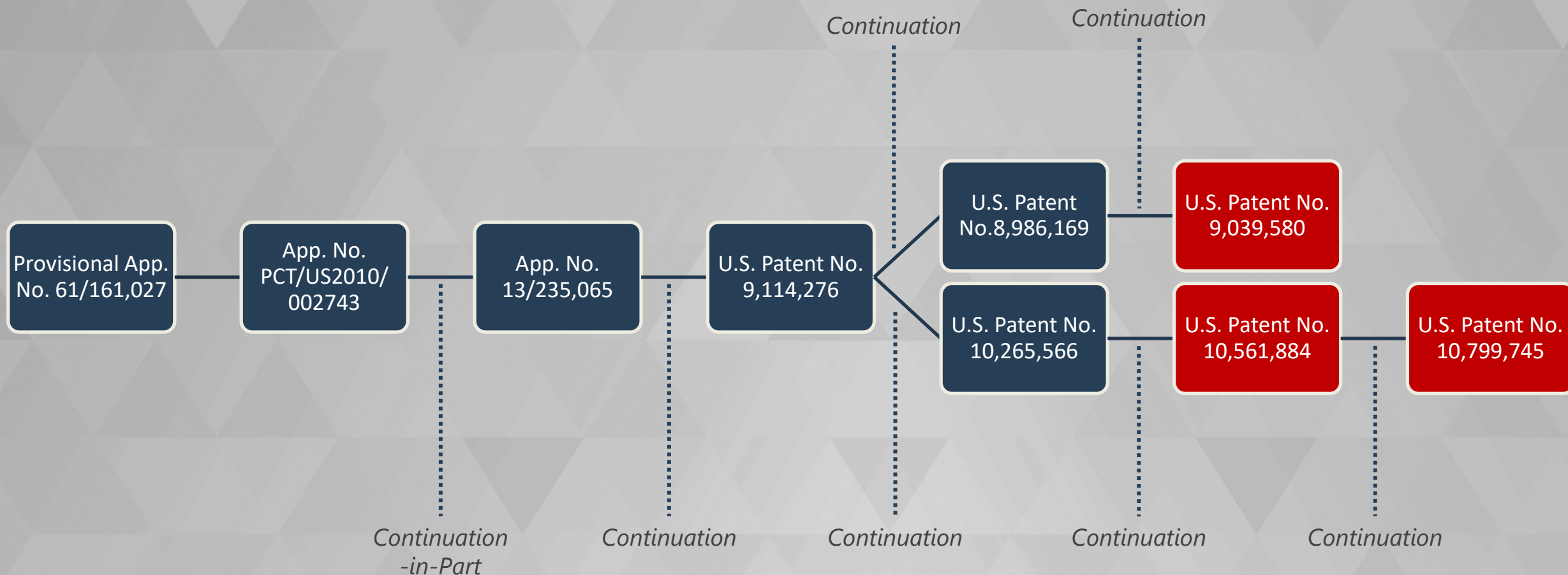


Patent Owner's Demonstrative Slides

CONTAINS CONFIDENTIAL INFORMATION SUBJECT TO PROTECTIVE ORDER

IPR2023-00836, IPR2023-00843, IPR2023-00849
U.S. Patent Nos. 9,039,580, 10,561,884, and 10,799,745
July 24, 2024

The Challenged Patents



Filed: March 13, 2015

16 Challenged Claims

(54) **MANUAL TREADMILL AND METHODS OF OPERATING THE SAME**



(12) **United States Patent**
Bayerlein et al.

(10) **Patent No.:** US 9,039,580 B1
(45) **Date of Patent:** May 26, 2015

(54) **MANUAL TREADMILL AND METHODS OF OPERATING THE SAME**

(58) **Field of Classification Search**
CPC A63B 22/02; A63B 22/0285; A63B
2022/0207; A63B 22/0214; A63B 22/0221;
A63B 22/0228; A63B 69/0028; A63B 69/0035
See application file for complete search history.

(71) Applicant: **Woodway USA, Inc.**, Waukesha, WI
(US)

(72) Inventors: **Douglas G. Bayerlein**, Oconomowoc, WI (US); **Vance E. Emons**, Hartland, WI (US); **Nicholas A. Oblamski**, Waukesha, WI (US); **Scott D. Hoerig**, Brookfield, WI (US); **Matthew J. Zank**, Milwaukee, WI (US); **Robert L. Zimpel**, Menomonee Falls, WI (US); **Joel W. Richards**, Watwatosa, WI (US)

(56) **References Cited**

U.S. PATENT DOCUMENTS

219,439 A	9/1879 Blend
1,211,765 A	1/1917 Schmidt

(Continued)

(73) Assignee: **Woodway USA, Inc.**, Waukesha, WI
(US)

FOREIGN PATENT DOCUMENTS		
CN	2860541	1/2007
CN	201006229	1/2008
(Continued)		

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

OTHER PUBLICATIONS

Photographs of public display of Speedfit Speedboard by Woodway
presented at IHRSA Tradeshow on Mar. 17, 2009, 8 pages.

(Continued)

(21) Appl. No.: 14/656,942

(22) Filed: **Mar. 13, 2015**

Primary Examiner — Oren Ginsberg
(74) Attorney, Agent, or Firm — Foley & Lardner LLP

Related U.S. Application Data

(63) Continuation of application No. 14/243,716, filed on Apr. 2, 2014, now Pat. No. 8,986,169, which is a continuation of application No. 13/235,065, filed on Sep. 16, 2011, which is a continuation-in-part of application No. PCT/US2010/002743, filed on Mar. 16, 2010.

(60) Provisional application No. 61/161,027, filed on Mar. 17, 2009.

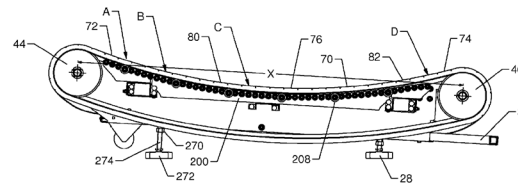
(51) Int. Cl.
A63B 22/02 (2006.01)

(52) **U.S. Cl.**
CPC *A63B 22/02* (2013.01); *A63B 22/0285*
(2013.01)

(57) **ABSTRACT**

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

25 Claims, 20 Drawing Sheets



(57)

ABSTRACT

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

U.S. Patent No. 9,039,580

The parties dispute:

- motivation to combine or substitute
- the presence of four claim limitations in the prior art

1. A manually powered treadmill comprising:
a frame having a front end and a rear end positioned opposite the front end;
a front shaft rotatably coupled to the frame at the front end;
a rear shaft rotatably coupled to the frame at the rear end;
a first bearing rail having a plurality of bearings, the first bearing rail attached to a left side of the frame;
a second bearing rail having a plurality of bearings, the second bearing rail attached to a right side of the frame;
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
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.

11. A manually powered treadmill, comprising:
a frame having a front end and a rear end positioned opposite the front end;
a front shaft attached to the frame adjacent the front end;
a rear shaft attached to the frame adjacent the rear end;
a first bearing rail having a plurality of bearings, the first bearing rail attached to a left side of the frame;
a second bearing rail having a plurality of bearings, the second bearing rail attached to a right side of the frame;
a running belt at least partially disposed about the front shaft and the rear shaft and at least partially supported by the first bearing rail and the second bearing rail, wherein the running belt includes a front belt portion proximate the front end, a rear belt portion proximate the rear end, and a central belt portion intermediate the front and rear belt portions, wherein the central belt portion is positioned vertically closer to a ground surface supporting the frame than the front and rear belt portions such that the running belt follows a curved running surface; and
a safety device for substantially preventing 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.

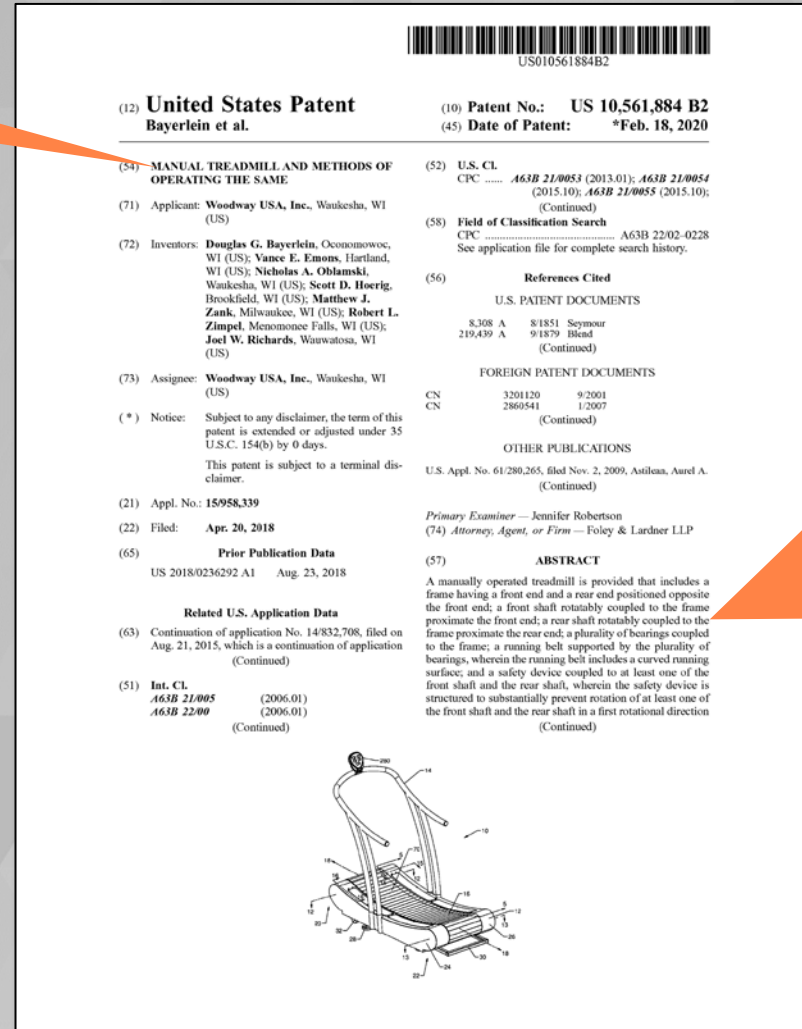
25. A method, comprising:
providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and rear end;
providing a first bearing rail and a second bearing rail, the first and second bearing rails each comprising a plurality of bearings and extending longitudinally on the frame, wherein the first and second bearing rails define a curved top profile;
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;
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.

U.S. Patent No. 10,561,884

Filed: April 20, 2018

25 Challenged Claims

(54) **MANUAL TREADMILL AND METHODS OF OPERATING THE SAME**



(57)

ABSTRACT

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

U.S. Patent No. 10,561,884

The parties dispute:

- motivation to combine or substitute
- the presence of four claim limitations in the prior art

30. A manually powered treadmill, comprising:
a frame having a front end and a rear end positioned opposite the front end;
a front shaft coupled to the frame proximate the front end;
a rear shaft coupled to the frame proximate the rear end;
a plurality of bearings coupled to the frame;
a running belt at least partially supported by the plurality of bearings, wherein the running belt comprises a curved running surface; and
a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;
wherein the running belt and one of the first and second rotatable elements of the safety device freely rotate in a first direction of rotation relative to the other of the first and second rotatable elements of the safety device, but interference between the safety device and at least one of the first and second rotatable elements substantially prevents rotation in a second direction of rotation, opposite the first direction of rotation, of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements.

37. A manually powered treadmill, comprising:
a frame;
a first plurality of bearings coupled to the frame;
a second plurality of bearings coupled to the frame and spaced a distance from the first plurality of bearings;
a front shaft assembly coupled to the frame;
a rear shaft assembly coupled to the frame;
a running belt at least partially supported by the first plurality of bearings and the second plurality of bearings, the running belt being at least partially disposed about the front and rear shaft assemblies, and comprising a running surface, at least a portion of which is curved; and
a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;
wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate relative to the other of the one of the first and second rotatable elements of the safety device in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element substantially prevents rotation of the running belt and the one of the first and second rotatable elements relative to the other of the one of the first and second rotatable elements.

50. A manually powered treadmill, comprising:
a frame;
at least one front running belt pulley coupled to the frame;
at least one rear running belt pulley coupled to the frame and spaced a distance from the at least one front running belt pulley;
a plurality of bearings coupled to the frame;
a running belt at least partially supported by the plurality of bearings and at least partially supported by at least one of the at least one front running belt pulley and the at least one rear running belt pulley, wherein the running belt includes a running surface, at least a portion of which is curved;
a safety device coupled to the frame and the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;
wherein one of the first and second rotatable elements of the safety device and the running belt freely rotate in a first direction of rotation relative to the frame, however, in a second direction of rotation, opposite the first direction of rotation, interference between the safety device and at least one of the first rotatable element and the second rotatable element substantially prevents rotation of the one of the first and second rotatable elements of the safety device and the running belt relative to the frame.

57. A method, comprising:
providing a manually powered treadmill, the manually powered treadmill having a frame with a front end and a rear end;
providing a plurality of bearings coupled to the frame, wherein the plurality of bearings define at least a portion of a curved top profile;
disposing a running belt on the plurality of bearings such that the curved top profile of plurality of bearings define at least a portion of a curved running surface of the running belt;
providing a safety device coupled to the frame and to the running belt, the safety device having a first rotatable element and a second rotatable element, wherein at least one of the first and second rotatable elements are adapted for rotation relative to the frame;
permitting rotation of one of the first and second rotatable elements of the safety device and the running belt in a first direction of rotation; and
substantially preventing rotation in a second direction, opposite the first direction, of the running belt and the one of the first and second rotatable elements by interference between the safety device and at least one of the first rotatable element and the second rotatable element.

U.S. Patent No. 10,799,745

Filed: February 17, 2020

19 Challenged Claims

(54) MANUAL TREADMILL AND METHODS OF OPERATING THE SAME

US10799745B2

(12) **United States Patent**
Bayerlein et al.

(10) **Patent No.:** US 10,799,745 B2
(45) **Date of Patent:** *Oct. 13, 2020

(54) **MANUAL TREADMILL AND METHODS OF OPERATING THE SAME**

(71) **Applicant:** Woodway USA, Inc., Waukesha, WI (US)

(72) **Inventors:** Douglas G. Bayerlein, Oconomowoc, WI (US); Vance E. Emons, Hartland, WI (US); Nicholas A. Oblamski, Waukesha, WI (US); Scott D. Hoberig, Brookfield, WI (US); Matthew J. Zank, Milwaukee, WI (US); Robert L. Zimpel, Menomonee Falls, WI (US); Joel W. Richards, Wauwatosa, WI (US)

(73) **Assignee:** Woodway USA, Inc., Waukesha, WI (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.
This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** 16/792,426

(22) **Filed:** Feb. 17, 2020

(65) **Prior Publication Data**
US 2020/0254293 A1 Aug. 13, 2020

Related U.S. Application Data

(63) Continuation of application No. 15/958,339, filed on Apr. 20, 2018, now Pat. No. 10,561,884, which is a (Continued)

(51) **Int. Cl.**
A63B 21/005 (2006.01)
A63B 22/00 (2006.01)
(Continued)

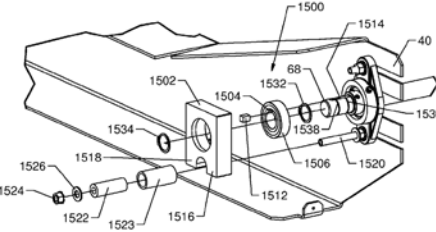
(52) **U.S. CL.**
CPC **A63B 21/0053** (2013.01); **A63B 21/0054** (2015.10); **A63B 21/0055** (2015.10); (Continued)

(58) **Field of Classification Search**
CPC **A63B 22/02-0292**
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
X8308 I1 8/1851 Seymour
219,439 A 9/1879 Blend
(Continued)
FOREIGN PATENT DOCUMENTS
CN 3201120 9/2001
CN 2860541 1/2007
(Continued)
OTHER PUBLICATIONS
U.S. Appl. No. 61/280,265, filed Nov. 2, 2009, Astileas, Aurel A. (Continued)
Primary Examiner — Jennifer Robertson
(74) **Attorney, Agent, or Firm** — Foley & Lardner LLP

(57) **ABSTRACT**
A treadmill includes a frame; a front running belt pulley; a rear running belt pulley; a plurality of bearings coupled to the frame; a running belt at least partially supported by at least one of the front running belt pulley and the rear running belt pulley, the running belt including a running surface, at least a portion of which is curved; a support element coupled to the frame; and a safety device coupled to the running belt. The safety device is at least partly supported by the support element. 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, engagement between the support element and at least a portion of the safety device substantially prevents rotation the running belt relative to the frame.

