claim 41, wherein the rear shaft assembly comprises at least one rear running belt pulley coupled to the rear shaft.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.3 – and for element 40 above.
43	The manually powered treadmill of claim 37, 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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2, & 1.3 – and for element 40 above.
44	The manually powered treadmill of claim 43, 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.	<p>This limitation is taught by the Skowronski '746 Patent. For example, see below:</p> <p><u>Skowronski '746</u></p> <p>"To improve tracking, an exercise treadmill is provided with a frame including molded plastic pulleys, having an integral gear belt sprocket, an endless belt extending around the pulleys and a motor operatively connected to the rear pulley to drive the belt."</p> <p style="text-align: center;">***</p> <p>"Pulleys 22 and 28 are also preferably of a molded plastic construction. Suitable materials from which pulleys 22 and 28 can be molded include glass-filled polypropylene, polystyrene, polycarbonate, polyurethane and polyester. Economical manufacture of the pulleys 22 and 28 having such a relatively large diameter is facilitated through the use of this plastic material. The preferred method of manufacturing pulley 28 is discussed later in conjunction with FIG. 18."</p> <p>'746 Patent, Abstract, 7:50-57.</p>
45	The manually powered treadmill of claim 37, 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.	See element 34.
46	The manually powered treadmill of claim 37, wherein the running belt is at least partially supported by the first plurality of bearings and the second plurality of bearings.	See disclosures in invalidity claim chart for 9,039,580 – e.g., elements 1.4-1.6

<u>Claim Chart for Woodway US Patent No. 10,561,884</u>		
	Claims	Prior Art
47	The manually powered treadmill of claim 46, 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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6, 25.2
48	The manually powered treadmill of claim 37, 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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4, 1.5, 2
49	The manually powered treadmill of claim 48, 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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4, 1.5
50	A manually powered treadmill, comprising:	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1
50.1	a frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.1
50.2	at least one front running belt pulley coupled to the frame;	See element 40
50.3	at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;	See element 42
50.4	a plurality of bearings coupled to the frame;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4 & 1.5
50.5	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;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6

<u>Claim Chart for Woodway US Patent No. 10,561,884</u>		
	Claims	Prior Art
50.6	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;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
50.7	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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
51	The manually powered treadmill of claim 50, 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.	See element 44
52	The manually powered treadmill of claim 50, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.	See element 40, see also disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.2
53	The manually powered treadmill of claim 50, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.3
54	The manually powered treadmill of claim 50, wherein the first and second rotatable elements of the safety device at least partly form a one-way bearing.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6
57.1	A method, comprising: providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1, 1.1, 25.1

<u>Claim Chart for Woodway US Patent No. 10,561,884</u>		
	Claims	Prior Art
57.2	providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.6, 25.2
57.3	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;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.4, 1.5, & 1.6, 25.3
57.4	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;	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6,
57.5	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	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 25.4
57.6	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.	See disclosures in invalidity claim chart for 9,039,580 – e.g., element 1.7, 6, 25.4
59	A method according to claim 57, further comprising providing for the adjustment of the vertical incline of at least a portion of the running surface.	See element 45 above.

<u>Claim Chart for Woodway US Patent No. 9,039,580</u>		
	Claims	Prior Art
	wherein the first and second bearing rails define a curved top profile;	
25.3	disposing a running belt on the plurality of bearings of the first bearing rail and the second bearing rail such that the running belt follows a top curved running surface corresponding to the curved top profile of the first and second bearing rails;	See elements 1.4 through 1.6
25.4	permitting movement of the running belt in a first direction; and substantially preventing movement of the running belt in a second direction opposite the first direction.	See element 1.7