(Continued)



(57)

ABSTRACT

A treadmill includes a frame; a front running belt pulley; a rear running belt pulley; a plurality of bearings coupled to the frame; a running belt at least partially supported by at least one of the front running belt pulley and the rear running belt pulley, the running belt including a running surface, at least a portion of which is curved; a support element coupled to the frame; and a safety device coupled to the running belt. The safety device is at least partly supported by the support element. 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, engagement between the support element and at least a portion of the safety device substantially prevents rotation the running belt relative to the frame.

U.S. Patent No. 10,799,745

The parties dispute:

- motivation to combine or substitute
- the presence of four claim limitations in the prior art

1. A treadmill, comprising:
a frame;
a front running belt pulley coupled to the frame;
a rear running belt pulley coupled to the frame and spaced
a distance from the front running belt pulley;
a plurality of bearings coupled to the frame;
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;
a support element coupled to the frame; and
a safety device coupled to the running belt, the safety
device at least partially supported by the support ele-
ment, 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;
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 rela-
tive to the frame to substantially prevent rotation of the
running belt relative to the frame.

10. A treadmill, comprising:
a frame;
a rotatable element coupled to the frame;
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
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;
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 rela-
tive to the frame to substantially prevent rotation of the
running belt relative to the frame.

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.

18. A method, comprising:
providing a treadmill having a frame with a front end and
a rear end;
providing a plurality of bearings coupled to the frame,
wherein the plurality of bearings define at least a
portion of a curved top profile;
disposing a running belt on the plurality of bearings such
that the curved top profile of the plurality of bearings
define at least a portion of a curved running surface of
the running belt;
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;
permitting rotation of one of the first and second safety
race elements and the running belt in a first direction of
rotation; and
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.

21. A treadmill, comprising:
a frame;
a rotatable element coupled to the frame;
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;
a support element coupled to the frame; and
a safety device coupled to the running belt, the safety
device at least partially supported by the support ele-
ment, 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;
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 safety race elements is
substantially prevented from rotation relative to the
frame to substantially prevent rotation of the running
belt.

Level of Ordinary Skill in the Art

Level of Ordinary Skill in the Art

PATENT OWNER'S PROPOSAL

“a bachelor of science degree in mechanical engineering or at least two years of experience in the treadmill industry, including experience and knowledge of the design, construction, testing, and operation of manual treadmills”

PETITIONER'S PROPOSAL

“a bachelor's degree in mechanical engineering and at least one year of machine design experience related to power transmission equipment and a demonstrated understanding of exercise biomechanics, including anthropometry (i.e., the study of human proportion)”

- Petitioner's proposal is supported by nothing but the *ipse dixit* of Dr. Giachetti and should be rejected as it improperly excludes certain of the named inventors.

That starting point [for how a POSA understands the claims] is based on the well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art.

Phillips v. AWH Corp.,
415 F.3d 1303, 1313 (Fed. Cir. 2005).

We first note that there is a large degree of overlap between the parties' definitions. To the extent the definitions do not overlap, we agree with Patent Owner that a person of ordinary skill in the art should include the inventor.

Reckitt Benckiser LLC v. Gemak Trust,
IPR2020-00186, Paper 8, 6 (PTAB May 15, 2020) (citing *Daiichi Sankyo Co., Ltd. v. Apotex, Inc.*, 501 F.3d 1254, 1256-57 (Fed. Cir. 2007)).

Claim Construction: “substantially prevent[]”
“safety device”
“shaft”

“substantially prevent[]” / “safety device” / “shaft”

The District Court’s constructions should be adopted:

Term	Construction(s)	
“substantially prevents”	All Patents: “restricts rotation to allow for only one rotational direction of movement,” while allowing for some “degree of possible movement in the second rotational direction (the possibility of an initial swing back of the treadmill) before the safety device function locks in to allow for movement in one direction.” EX1033 at 15-16.	
“safety device”	’580 Patent: means-plus-function claim limitation with the corresponding structure being “a one-way bearing assembly, a cam locking system, a taper lock, a user operated pin system, or a band brake system with a lever.” EX1033 at 22.	’884 and ’745 Patents: “a device that includes the elements recited [in the claims] and restricts rotation to allow for only one rotational direction of movement.” EX1033 at 23.
“shaft”	All Patents: plain and ordinary meaning, which Patent Owner characterized as encompassing things such as “hollow or solid element / part / rod / tube / member / piece.” EX1033 at 25, 27.	

Claim Construction: “plurality of bearings”
“supported by”
“disposed ... on”

“plurality of bearings”

PATENT OWNER'S PROPOSAL

plain and ordinary meaning, such that the bearings: **“must support the running belt either directly or indirectly and must bear some or all of the weight of the belt”**

PETITIONER'S PROPOSAL

plain and ordinary meaning: **no requirement for “a specific location and weight-bearing relationship between the bearings and the running belt”** ('580 and '745 only)

**'580 Patent:
Claims 1, 11, 19, 25**

'580 Claims 1, 11, 19: “a first bearing rail having a plurality of bearings... [and] a second bearing rail having a plurality of bearings...”

'580 Claim 25: “providing a first bearing rail and a second bearing rail, the first and second bearing rails each comprising a plurality of bearings...”

**'884 Patent:
Claims 30, 50, 57**

'884 Claims 30, 50, 57: “a plurality of bearings coupled to the frame...”

**'745 Patent:
Claims 1, 18**

'745 Claims 1, 18: “a plurality of bearings coupled to the frame...”

“supported by”

PATENT OWNER'S PROPOSAL

plain and ordinary meaning, indicating: **a weight-bearing relationship, wherein the support may be provided directly or indirectly and bears some or all of the weight of another component**

PETITIONER'S PROPOSAL

plain and ordinary meaning: **no requirement for “a specific location and weight-bearing relationship between the bearings and the running belt” ('580 and '745 only)**

'580 Patent: Claims 1, 11, 19

'580 Claim 1: “a running belt supported by the first bearing rail and the second bearing rail...”

'580 Claim 11: “a running belt ... at least partially supported by the first bearing rail and the second bearing rail...”

'580 Claim 19: “a running belt supported by the first and second bearing rails...”

'884 Patent: Claims 30, 50

'884 Claims 30, 50: “a running belt at least partially supported by the plurality of bearings...”

'745 Patent: Claims 10, 17, 21

'745 Claim 17: “the plurality of bearings at least partially supporting the running belt.

'745 Claims 10, 21: “a running belt at least partially supported by the rotatable element...”

“disposed ... on”

PATENT OWNER'S PROPOSAL

plain and ordinary meaning such that, for an element to be “disposed on” a structure: **the structure must be positioned below the element such that the structure supports and/or bears at least some of its weight**

PETITIONER'S PROPOSAL

plain and ordinary meaning: **no requirement for “a specific location and weight-bearing relationship between the bearings and the running belt” ('580 and '745 only)**

'580 Patent: Claim 25

'580 Claim 25: “disposing a running belt on the plurality of bearings...”

'884 Patent: Claims 57

'884 Claims 57: “disposing a running belt on the plurality of bearings...”

'745 Patent: Claim 18

'745 Claim 18: “disposing a running belt on the plurality of bearings...”

“plurality of bearings” / “supported by” / “disposed ... on”



US009039580B1

(12) **United States Patent**
Bayerlein et al.

(10) **Patent No.:** US 9,039,580 B1
(45) **Date of Patent:** May 26, 2015

(54) **MANUAL TREADMILL AND METHODS OF OPERATING THE SAME**

(71) Applicant: **Woodway USA, Inc., Waukesha, WI (US)**

(72) Inventors: **Douglas G. Bayerlein, Oconomowoc, WI (US); Vance E. Emons, Hartland, WI (US); Nicholas A. Oblonski, Waukesha, WI (US); Scott D. Hoerig, Brookfield, WI (US); Matthew J. Zank, Milwaukee, WI (US); Robert L. Zimpel, Menomonee Falls, WI (US); Joel W. Richards, Wauwatosa, WI (US)**

(73) Assignee: **Woodway USA, Inc., Waukesha, WI (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/656,942**

(22) Filed: **Mar. 13, 2015**

Related U.S. Application Data

(63) Continuation of application No. 14/243,716, filed on Apr. 2, 2014, now Pat. No. 8,986,169, which is a continuation of application No. 13/235,065, filed on Sep. 16, 2011, which is a continuation-in-part of application No. PCT/US2010/002743, filed on Mar. 16, 2010.

(60) Provisional application No. 61/161,027, filed on Mar. 17, 2009.

(51) Int. Cl. **A63B 22/02** (2006.01)

(52) U.S. Cl. **A63B 22/02** (2013.01); **A63B 22/0285** (2013.01)

(58) **Field of Classifi**
CPC
2022/02
A63B 22/02
See application)

(56) **R**
U.S. PA
219,439 A
1,211,765 A

FOREIGN

CN 286054
CN 20100622

OTHER
Photographs of public dis

presented at IHRS A Trade

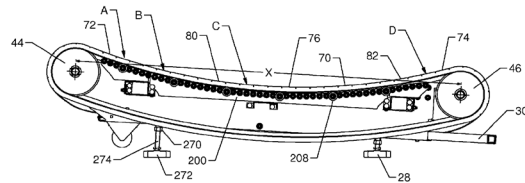
(Continued)

Primary Examiner — Oren Ginsberg
(74) Attorney, Agent, or Firm — Foley & Lardner LLP

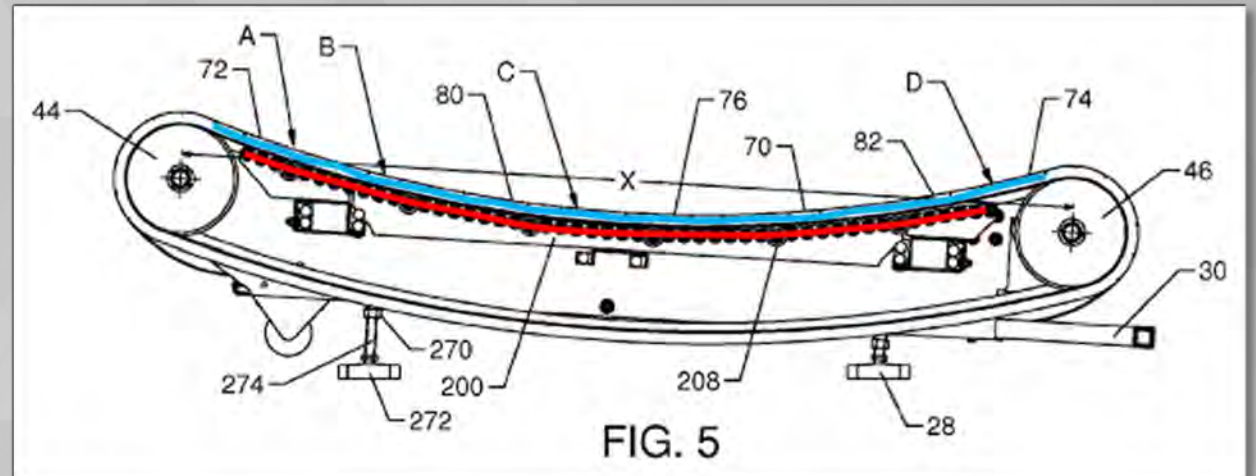
ABSTRACT

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

25 Claims, 20 Drawing Sheets



tially along the top profile 210 of the bearing rails 200. The running belt 16 contacts and is supported in part by the bearings 208 of the bearing rails and bearing 208 are configured to rotate, thereby decreasing the friction experienced by the running belt 16 as the belt moves along the top profile 210.



EX1001 Fig. 5 (annotated with running belt in **blue** and plurality of bearings in **red**)

“plurality of bearings” / “supported by” / “disposed ... on”

The specification distinguishes between the “plurality of bearings,” which is positioned below and bears the weight of the running belt, and “rollers” or “wheels” that are positioned above or in line with the running belt and exert a downward force to hold the running belt in an arcuate shape. ‘580 EX1001, 22:38-23:28, 23:46-24:14, 24:29-25:13, 26:1-9; ‘580 EX2018 at ¶¶105-111.

Giachetti Testimony (EX2023, 54:17-19)

Q. Are you aware of any instance in which these rollers are referred to as bearings?

A. Not as I sit here.

‘580 EX1001
at 23:29-51

‘580 EX1001
at 22:15-46

Referring to FIGS. 22-24, the treadmill 10 is shown including another exemplary embodiment of a track system configured to help induce and maintain the running belt in a desired non-planar shape to define the running surface, shown as a track system 800. Similar to track system 700, a treadmill according to this exemplary embodiment does not include front and rear shaft assemblies or bearing rails, but, rather, includes a pair of tracks 802 configured to provide for movement of a running belt 16 therealong. In this exemplary embodiment, each track 802 is shown as an elongated member having a substantially C-shaped cross section that defines a channel 804 having an opening 806 that faces the interior of the frame 40. An outer wall 808 each of the tracks 802 is disposed substantially adjacent to an inner surface of a left-hand or right-hand side member 52, 54 (shown, e.g., in FIG. 2) such that the openings 806 face each other. The outer wall 808 is substantially opposite an inner wall 810

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

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

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

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

“plurality of bearings” / “supported by” / “disposed ... on”

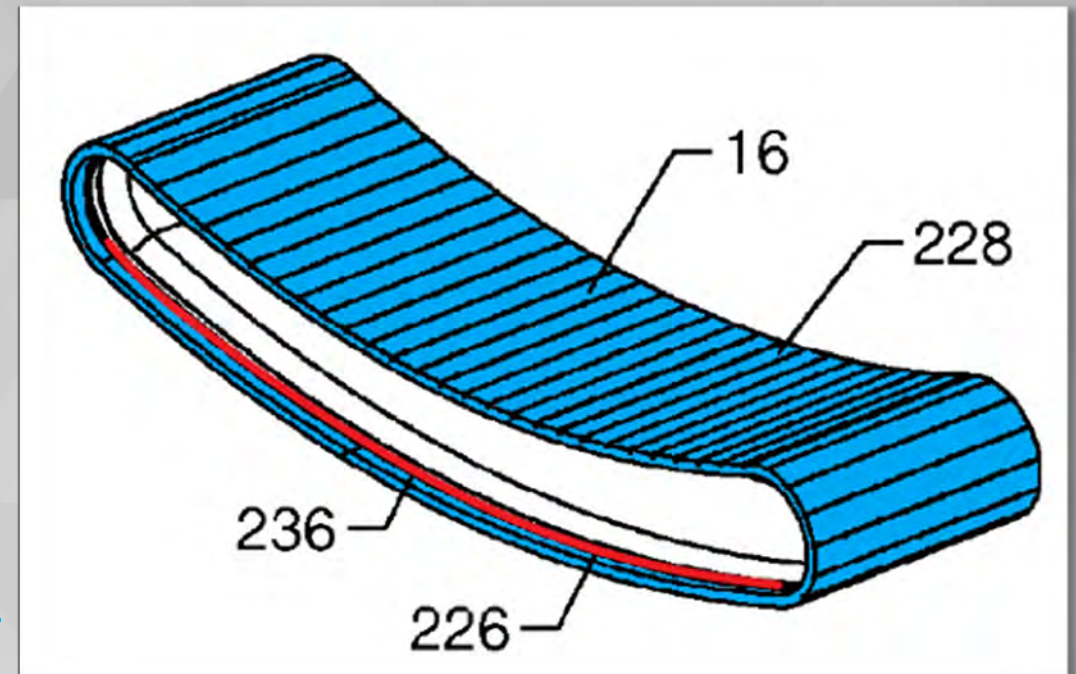
The '580, '884, and '745 Patent specifications' single use of “disposed on” is consistent with Patent Owner's understanding:

- When the patents' endless belts 226 are “disposed on opposite sides of the running belt 16,” part of the running belt is positioned below the endless belts and at least partially bears their weight.
- This is particularly apparent in Figure 6, which shows the lower portion of the running belt positioned below and supporting the endless belts.

ning belt 16 in order to support the weight of a user. The endless belts 226 are shown disposed on opposite sides of the running belt 16, generally interior to the outer, lateral edge of the slats 228. The endless belts 226 are themselves reinforced,

'580 EX1011 at 14:7-9

EX1011 Fig. 6
(annotated with running belt 16 in **blue**
and the endless belts 226 in **red**)



“plurality of bearings” / “supported by” / “disposed ... on”

Petitioner’s contrary arguments are improper as they:

- Ignore “the context of the claim, specification, and prosecution history,” which must inform the plain and ordinary meaning to one of ordinary skill in the art
- Improperly conflate the disputed terms with the separate term “one-way bearing assembly,” which is expressly defined in the specification

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

One-Way Bearing Assembly (Expressly Defined)

‘580 EX1001
at 27:7-15

‘580 EX1001
at 11:41-62

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

The bearing rails 200 are preferably configured to facilitate movement of the running belt 16. In the exemplary embodiment seen in FIGS. 8-9, the running belt 16 moves substantially along the top profile 210 of the bearing rails 200. The running belt 16 contacts and is supported in part by the bearings 208 of the bearing rails and bearing 208 are configured to rotate, thereby decreasing the friction experienced by the running belt 16 as the belt moves along the top profile 210.

Plurality of Bearings (Plain and Ordinary Meaning)

Summary of Challenged Claims

Challenged Claims of the '580 Patent

Disputed Elements	Asserted Prior Art
A “curved running surface” (Independent Claims 1, 11, 25)	Chickering (Grounds 1-3)
“the first and second bearing rails define a curved top profile” (Independent Claim 25)	Chickering (Grounds 1-3)
A “plurality of bearings” (Independent Claims 1, 11, 25)	Socwell (Grounds 4-6)
A “running belt [... at least partially] supported by the first bearing rail and the second bearing rail” (Independent Claims 1, 11)	Socwell (Grounds 4-6)
“disposing a running belt on the plurality of bearings” (Independent Claim 25)	Socwell (Grounds 4-6)
A “safety device” (Independent Claims 1, 11)	Magid Alone (Grounds 1, 4) Magid + Sclater (Grounds 2-3, 5-6)

Challenged Claims of the '745 Patent

Disputed Elements	Asserted Prior Art
A “plurality of bearings” (Independent Claims 1, 18; Dependent Claim 17)	Schonenberger + Socwell (Grounds 1-2) Socwell (Ground 3)
“the plurality of bearings at least partially supporting the running belt” (Dependent Claim 17)	Schonenberger + Socwell (Grounds 1-2) Socwell (Ground 3)
“disposing a running belt on the plurality of bearings” (Independent Claim 18)	Schonenberger + Socwell (Grounds 1-2) Socwell (Ground 3)
“a running surface, at least a portion of which is curved” (Independent Claims 1, 10, 21) or “a curved running surface” (Independent Claim 18)	Schonenberger + Socwell (Grounds 1-2)
A “safety device” (Independent Claims 1, 11)	Magid + Sclater (All Grounds)

Challenged Claims of the '884 Patent

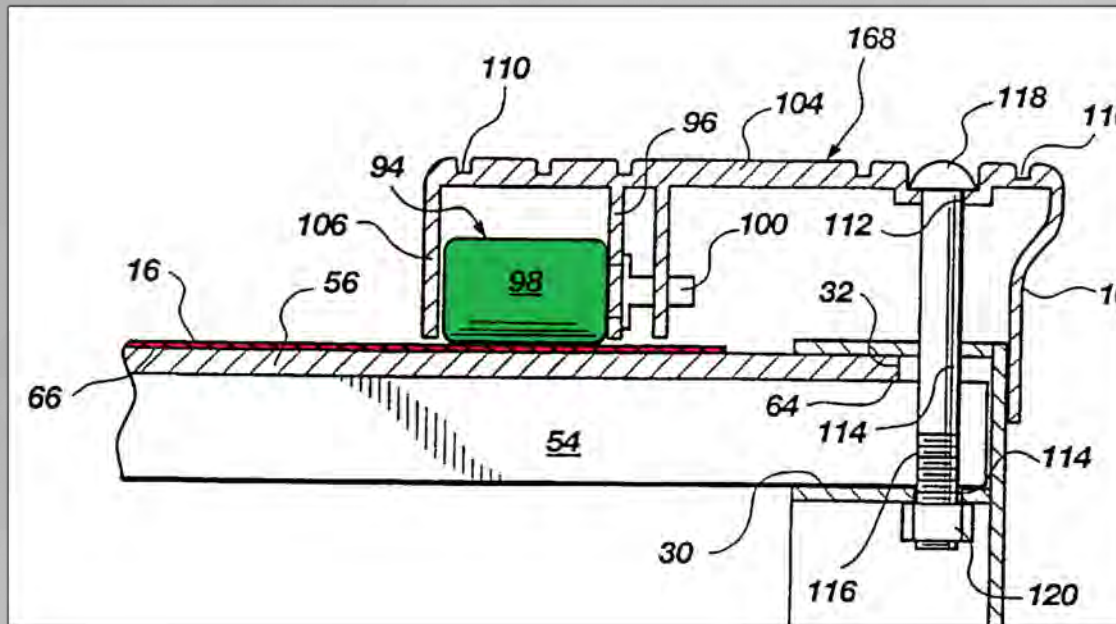
Disputed Elements	Asserted Prior Art
A “curved running surface” (Independent Claims 30, 57) or “a running surface, at least a portion of which is curved” (Independent Claims 37, 50)	Schonenberger + Socwell (Grounds 1-3) Chickering (Ground 4)
A “plurality of bearings” (Independent Claims 230, 37, 50, 57)	Schonenberger + Socwell (Grounds 1-3)
“a running belt at least partially supported by the plurality of bearings” (Independent Claims 30, 37, 50)	Schonenberger + Socwell (Grounds 1-3)
“disposing a running belt on the plurality of bearings” (Independent Claim 57)	Schonenberger + Socwell (Grounds 1-3)
A “safety device” (Independent Claims 30, 37, 50, 57)	Magid + Sclater (All Grounds)
“the at least one rear running belt pulley and the at least one front running belt pulley are formed from an electrically insulating material” (Dependent Claims 44, 51)	Skowronski (Ground 2)

U.S. Patent No. 5,897,461 (“Socwell”)

Socwell Does Not Disclose a “Plurality of Bearings”

Socwell does not disclose “a plurality of bearings” as required by ‘580 Claims 1, 11, and 25 and ‘745 Claims 1, 17, and 18 when “bearings” is properly construed:

- In Grounds 4-6 of the ‘580 Petition and Ground 1-3 of the ‘745 Petition, Petitioner identifies Socwell’s rollers 98 as all but one of the recited “bearings.” ‘580 Petition at 69-72; ‘745 Petition at 76-78, 80-83, 109-10.
- None of these structures, however, support the running belt either directly or indirectly, nor do they bear some or all of the weight of the belt. ‘580 EX2018, ¶¶112-15; ‘745 EX2018, ¶¶87-90. Rather, Socwell’s rollers 98 are positioned **above** belt 16 and exert a **downward force** to hold the belt in an arcuate shape. Thus, Socwell cannot disclose a “plurality” of bearings.



EX1011 Fig. 5 (excerpted and annotated with running belt 16 in **red** and roller 98 in **green**)

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.

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

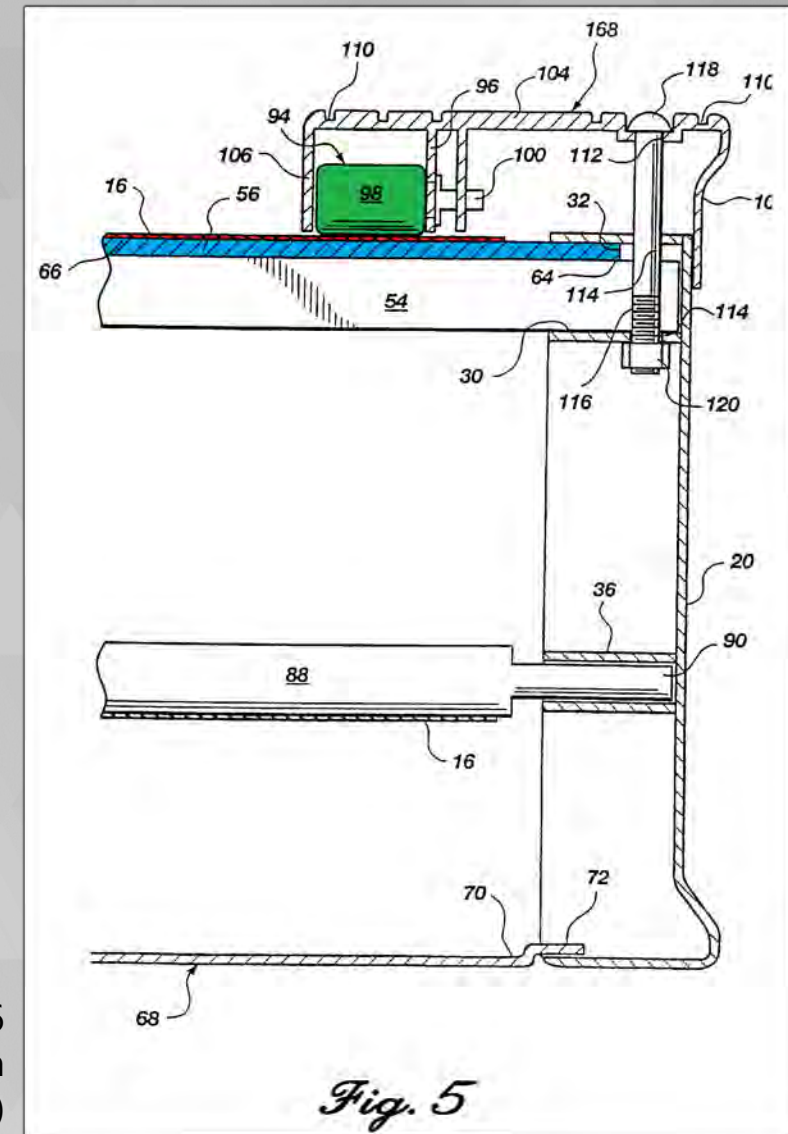
EX1011 at
10:5-23

Socwell Does Not Disclose a “Plurality of Bearings”

The modifications needed to place Socwell’s rollers 98 below belt 16 would render the rollers inoperable for their articulated and intended purpose.

- Rollers 98, as a component of belt securing assembly 94, are intended to hold belt 16 in an arcuate configuration, which they accomplish by “being substantially flush with the **upper surface** 66 of the deck 56.” EX1011 at 10:5-9 (emphasis added).
- Modifications to place roller 98 below deck 56 or between deck 56 and belt 16 would result in roller 98 being unable to exert a downward force on belt 16 to hold the belt in the arcuate configuration. ‘580 EX2018 at ¶¶117-118; ‘745 EX2018 at ¶¶92-93.

‘580 EX2018 at ¶56
(annotated EX1011 Fig. 5 with running belt 16 in **red**, roller 98 in **green**, and deck 56 in **blue**)

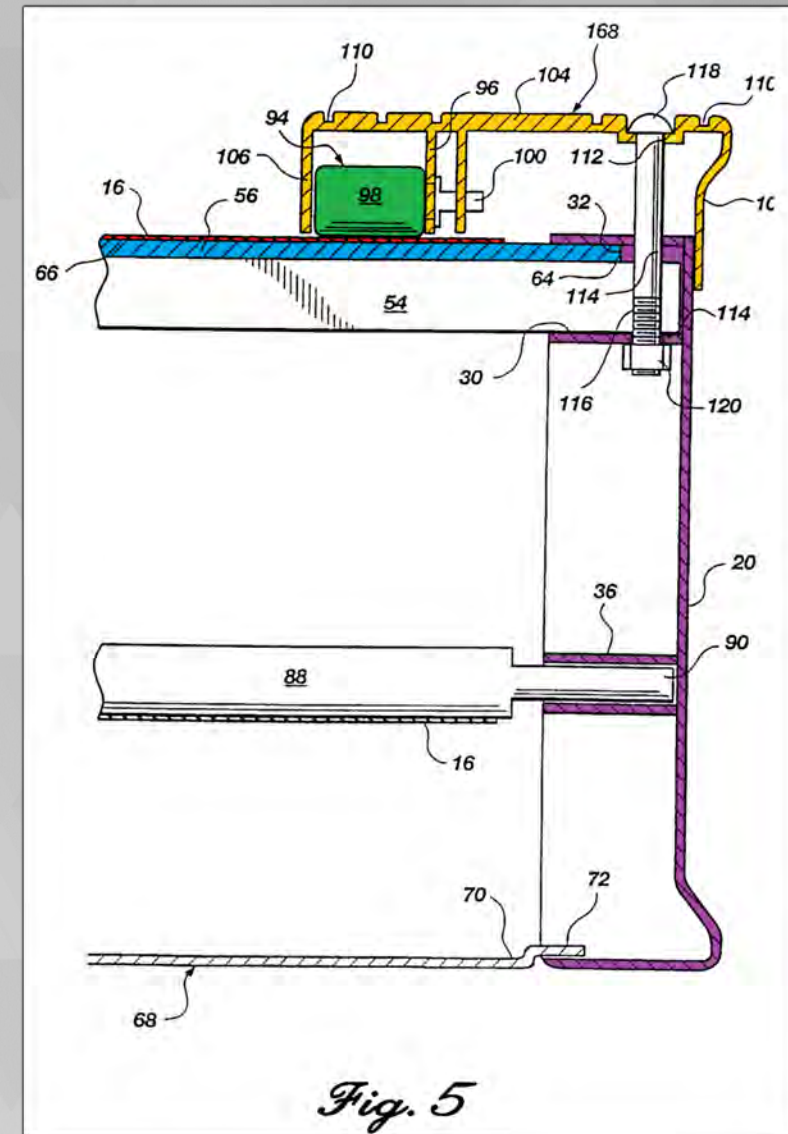


Socwell Does Not Disclose a Running Belt “Supported By” or “Disposed On” the Identified Bearing Rails or Plurality of Bearings

Socwell does not disclose a running belt supported by the bearing rails as required by '580 Claims 1 and 11 nor a running belt “supported by” or “disposed on” a plurality of bearings as required by '580 Claim 25 and '745 Claims 17 and 18 when those terms are properly construed:

- In addition to identifying Socwell's rollers 98 as all but one of the recited “bearings,” Petitioner identifies Socwell's cover members 168 as the recited “bearing rails” in Grounds 4-6 of the '580 Petition. '580 Petition at 69-72.
- Even if “bearings” is not interpreted to require a weight-bearing relationship with the running belt, Socwell still fails to teach that the running belt is “supported by” or “disposed on” either the identified bearing rails or the identified **plurality** of bearings.

'580 EX2018 at ¶1131
(annotated EX1011 Fig. 5 with running belt 16 in **red**, roller 98 in **green**, deck 56 in **blue**, cover member 168 in **yellow**, and frame 12 in **purple**)



Socwell Does Not Disclose a Running Belt “Supported By” or “Disposed On” the Identified Bearing Rails or Plurality of Bearings

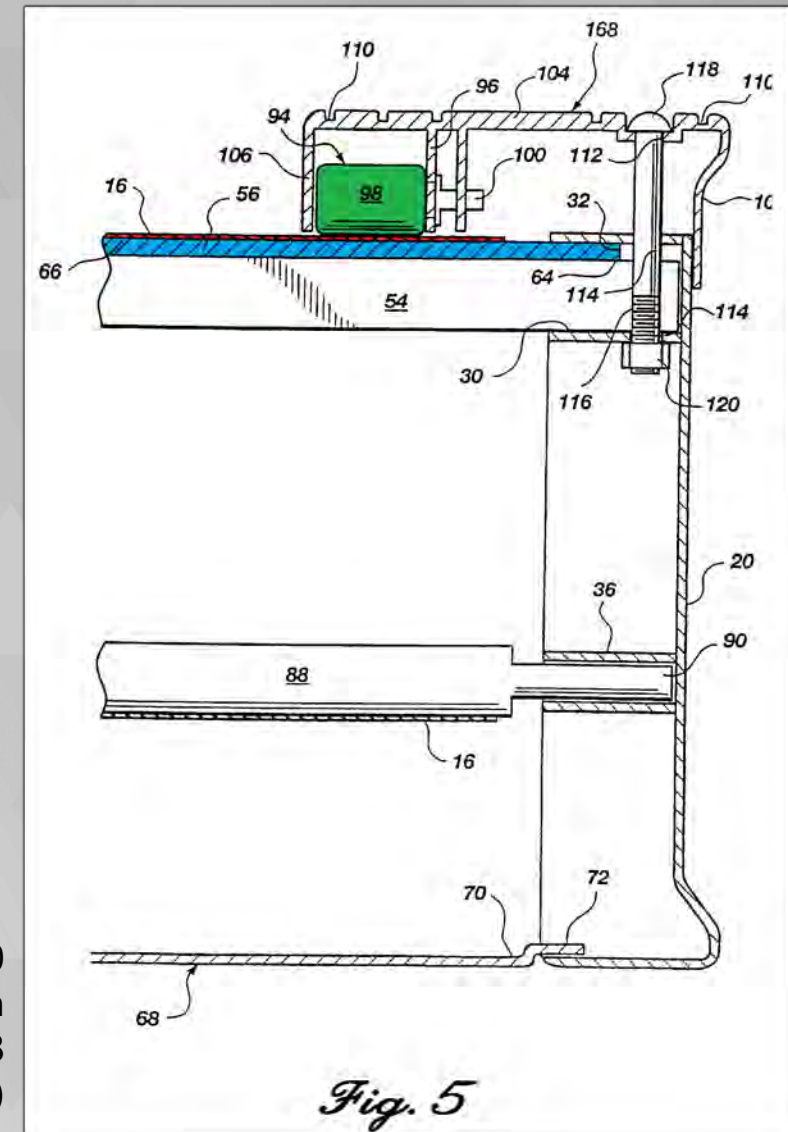
Because Socwell’s belt 16 is positioned below rollers 98, a POSA would understand that the running belt cannot be “supported by” or “disposed on” rollers 98.

- Neither belt securing assembly 94 nor rollers 98 bear any weight of the running belt, either directly or indirectly, nor could they as they are positioned vertically above the running belt without ever extending below it.
- This leaves deck 56 as the only possible “bearing” that is capable of “supporting” the running belt or on which the running belt could be “disposed.” But the claims require the running belt to be “supported by” or “disposed on” a **plurality** of bearings. Thus, Socwell cannot disclose these claim limitations.

[T]he recitation of ‘plurality’ suggests the use of ‘at least two.’”

Resqnet.com, Inc. v. Lansa, Inc.,
346 F.3d 1374, 1382 (Fed. Cir. 2003)

’745 EX2018 at ¶56, ¶100
(annotated EX1011 Fig. 5 with
running belt 16 in **red**, roller 98
in **green**, and deck 56 in **blue**)



Socwell Does Not Disclose a Running Belt “Supported By” or “Disposed On” the Identified Bearing Rails or Plurality of Bearings

The Petition fails even to argue that cover members 168 (the identified “bearing rails”) support Socwell’s running belt.

- Instead, Petitioner argued only that “Socwell discloses a cover member 168 (‘bearing rail’) that supports the belt securing assemblies 94, including the rollers 98 (‘bearings’), and attaches to the frame 12 using bolts 118” and that “[t]he bolts 118 may also extend through apertures formed through the deck 56 (‘bearing’) to attach the deck 56 to the frame 12.” Petition at 71-72.
- To the extent Petitioner attempts to backfill these gaps in Reply with new, convoluted arguments that the cover members “support” the running belt because they indirectly “transmit the force from the frame” to the running belt, these arguments should be rejected. They are both absent from the Petitions and espouse such a broad understanding of the term “support” that any component could be said to “support” the running belt, thus rendering the term “meaninglessly empty.”

[The IPR process] is predicated on a petition followed by a trial in which the petitioner bears the burden of proof. Given that framework, we find no support for the PTO’s position that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during an IPR. Instead, the Board must base its decision on arguments that were advanced by a party, and to which the opposing party was given a chance to respond.

In re Magnum Oil Tools Int’l, Ltd.,
829 F.3d 1364, 1381 (Fed. Cir. 2016).

[A]n IPR petitioner may not raise in reply “an entirely new rationale” for why a claim would have been obvious.

Henny Penny Corp. v. Frymaster LLC,
938 F.3d 1324, 1330-31 (Fed. Cir. 2019).

If, as Ethicon argues, “connected to” should be read broadly to include elements which are connected directly or indirectly, then this language would read on a lockout mechanism located anywhere in the surgical stapler, and the “connected to” limitation would be meaninglessly empty.

Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.,
93 F.3d 1572, 1578 (Fed. Cir. 1996).

Socwell Does Not Disclose a Running Belt “Supported By” or “Disposed On” the Identified Bearing Rails or Plurality of Bearings

Petitioner’s new Reply arguments are improper and should be disregarded.

- Under controlling law, Reply arguments that could have been but were not included in the Petition itself cannot be considered.
- The Reply raises arguments that could have been included in the Petition or addressed in Dr. Giachetti’s opening declaration but were not. Because they were not and are instead completely absent from the Petition, these arguments should not and cannot be considered.

Because of the expedited nature of IPR proceedings, “[i]t is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’” [*Intelligent Bio-Systems*] at 1369 (quoting 35 U.S.C. § 312(a)(3)). Accordingly, an IPR petitioner may not raise in reply ‘an entirely new rationale’ for why a claim would have been obvious.

Henny Penny Corp. v. Frymaster LLC,
938 F.3d 1324, 1330-31 (Fed. Cir. 2019).

It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify “with particularity” the “evidence that supports the grounds for the challenge to each claim.” 35 U.S.C. § 312(a)(3). “All arguments for the relief requested in a motion must be made in the motion. A reply may only respond to arguments raised in the corresponding opposition or patent owner response.” 37 C.F.R. § 42.23(b). . . . Unlike district court litigation—where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material—the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute. While the Board’s requirements are strict ones, they are requirements of which petitioners are aware when they seek to institute an IPR.

Intelligent Bio-Systems, Inc. v. Illumina Cambridge, Ltd.,
821 F.3d 1359, 1369 (Fed. Cir. 2016).

Socwell Does Not Disclose a Running Belt “Supported By” or “Disposed On” the Identified Bearing Rails or Plurality of Bearings

Petitioner’s new Reply arguments are improper and should be disregarded.

The Petition argued only that each cover member 168 “supports the belt securing assemblies 94... and attaches to the frame using bolts 118.” It never argued that the cover members 168 “supported” the running belt or even that it “supported” the deck 56, only that “[t]he bolts 118 may also... attach the deck 56 to the frame 12” and that “belt 16 is supported by the curved deck 56...”:

With reference to Figure 5 above, Socwell discloses a cover member 168 (“bearing rail”) that supports the belt securing assemblies 94, including the rollers 98 (“bearings”), and attaches to the frame 12 using bolts 118. (Ex.1011, 11:15-23; Ex.1003, ¶350.) The bolts 118 may also extend through apertures formed through the deck 56 (“bearing”) to attach the deck 56 to the frame 12. (Ex.1011, 11:22-29; Ex.1003, ¶351.) The cover members 168 are elongate in shape and extend longitudinally along opposing sides of the frame 12. (Ex.1011, 10:13-17, Fig. 3; Ex.1003, ¶352.)

’580 Petition,
71-72

The belt 16 is supported by the curved deck 56 and retained by rollers 98 (“plurality of bearings”). (Ex.1011, 10:17-26; Fig.5.) The “belt may be rotatably

’580 Petition,
75

The Reply attempts to backfill this deficiency, arguing for the first time that Socwell’s cover members 168 indirectly “support” the running belt via several intermediate connections:

explained in the Petition. Socwell discloses that its cover members 168 (“bearing rails”) are mounted to the frame and support the deck 56 and rollers 98 (“plurality of bearings”) which in turn support the belt 16 (“running belt”). (Pet.,75.) As further explained in the Petition, Socwell discloses (1) a cover member 168 (“bearing rail”) that supports the belt securing assemblies 94, including the rollers 98 (“bearings”), and attaches to the frame 12 using bolts 118, and (2) that bolts 118 may extend through apertures in the deck 56 (“bearing”) to attach the deck 56 to the frame 12. (Pet.,70-72;Ex.1036,¶¶38-39.)

’580 Reply,
11

During his deposition, Dr. Giachetti explained Socwell’s cover members 168 (“bearing rails”) support the belt 16 (“running belt”) by sandwiching it between the deck 56 and rollers 98 (“plurality of bearings”) using the bolt 118. (Ex.2022,8:3-25.) The bolt that is used to fasten the cover members 168 “bearing rails” to the treadmill transmits the force from the frame through the cover members 168 to the belt, so that the belt is supported and held in place between the deck 56 and the rollers 98. (Ex.1036,¶¶40-41.)

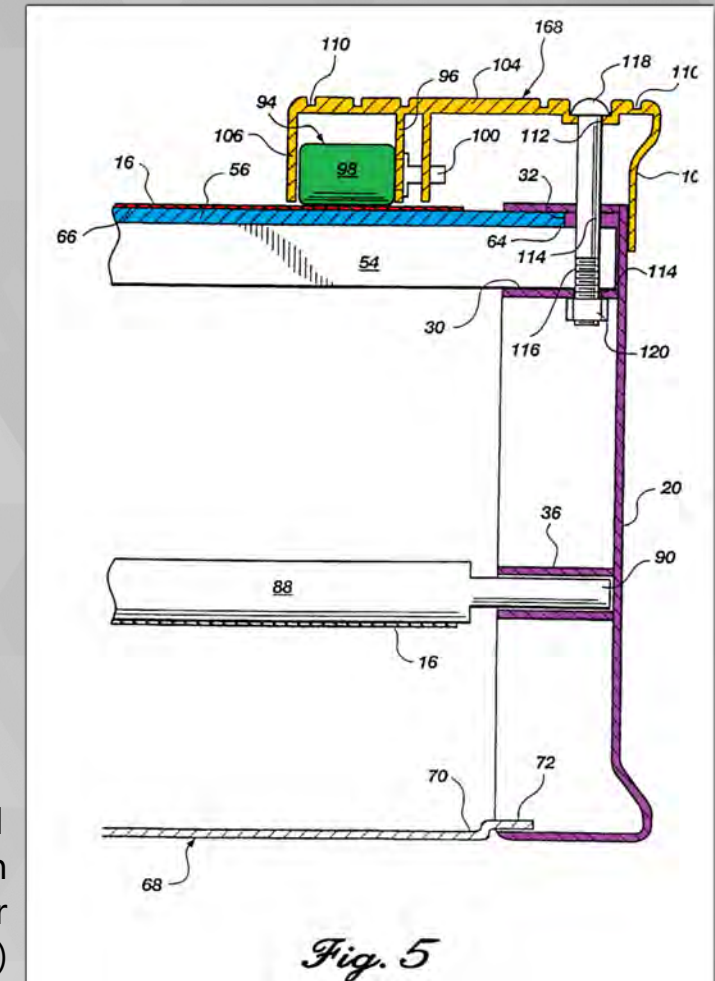
’580 Reply,
12-13

Socwell Does Not Disclose a Running Belt “Supported By” or “Disposed On” the Identified Bearing Rails or Plurality of Bearings

Even if Petitioner’s incomplete arguments were (improperly) extrapolated, the teachings of Socwell make clear that neither cover members 168 nor rollers 98 “support” the running belt.

- As discussed, rollers 98 do not “support” Socwell’s running belt. Accordingly, cover members 168 to which rollers 98 are attached also cannot “support” Socwell’s running belt through rollers 98.
- Additionally, nothing in Socwell suggests that cover members 168 “support[]” the running belt via deck 56, the only other “bearing” Petitioner identifies.
 - The Petition argues only that deck 56 may be “attach[ed]... to the frame 12” via the same set of bolts that may also attach cover member 168 to the frame. ‘580 Petition, 72.
 - This suggests at most that frame 12 supports both cover members 168 and deck 56, not that cover members 168 support deck 56. In fact, cover member 168 and deck 56 do not even contact each other, instead being connected via frame 12.

‘580 EX2018 at ¶131
(annotated EX1011 Fig. 5 with running belt 16 in **red**, roller 98 in **green**, deck 56 in **blue**, cover member 168 in **yellow**, and frame 12 in **purple**)



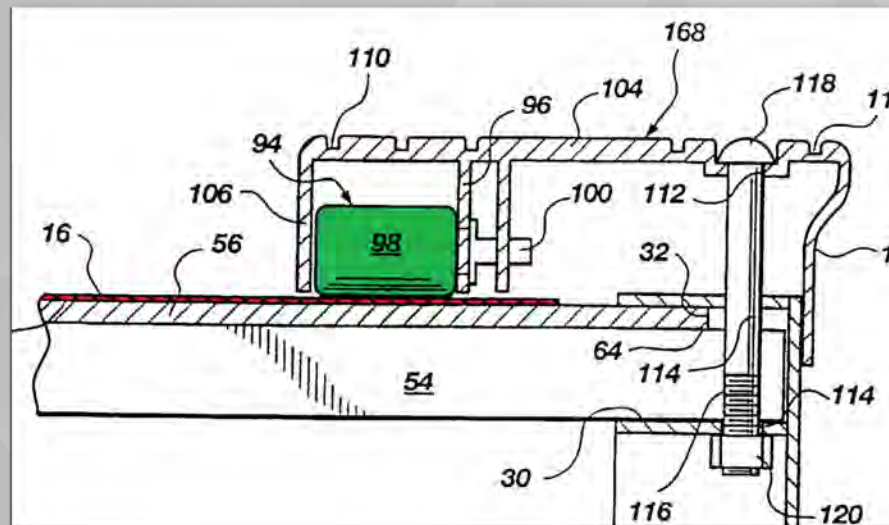
U.S. Patent No. 4,614,337 (“Schonenberger”)

Schonenberger Is Not Compatible with Socwell

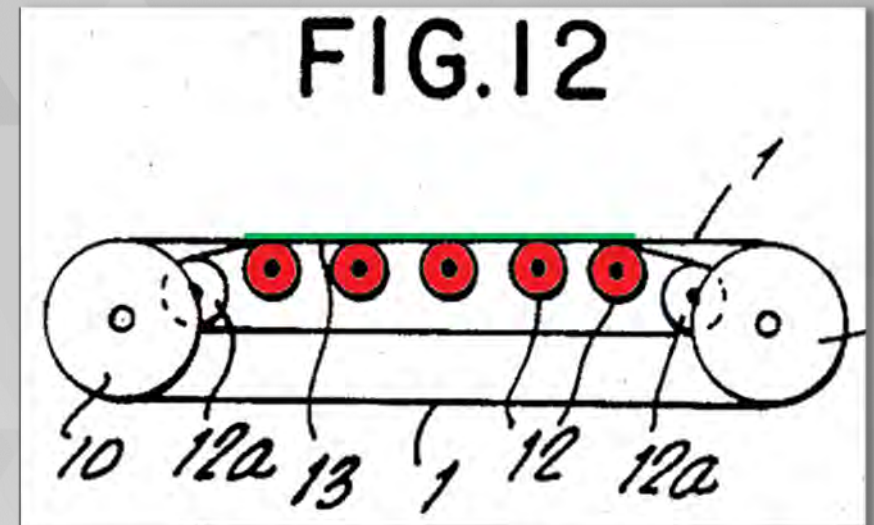
Although Petitioner ostensibly argues in favor of modifying Schonenberger to have a curved running surface in view of Socwell, the disclosures of each reference are not compatible or comparable:

- Petitioner alleges that combining Schonenberger with Socwell renders obvious all challenged independent claims of the '884 Patent (Grounds 1-3) and independent Claims 1, 10, and 21 and dependent claim 18 of the '745 Patent (Grounds 1-2).
- Although Petitioner argues that a POSA would have been motivated to alter Schonenberger to have a curved running surface in view of Socwell because both Socwell and Schonenberger disclose "a plurality of bearings," this argument relies on Petitioner's incorrect identification of Socwell's rollers 98 as "bearings" and ignores fundamental differences and incompatibilities between Socwell's rollers 98 and Schonenberger's rollers 12.

Whereas Socwell's rollers 98 are positioned above the running belt and act as a belt-retention system, Schonenberger's rollers 12 are positioned below the belt and act as bearings. The two are not interchangeable or comparable.



Socwell (EX1011), Fig. 5
(annotations added)

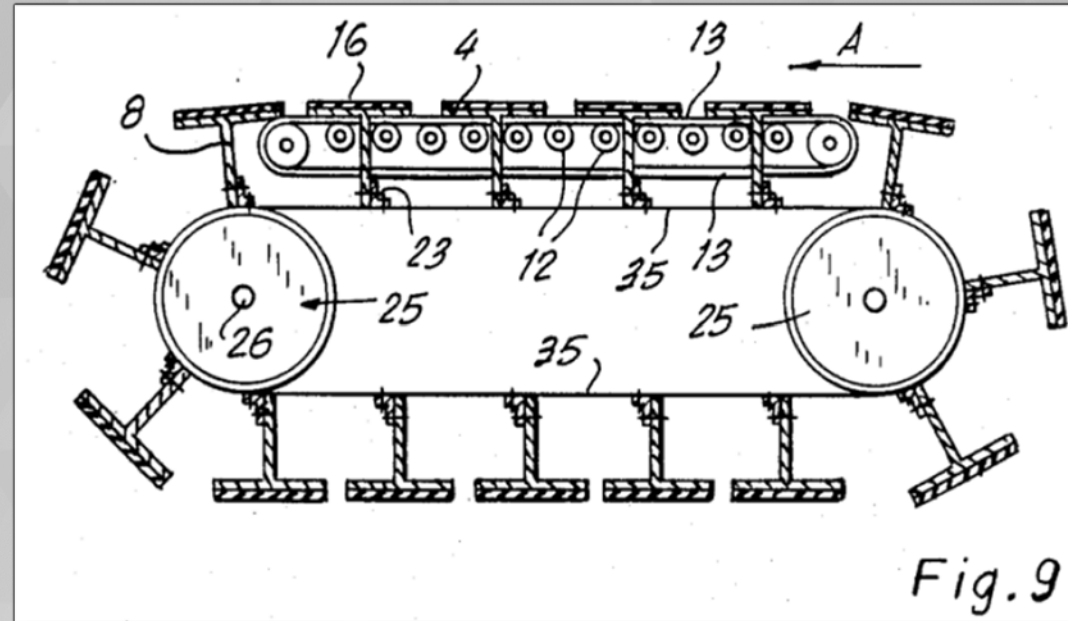


Schonenberger (EX1010), Fig. 12
(annotations added)

Schonenberger Is Not Compatible with Socwell

Although Petitioner ostensibly argues in favor of modifying Schonenberger to have a curved running surface in view of Socwell, the disclosures of each reference are not compatible or comparable:

- Unlike Socwell, Schonenberger has metal slats (4) under the running surface. These metal slats would be more rigid and difficult to force along a curved path than any belt in Socwell.
- A POSA considering modifying Schonenberger to change the orientation of the rollers from flat to an arc would understand that the entire architecture of Schonenberger would need to be redesigned but would have no guidance from either Socwell or Schonenberger on how to go about those changes. '884 EX2018 at ¶¶158-164; '745 EX2018 at ¶¶138-144.
- Schonenberger's rollers (12) as shown in Figure 9 are flat, and slats (4) follow this flat plane. If a POSA were to try and create a curved running surface, she could not lower the rollers into a curved shape because the width of the slats necessarily restricts the angles and distances between the rollers.
- Even in Reply, Petitioner fails to address how or why a POSA would modify the Schonenberger's slate-type running surface to accommodate the proposed curvature.

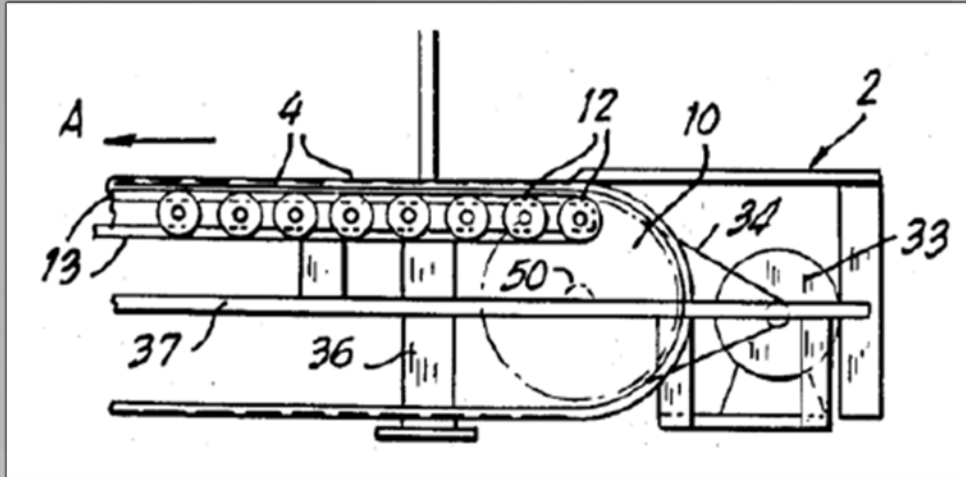


Schonenberger
(EX1010) at Fig. 9

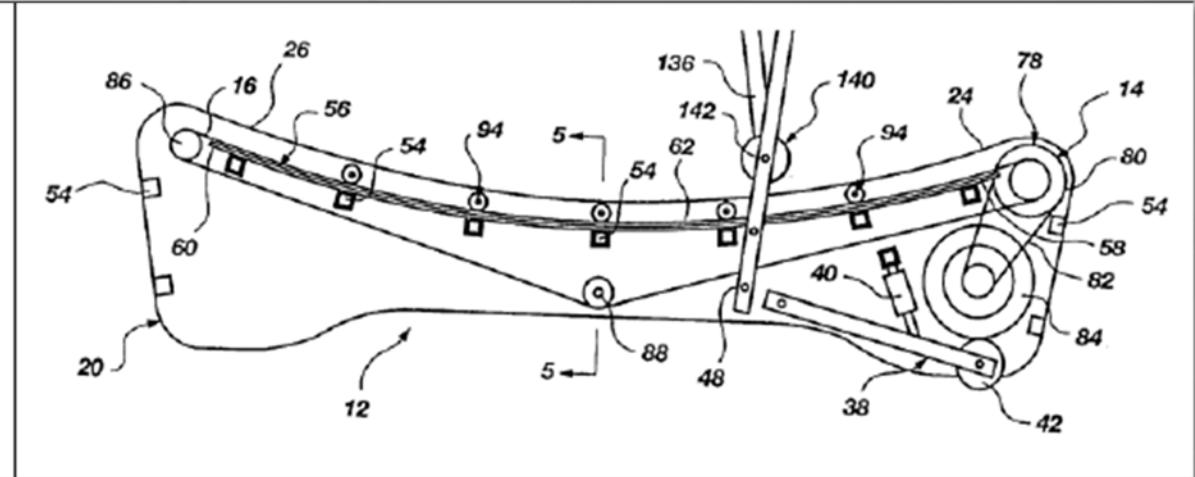
Schonenberger Is Not Compatible with Socwell

Although Petitioner ostensibly argues in favor of modifying Schonenberger to have a curved running surface in view of Socwell, the disclosures of each reference are not compatible or comparable:

- Schonenberger's slats need more structural support given their additional weight/rigidity compared to the belt in Socwell, resulting in Schonenberger's supports being positioned much more closely to each other than in Socwell. '884 EX2018 at ¶162; '745 EX2018 at ¶142.
- Petitioner fails to explain how a POSA would know to modify the curvature of Schonenberger's rollers to allow the slats to follow such a curvature without overlapping, pinching, etc. '884 EX2018 at ¶¶163-164; '745 EX2018 at ¶143-144.



Schonenberger (EX1010)
at Fig. 2

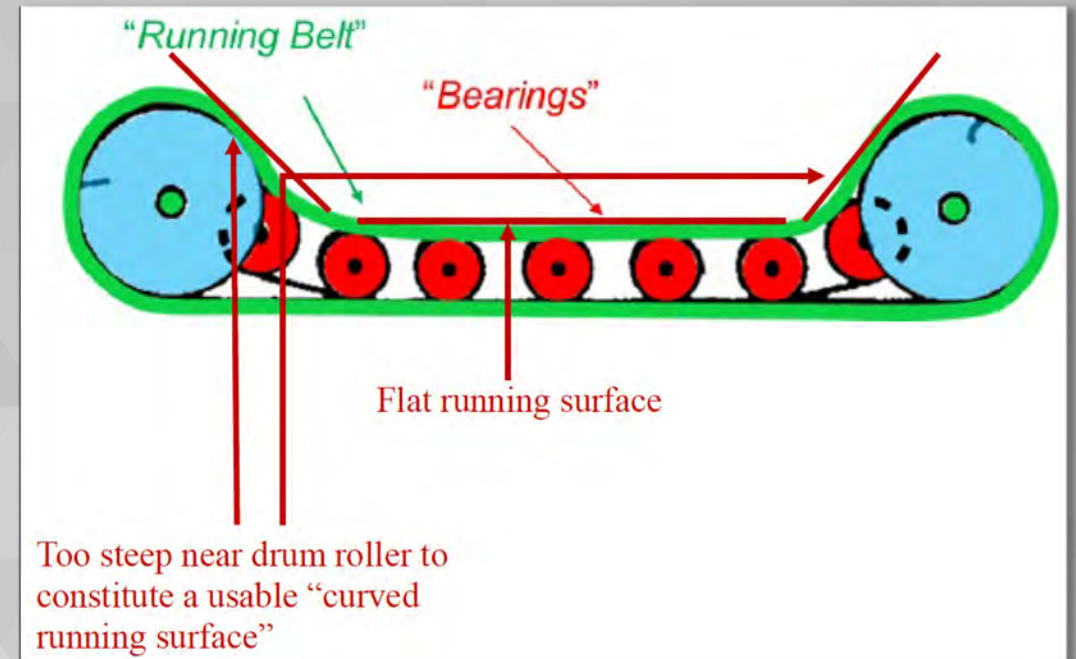


Socwell (EX1011)
at Fig. 2

Schonenberger as Modified Does Not Disclose a Curved Running Surface

Even if a POSA would have been motivated to combine Schonenberger and Socwell, the resulting modified Schonenberger device still fails to meet the “curved running surface” limitations of the challenged claims:

- Schonenberger does not disclose rollers that define “a curved top profile” as required by Claim 57 of the '884 Patent and Claim 18 of the '745 Patent or, indeed, any curved profile that would form the basis for a curved running surface.
- Reversing the orientation of Schonenberger’s rollers does not result in a curved running surface but rather results in a device with a flat running surface.
- Schonenberger further teaches away from the proposed modifications, and as such, a POSA would have no motivation to combine Socwell with Schonenberger as Petitioner proposes.



'884 EX2018 at ¶151;
see also '745 EX2018 at ¶131

Schonenberger Does Not Disclose Rollers Defining “a Curved Top Profile”

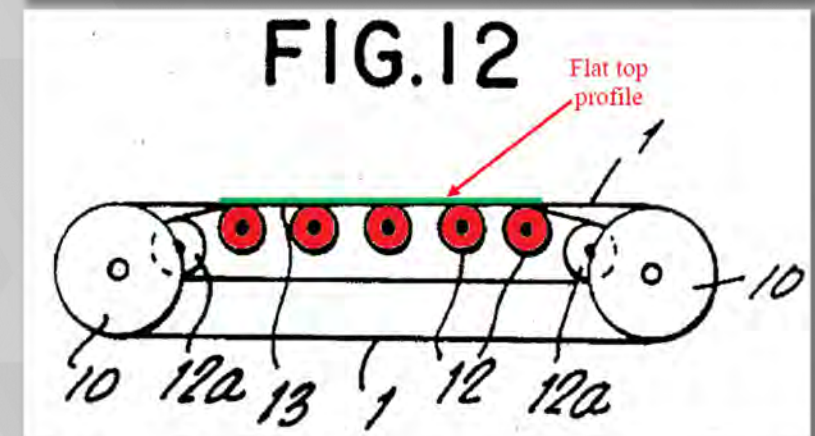
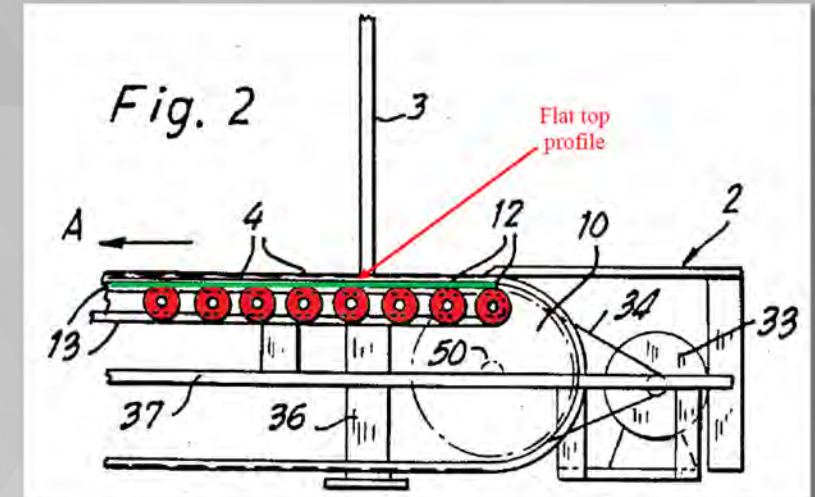
Schonenberger does not disclose rollers that define “a curved top profile” as required by Claim 57 of the '884 Patent¹ and Claim 18 of the '745 Patent:

- Schonenberger expressly describes the disclosed device as having a “flat top surface,” not a curved profile. EX1010 at Abstract. This flat top surface is supported by support belts 13, 13', which follow the profile of rollers 12, 12' and are positioned parallel to the top surface such that:

there is practically no bowing or hanging through of the belts 5 [that form surface 1] since downward vertical forces applied to the step slats 4 are accepted by the rollers 12. Thus, the surface is practically flat while being slightly springy and resembles that of a natural soft grass, or other soft surface athletic track.

EX1010 at 5:51-6:4.

- Such features cannot exist unless rollers 12 themselves are arranged parallel to each other such that they have a substantially flat profile, not a curved profile.
- Schonenberger's figures confirm that rollers 12 define a **flat** top profile.



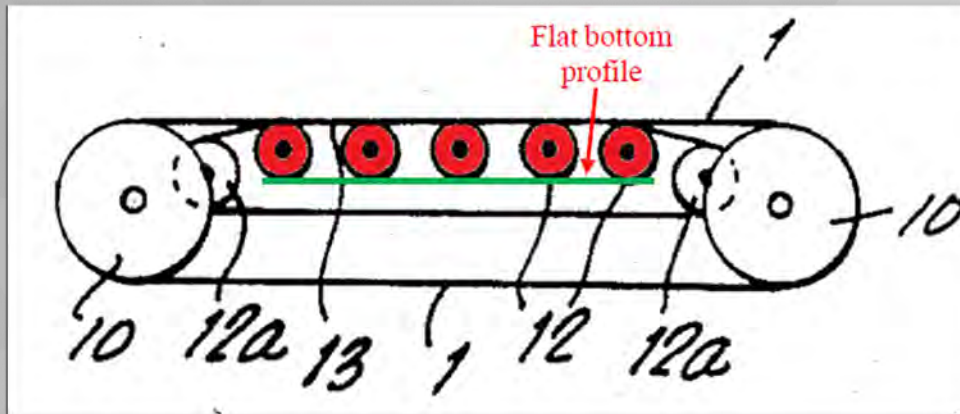
'884 EX2018 at ¶140;
see also '745 EX2018 at ¶120

¹ Although other Challenged Claims in the '884 Patent also require that the plurality of bearings define a curved top profile, Petitioner never argues that Schonenberger alone discloses this limitation for those claims. See '884 Petition, 63-64 (discussing Claims 32 and 47).

Reversing Schonenberger's Roller Configuration Does Not Result in a Curved Running Surface

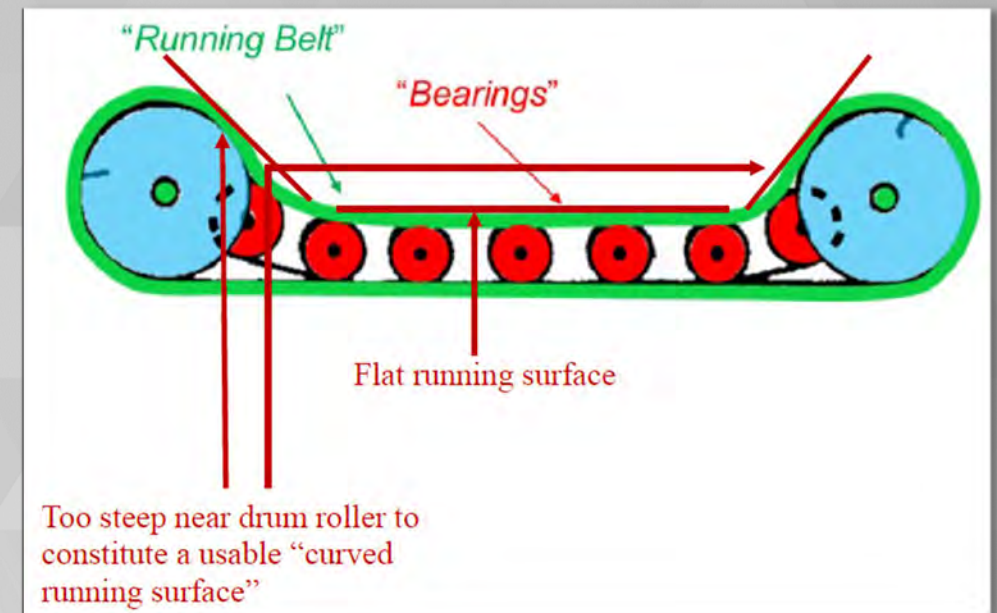
Effectively flipping the orientation of Schonenberger's terminal rollers to position them above the remaining rollers would not result in a concave curvature to the running surface:

- Although Petitioner proposes such modifications in its modified version of Schonenberger, its figures misrepresent the resulting running surface, which would remain substantially flat.
- The proposed modifications also results in steep areas near the drum rollers, which would pose a far greater threat to a user's joints than Schonenberger's original orientation. '884 EX2018 at ¶155-156; '745 EX2018 at ¶¶135-136.



'884 EX2018 at ¶144;
see also '745 EX2018 at ¶124

Reversing the roller orientation results in a flat running surface with any purported "curve" being too steep and dangerous to be useable



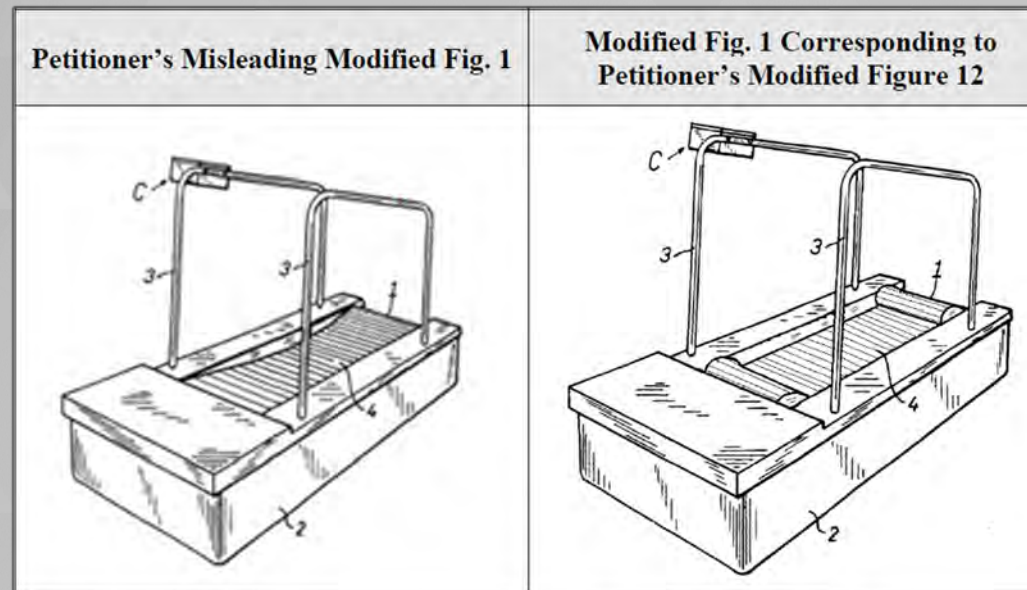
'884 EX2018 at ¶151;
see also '745 EX2018 at ¶131

Reversing Schonenberger's Roller Configuration Does Not Result in a Curved Running Surface

Effectively flipping the orientation of Schonenberger's terminal rollers to position them above the remaining rollers would not result in a concave curvature to the running surface:

- Petitioner's modified version of Schonenberger Figure 1 is misleading and misrepresents the features that would result from their proposed modifications to the roller configuration described and shown throughout the rest of the Petitions.

Petitioner's figures misrepresent the resulting running surface



'884 EX2018 at ¶1154;
see also '745 EX2018 at ¶126

- Petitioner's criticism of the use of modified Figure 12 to determine the shape of the running belt is misplaced. It was Petitioner – not Patent Owner – who described modified Figure 12 as depicting how the modified Schonenberger “would result in a curved running surface, as shown [in modified Figure 12], . . . defined by the rollers 12.” '884 Petition at 42; see also '745 Petition at 40. There are no other depictions of the proposed modifications to the bearing arrangement.

Schonenberger Teaches Away From the Proposed Modifications

Even if Petitioner's misleading characterizations of Schonenberger and its roller arrangement were accurate—they are not—a POSA still would not have been motivated to modify Schonenberger as described because Schonenberger effectively teaches away from the proposed combination:

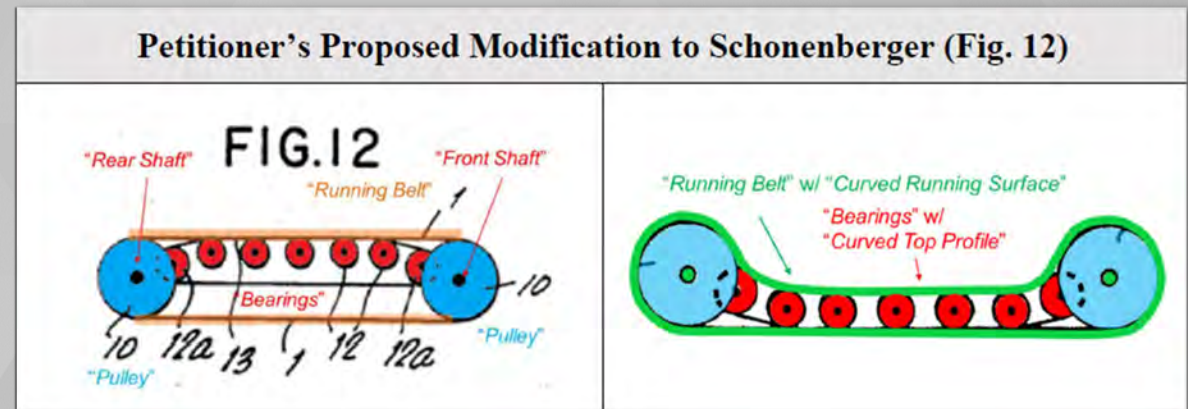
- Petitioner proposes altering Schonenberger so that running belt 1 "conform[s] to the profile of the supporting rollers 12" through the force of gravity. '884 Petition at 42-43; '745 Petition at 37. This would require running belt 1 to rest directly against support belts 13, 13', which follow the profile of rollers 12, even when running belt 1 is unloaded. EX2018 at ¶166.
- But a key object of the invention in Schonenberger is to provide a treadmill with "a pleasant, springy feel when being stepped or jumped on without, however, being excessively stressed by bending or bowing..." EX1010 at 1:63-2:1. This requires a small amount of space between the running belt and the support belts/rollers when the surface is unloaded.
 - Schonenberger thus effectively teaches away from the proposed modifications, which would eliminate this key objective.

with respect to bolt 21 may also be used. The spacing between the upper surface of the support belt 13 and the lower surface 14 of the step slats 4 is so selected in the area, where the V-belt 13 (FIG. 7) or support belt 13 (FIG. 5) is positioned over the rollers 12, that a small distance in the order of, for example, about $\frac{1}{2}$ mm preferably is left when the surface 1 is unloaded. Upon loading, for example by the user stepping on the slats 4, the flat underside 14 of the respective slat 4 will engage the support belt 13, 13'. Support belt 13, 13' is carried along in the direction of the arrow A (FIG. 2) when engaged by the lower surface of the respective step slat 4 so that, as a consequence, the support rollers 12 will rotate. The support belt 13 will then move with the same speed as the movable surface 1. Since bolts 21 of the support roller 12 are fixedly located in the frame, there is practically no bowing or hanging-through of the belts 5 since downward vertical forces applied to the step slats 4 are accepted by the rollers 12. Thus, the surface is practically flat while being slightly springy and resembles that of a natural soft grass, or other soft-surface athletic track.

Schonenberger (EX1010)
at 5:51-6:4

Schonberger Teaches Away From the Proposed Modifications

- Petitioner's attempted rebuttal of Patent Owner's teaching away arguments misstates several features of its own Petitions and of Schonberger.
- Despite Petitioner's contention that belts 13/13' are optional and "are not included in the embodiment that Petitioner relied on—Figures 10 and 10a—where the moveable surface 1 rides directly on the rollers 12 via its modified belt 5,'" ('884 Reply at 10), the Petitions relied not only on Figure 10 but also on Figure 12. Both the original Figure 12 and Petitioner's modified version include support belt 13. Petitioner cannot disavow this argument now.
- Even if Petitioner's proposed modification did not include the support belt 13, it is immaterial. Even in the Figure 10 embodiment, there must still be space between the running belt (and any directly connected components) and the rollers.



'884 Surreply at 12

cushioning. FIG. 10 illustrates the belt 5' in engagement with roller 12, that is, the condition when the slot 4 is loaded, for example by the weight of a user symbolically indicated by weight arrow W. When unloaded, rollers 12 and belt 5' are partially spaced.

Schonberger (EX1010)
at 8:58-62

U.S. Patent No. 3,637,206 (“Chickering”)

Chickering Does Not Disclose a Curved Running Surface

Neither of Chickering's embodiments disclose a curved running surface as required by challenged independent claims 1, 11, and 25 of the '580 Patent and all challenged claims of the '884 Patent. Rather, both disclose a dual-planar design with two flat running surfaces:

- As Dr. Blair explains, a POSA would understand a treadmill's "running surface" to be a surface with which a runner's feet are intended to make contact when using the treadmill. '884 EX2018, ¶¶89-90. Notably, Petitioner's expert Dr. Giachetti gave similar testimony regarding his understanding of what constitutes a "running surface". EX2023, 33:8-10.
- Although the Institution Decision and Petitioner identify a purported "curve in belt 28," Chickering itself makes clear that this purported curve does not meet the criteria for a running surface.

Robert Giachetti Testimony

"The running surface is, generally speaking, the top of the treadmill where the user is expected to place their feet."

EX2023, 33:8-10

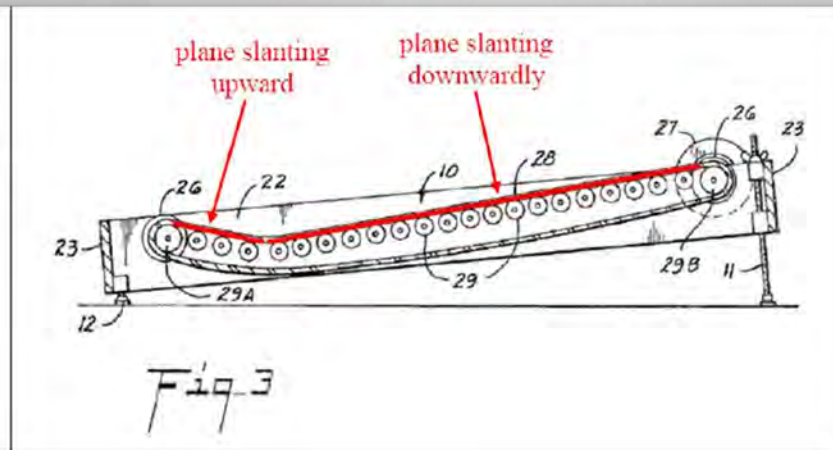
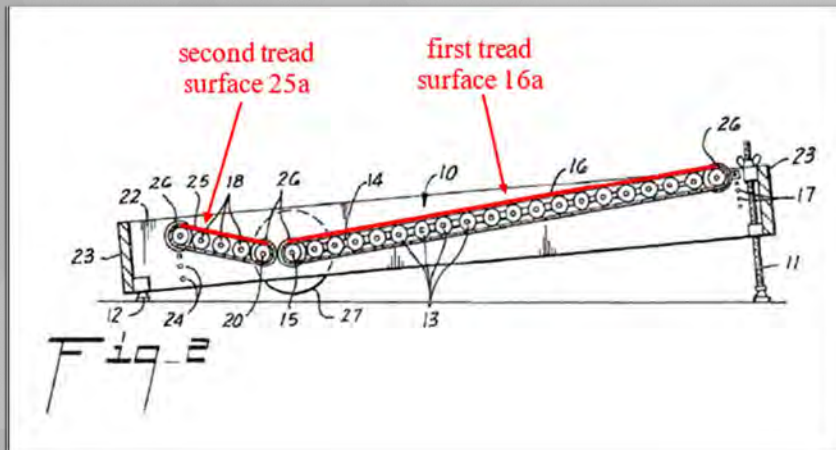
When a person is using the exercise device, during each step his foot moves in an approximate arc. The foot first contacts the tread surface 16a as shown in FIG. 1, and moves rearwardly and downwardly, the weight of the person acting to accelerate the motion of the belt 16. **Near the bottom of the arc the foot leaves surface 16a and may for a brief instant be out of contact with any surface.** However, further rearward movement will bring at least a portion of the foot into contact with tread surface 25a. While the forward rollers and belt may act

Chickering (EX1013)
at 2:50-58

Chickering Does Not Disclose a Curved Running Surface

Neither of Chickering's embodiments disclose a curved running surface as required by challenged independent claims 1, 11, and 25 of the '580 Patent and all challenged claims of the '884 Patent:

- Because "the foot leaves surface 16a" and is "out of contact with any surface" before it contacts tread surface 25a," a runner's feet are not intended to contact the area between those surfaces, i.e., the point when the two surfaces come together to form an angle. '884 EX2018 at ¶¶91-92; '580 EX2018 at ¶¶90-91.
- The same effects seen in Chickering's Figure 1-2 embodiment occurs in the Figure 3 embodiment, which differs solely on its use of one belt instead of two.
- Thus, a runner's feet never contact the "area where the downwardly slanting plane of the forward rollers meets the upwardly slanting plane of the rear rollers," i.e., the only area where Figure 3 even arguably depicts a curve, and this area cannot constitute a "running surface" as required by the claims. '884 EX2018 at ¶94; '580 EX2018 at ¶91.



'884 EX2018 at ¶¶93-94; '580 EX2018 at ¶90
(both annotating EX1013 Figs. 2-3)

Chickering Does Not Disclose a Curved Running Surface

Petitioner's arguments in Reply are misplaced:

- Even if there is a “very, very small curve” in the **running belt**, this does not mean that it is in the **running surface**.
- The “running belt” and “running surface” are distinct elements that have presumptively different meanings and should not be interpreted to be synonymous.

The general presumption that different terms have different meanings remains. See *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”).

Chi. Bd. Options Exch., Inc. v. Int’l Sec. Exch., LLC, 677 F.3d 1361, 1369 (Fed. Cir. 2012).

- Dr. Giachetti’s unsupported assertion that “[a] POSA would have understood this disclosure in Chickering [sic] teaches that a user could contact the curved area of the running surface” (’580 EX1036 at ¶26) is also improper *ipse dixit* testimony and should be disregarded. *TQ Delta, LLC v. Cisco Sys.*, 942 F.3d 1352, 1362-63 (Fed. Cir. 2019).

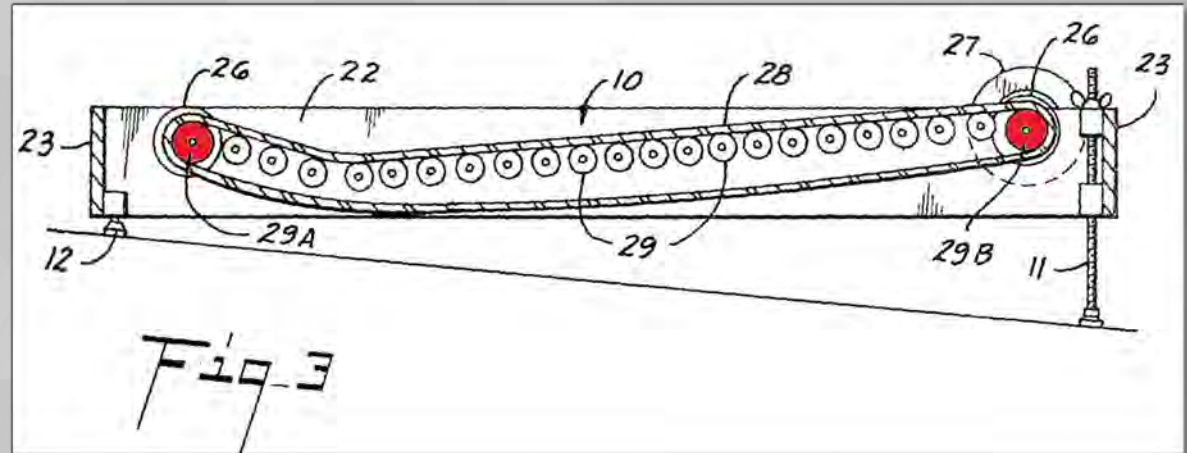
Chickering Does Not Disclose a Curved Running Surface

Petitioner's arguments in Reply are misplaced:

- Petitioner's argument that a POSA would understand a heavier belt to "require a more gradual curve" in the running belt is unsupported by any evidence.
- Petitioner relies entirely on irrelevant disclosures regarding the potential desire for larger end rollers 29a and 29b—structures located at the **far front and rear ends of the treadmill**—to provide a larger turning radius for the belt.
- These disclosures provide no insight into the how (if at all) a heavier belt would affect the shape of the running surface or even the shape of the running belt anywhere other than at the far front and rear ends of the treadmill.

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.

Chickering (EX1013)
at 3:11-17

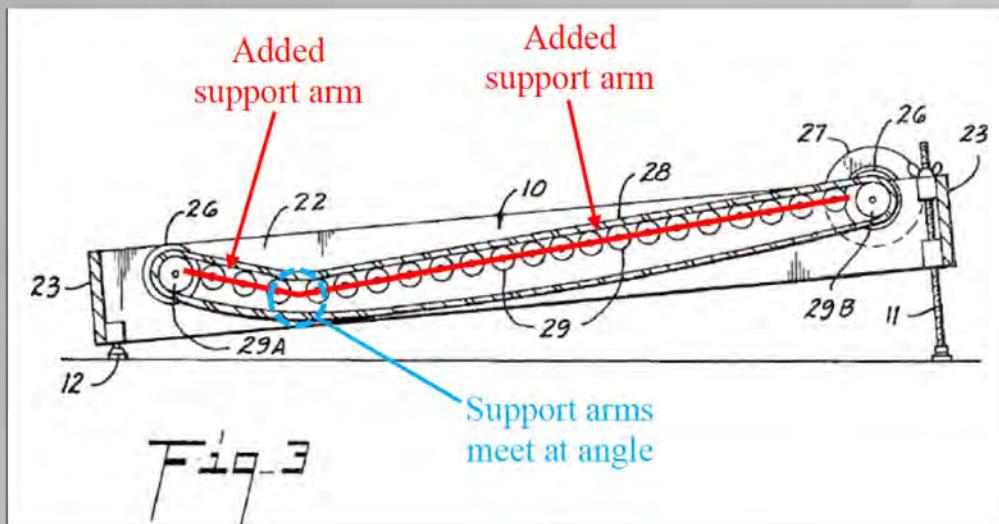


Chickering (EX1013) Fig. 3
(annotated with end rollers 29a and 29b in **red**)

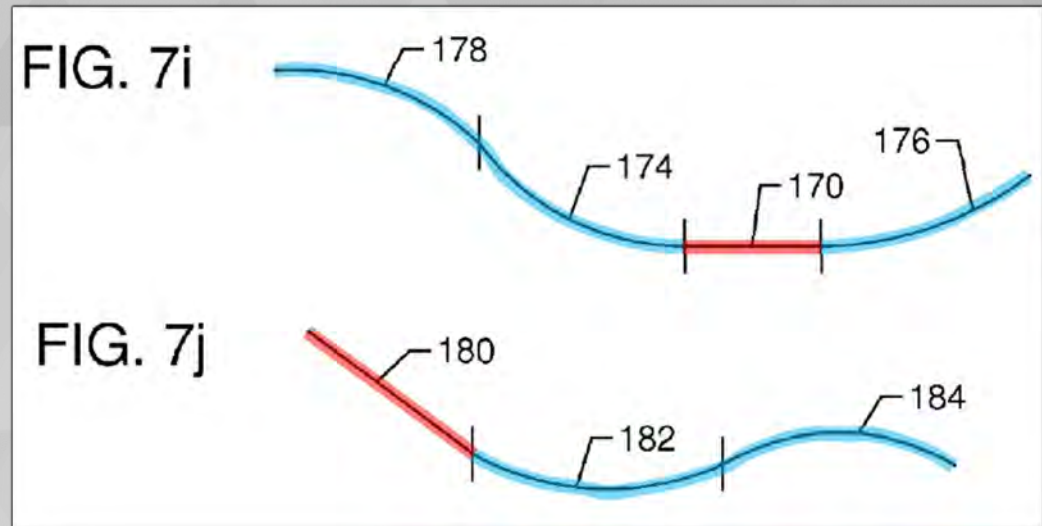
Chickering Does Not Disclose the First and Second Bearing Rails Defining a Curved Top Profile

Neither of Chickering's embodiments disclose that the structures Petitioner identifies as the first and second bearing rails define a curved top profile as required by '580 Claim 25:

- Chickering's support arms 14 and 19 – which Petitioner proposes adding to the Figure 3 embodiment from the Figure 1-2 embodiment to meet the "bearing rails" limitations – do not have any curved components (as Petitioner's expert admits (EX2022, 25:7-28:16)) but rather are perfectly straight and meet at a sharp, obtuse angle.
- Although the '580 Patent teaches that a **running surface** may have a curved profile if it is made up of **both linear and curved** portions (EX1001 at 10:17-38, Figs. 7i-j), it never extends those teachings to a profile made up of **only linear** portions or to any profile formed by the **bearing rails**.



'580 EX2018 at ¶97
(annotating EX1013 Fig. 3)



'580 EX1001, Figs. 7i-j (annotated with curved segments of running surface in blue, linear segments in red)

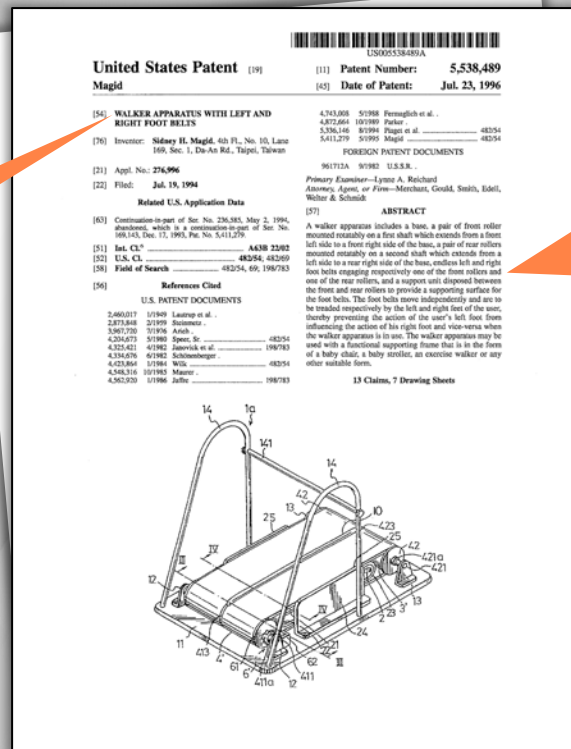
U.S. Patent No. 5,538,489 (“Magid”)
No Motivation to Combine

No Motivation to Combine Magid with Any Primary References

Every Ground in the Petitions must fail because, even though all require a combination with Magid's "unidirectional control means, 6, 6'," a POSA would not be motivated to combine Magid with any of the primary references:

- A POSA would recognize that, unlike any of the primary references, Magid is directed to a two-belt therapeutic walker device the features of which are incompatible with exercise-focused devices intended for use by able-bodied adults.

[54] WALKER APPARATUS WITH LEFT AND RIGHT FOOT BELTS



[57]

ABSTRACT

A walker apparatus includes a base, a pair of front roller mounted rotatably on a first shaft which extends from a front left side to a front right side of the base, a pair of rear rollers mounted rotatably on a second shaft which extends from a left side to a rear right side of the base, endless left and right foot belts engaging respectively one of the front rollers and one of the rear rollers, and a support unit disposed between the front and rear rollers to provide a supporting surface for the foot belts. The foot belts move independently and are to be treaded respectively by the left and right feet of the user, thereby preventing the action of the user's left foot from influencing the action of his right foot and vice-versa when the walker apparatus is in use. The walker apparatus may be used with a functional supporting frame that is in the form of a baby chair, a baby stroller, an exercise walker or any other suitable form.

No Motivation to Combine Magid with Any Primary References

Every ground in the Petitions must fail because, even though all require a combination with Magid's "unidirectional control means, 6, 6'," a POSA would not be motivated to combine Magid with any of the primary references:

- The primary object of Magid is to provide two independently moving belts for therapeutic purposes, not a single belt.
- Magid further distinguishes the prior art, which it criticizes as being unsuited for therapeutic uses, from its own invention.

The running track of Morozov is not suited for use as a walker apparatus by people with uncoordinated feet movement, such as small children, physically handicapped people and old people, since the left and right feet of the user tread a single, wide bearing belt (B1) at the same time. Thus, a twisting moment (T1), (T2) applied by either the left foot (L) or the right foot (R) when treading the left-side or right-side parts of the bearing belt (B1) may influence smooth running of the latter relative to the inner endless belt (B2).

Magid (EX1012)
at 1:30-38

When in use, the user's feet drive a respective foot belt 4, 4', rather than a single, common wide belt as taught in the conventional running track described beforehand. Thus, the foot belts 4, 4' move independently when treaded by the left and right feet of the user, thereby preventing the action of the user's left foot from influencing the action of his right foot and vice-versa to permit natural, comfortable and a more ergonomic form of walking when the walker apparatus of the present invention is in use.

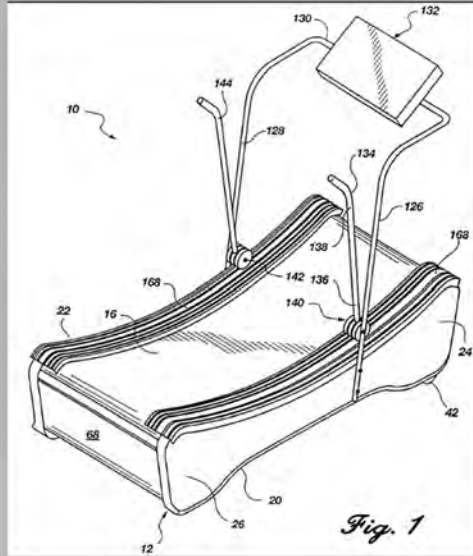
Magid (EX1012)
at 5:19-27

No Motivation to Combine Magid with Any Primary References

The primary references' designs are incompatible with Magid, both in terms of physical structure and in terms of intended purpose:

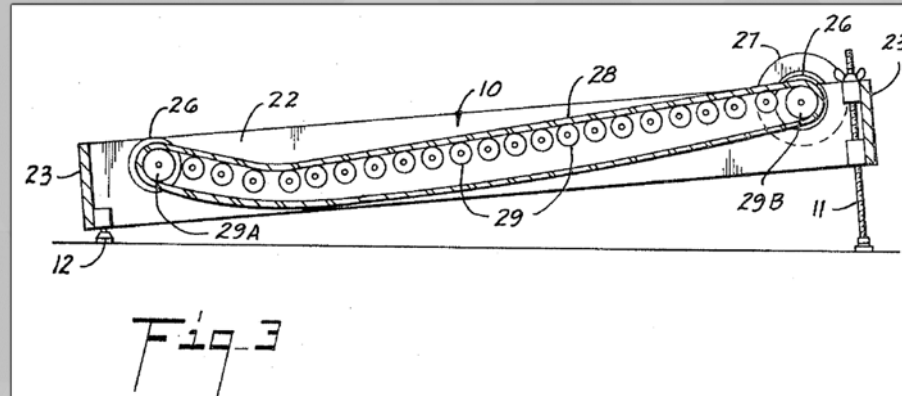
- Unlike Magid, each primary reference cited in each ground in the Petitions focuses on a single belt design – i.e., the precise kind of design that Magid rejects in favor of having two footbelts capable of moving independently of one another – and is not designed for therapeutic use.

Socwell discloses a single belt 16 that provides a running surface for an "exercise treadmill[]"



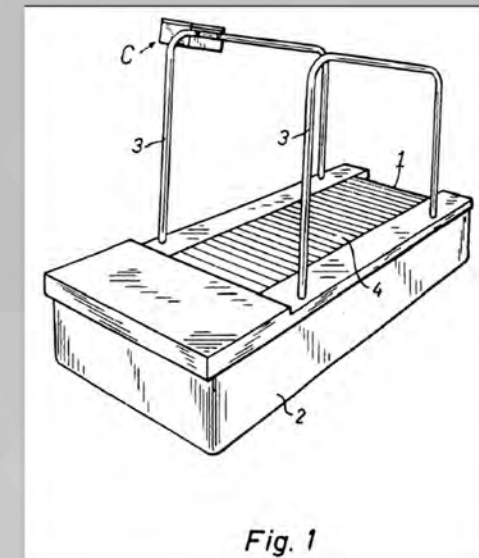
Socwell (EX1011)
at 1:10-12, Fig. 1; *id. generally*

The relevant Chickering embodiment has "a single endless belt" and is directed to an "exercising device"



Chickering (EX1013)
at 2:73-3:10, 1:48-51, Fig. 3

Schonenberger is a single belt design for "physical exercise and training," such as "for running, training for cross-country skiing," and other uses



Schonenberger (EX1010)
at 1:10-14, 2:37-44, Fig. 1

No Motivation to Combine Magid with Any Primary References

The primary references would have no need for the purported “safety device” disclosed in Magid:

- Magid’s walker device is intended for therapeutic use by “people with uncoordinated feet movement, such as small children, physically handicapped people and old people....” EX1012, 1:30-35, 5:52-55. While Magid’s flat, uniplanar walking surface is appropriate for such use, the intended users face a heightened risk of injury if one of Magid’s parallel walking belts moves in the opposite direction from that intended during use. ‘580 EX2018 at ¶¶155-156.
- Thus, Magid requires a control means to prevent one of the belts from moving in the opposite direction **while the other remains stationary or moves in the correct direction** during normal use as, without such a control means, a user’s feet could move in opposite directions while in contact with their respective belts and cause injury. ‘580 EX2018 at ¶157.
- In contrast, the single-belt designs of Socwell, Chickering, or Schonenberger have no such requirement as a single belt can only ever move in one direction. ‘580 EX2018 at ¶158.

Blair Testimony (‘580 EX2018)

156. However, a POSA would expect those with “uncoordinated feet movement” to face a heightened risk if the one of the Magid’s two walking belts moves in the opposite direction from that intended during use. Such users would be expected to have balance and coordination problems that significantly limit their ability to correct for an unintended foot movement and thus increase their risk of injury. Such injuries include, for example, ligament, tendon, or muscular damage to the hip or knee that may result from hyperextension of the forward leg as the rearward leg unexpectedly moves in the opposite direction.

Giachetti Testimony (EX2023, 81:20-22)

“[A] person that has issues balancing is more precarious than a person who is what we would consider able-bodied.”

No Motivation to Combine Magid with Any Primary References

A POSA would recognize Magid to be incompatible with the primary references as Magid teaches away from a single-belt, non-planar, or multi-planar exercise treadmill:

- A multi-planar running surface like that of Chickering or a curved running surface like that of Socwell and (allegedly) modified Schonenberger would be inherently difficult to adapt and inappropriate for Magid's express therapeutic use by those with uncoordinated feet movements.
 - Such users are "expected to have balance and coordination problems, and these deficiencies make walking or running on a curved or multi-planar surface unnecessarily dangerous as they increase the propensity for falls, particularly in the absence of features like handles or harnesses that allow the user to maintain their balance independent of their feet movements." '884 EX2018 at ¶192.
- Socwell and Chickering further criticize the use of handles and other safety features that render the described devices unsuitable for use by those with physical handicaps and uncoordinated feet movement. *Id.* at ¶¶193-194.
- A person with Petitioner's overstated POSA qualifications, including a greater understand of "anthropometry," would especially appreciate that Magid is specially adapted for narrow use as a therapeutic walker.

Additionally, exercise treadmills of the prior art may furnish a user with an upright handle to grasp while exercising. While somewhat useful in retaining the user's balance on the rotating endless belt, having to grasp a fixed handle may impede the natural body motion of a user attempting to exercise. Such an encumbrance may be feasible when a user is attempting to walk, but when a user begins to jog or run on prior art exercise treadmills, having to grasp a handle to keep centered on the treadmill may severely interfere with one's natural body motion and further abdicate the inherent physical advantages of the exercise routine.

Socwell (EX1011)
at 2:56-67

It is a principal object of this invention to provide a treadmill type exercising device which removes the necessity for external support means for the user.

Another object is to provide such an exercising device upon which the user may accurately simulate the acts of walking, jogging and running without relying on handles, railings, belts, or the like, for maintaining his balance and his position.

Chickering (EX1013)
1:40-47

No Motivation to Combine Magid with Any Primary References

Design and engineering requirements would also urge a POSA to avoid combining features of Magid’s flat, uniplanar walking device with the curved or multi-planar treadmills of Socwell, Chickering, and (allegedly) Schonenberger as modified by Petitioner:

- In a curved or multi-planar treadmill, the only concern Petitioner identifies is that the belt will move in an unintended direction if the user mounts the treadmill at the rearward end.
- However, this concern is not referenced in the prior art and does not apply to a flat, uniplanar device like Magid where mounting the device from the rear is no different than mounting it at any other point. ‘884 EX2018 at ¶¶198-202; *see also* ‘580 EX2018 at ¶¶165-168 & ‘745 EX2018 at ¶¶174-177.

Blair Testimony (‘884 EX2018)		
<ul style="list-style-type: none">• Socwell “explains that its curved running surface is sufficient to address the acknowledged danger of users’ tendency to fall off the back of the treadmill,” without recognizing bidirectional movement as undesirable. ¶199.• Socwell advocates for sufficient frictional in <u>any</u> direction to ensure safety, not for unidirectional movement. ¶199.	<ul style="list-style-type: none">• Chickering discloses two embodiments with dual-planar running surfaces, but like Socwell, it does not recognize any potentially unwanted characteristics that result from its multi-planar design. ¶200.	<ul style="list-style-type: none">• If modified Schonenberger is understood to be curved – it is not – it still does not disclose any concerns about the belt moving in an unintended direction. ¶201.• Likewise, although Petitioner relies on Socwell to modify Schonenberger, Socwell does not disclose any concerns about bidirectional movement as discussed. ¶201.

No Motivation to Combine Magid with Any Primary References

Petitioner's Reply arguments must also fail

- Simply falling within the broad field of "exercise equipment" is not enough to establish a motivation to combine Magid with the other prior art.
- Petitioner's reliance on third-party safety standards must fail as no Ground includes these so-called standards as primary or secondary references, nor does any Ground purport to rely on a POSA's general knowledge of the art.
- Petitioner does not contest that Magid's teachings would discourage a POSA from combining it with Socwell, Chickering, or Schonenberger, instead improperly urging the Board to disregard these teachings as "not relevant to the proposed combinations." '580 Reply at 15-16. This is improper under controlling law; the Board must consider Magid for all it teaches, and the sole case Petitioner cites (*In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994)) does not stand for any contrary proposition.

Demonstrating that a reference is analogous art or relevant to the field of endeavor of the challenged patent is not sufficient to establish that one of ordinary skill would have had reason to combine its teachings with other prior art in the manner set forth in the claim. . . . Mere compatibility of the references is likewise not sufficient.

Johns Manville Corp. v. Knauf Insulation, Inc.,
IPR2018-00827, Paper 9, 10 (PTAB Oct. 16, 2018) (informative).

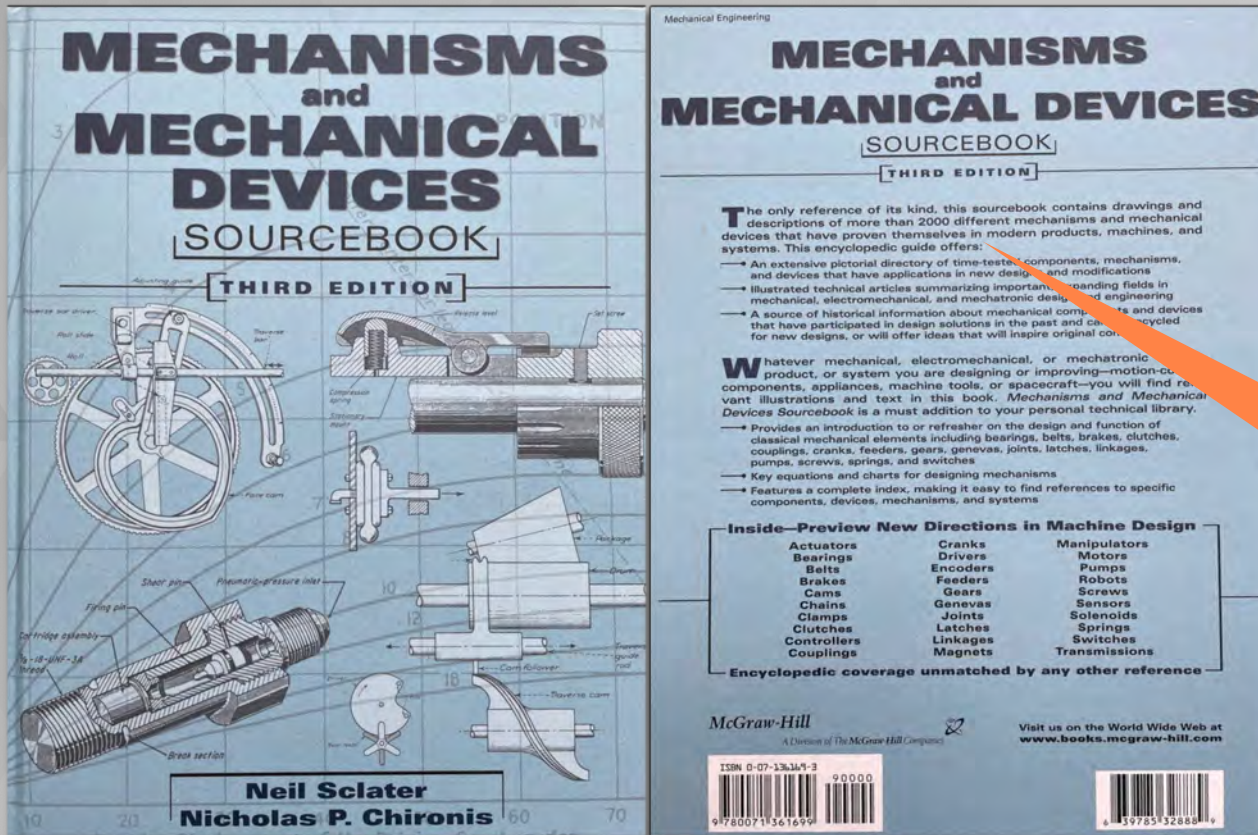
[T]he prior art could contain one reference suggesting a combination and others critiquing or otherwise discouraging the same. Even a single reference can include both types of statements, and . . . ***it is error to fail to consider the entirety of the art.***

Arctic Cat Inc. v. Bombardier Rec. Prods.,
876 F.3d 1350, 1360 (Fed. Cir. 2017) (emphasis added).

***Mechanisms & Mechanical Devices Sourcebook
("Sclater")
No Motivation to Substitute***

No Motivation to Substitute Sclater for Magid

A POSA would not be motivated to replace Magid with the specific clutch Petitioner cites in Grounds 2, 3, 5, and 6 of the '580 Petition, Grounds 1-3 of the '745 Petition, and Grounds 1-4 of the '884 Petition absent impermissible hindsight bias:



- Petitioner relies on highly limited, cherry-picked sections of Sclater, but even these identify dozens of mechanisms and devices, at least twenty of which are different types of clutches.
- Petitioner fails to offer any explanation as to why a POSA would select the specific clutch it proposes to substitute for Magid's unidirectional control means.

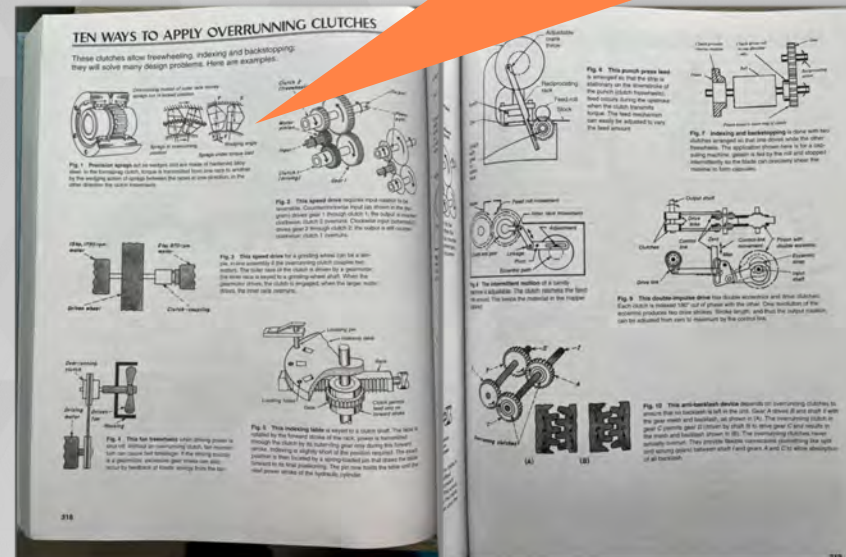
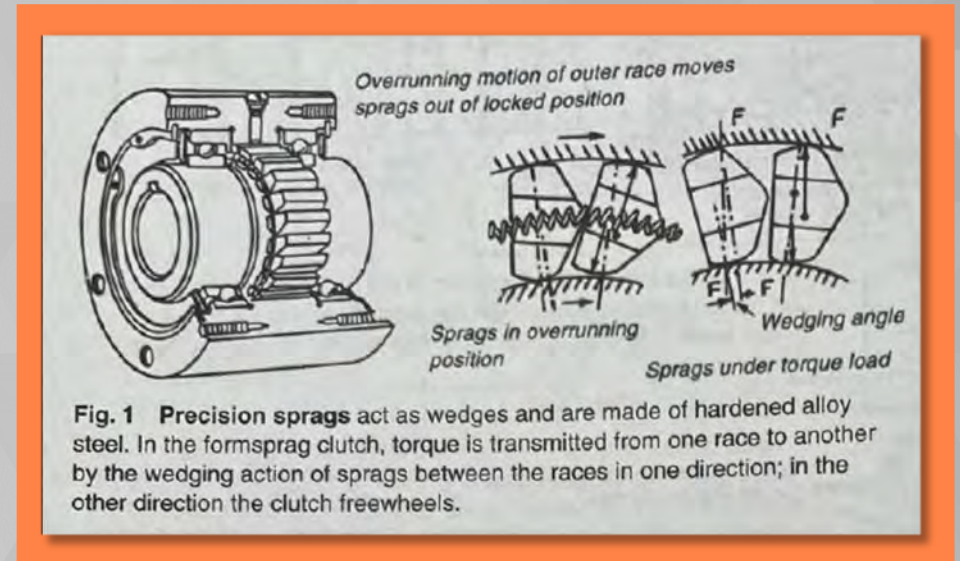
"The only reference of its kind, this sourcebook contains drawings and descriptions of **more than 2000 different mechanisms and mechanical devices** that have proven themselves in modern products, machines, and systems."

Sclater (EX1017) at 1, 24

No Motivation to Substitute Sclater for Magid

A POSA would not be motivated to replace Magid with the specific clutch Petitioner cites absent impermissible hindsight bias:

- Sclater says virtually nothing about the specific clutch Petitioner relies on.
- Sclater's full teachings regarding the specific clutch Petitioner cites, which is discussed alongside nine other overrunning clutches that also "allow freewheeling, indexing and backstopping" and "will solve many design problems," is reproduced on the right:
- Emerson cannot provide the missing motivation to combine when it was never cited as a reference in any Ground.



Sclater (EX1017)
at 318-19

No Motivation to Substitute Sclater for Magid

A POSA would not be motivated to replace Magid with the specific clutch Petitioner cites absent impermissible hindsight bias:

- Other features Petitioner argues provide a rationale for using the identified clutch – “reduced noise and improved durability” – are either not addressed in connection with any sprag-type clutch (as with “durability”) or not ascribed to the specific clutch on which Petitioner relies (as with “reduced noise”).
 - “Reduced noise” is attributed to friction-type clutches generally, and even Petitioner’s limited excerpts of Sclater identify at least six different friction-type clutches with the same benefits. EX1017 at 316, 302-03.

Fig. 1 Elementary overriding clutches: (A) A ratchet and pawl mechanism converts reciprocating or oscillating movement to intermittent rotary motion. This motion is positive but limited to a multiple of the tooth pitch. (B) A friction-type clutch is quieter, but it requires a spring device to keep the eccentric pawl in constant engagement. (C) Balls or rollers replace the pawls in this device. Motion of the outer race wedges the rollers against the inclined surfaces of the ratchet wheel.

Sclater (EX1017) at 316

Friction-Type Clutches Identified in EX1017 at 302-303

- **Plate Clutch**: “The plate clutch transmits power through the friction developed between the mating plate faces....”
- **Cone Clutch**: “The cone clutch, like the plate clutch, requires axial movement for engagement, but less axial force is required because of the increased friction between mating cones....”
- **Expanding Shoe Clutch**: “This clutch is engaged by the motion of the control arm. It operates linkages that force the friction shoes radially outwards so that they contact the inside surface of the drum.”
- **Cam and Roller Clutch**: “... While driving, friction rather than springs force the rollers to wedge tightly between the members to provide positive clockwise drive.... If the driven member should begin to run ahead of the driver, friction will force the rollers out of their tightly wedged positions and the clutch will slip....”
- **Expanding Shoe Centrifugal Clutch**: “Two friction shoes, attached to the driving member, are held inward by springs until they reach the ‘clutch-in’ speed.”
- **Mercury Gland Clutch**: “This clutch contains two friction plates and a mercury-filled rubber bladder....”

No Motivation to Substitute Sclater for Magid

Petitioner fails to provide any actual evidence to support the alleged motivation to replace Magid with the specific clutch Petitioner cites:

- The virtually nonexistent “analysis” of Petitioner’s expert Dr. Giachetti is illustrative of Petitioner’s reliance on hindsight bias.
- Petitioner’s expert Dr. Giachetti did not conduct **any** analysis of the noise caused by a ratchet-and-pawl clutch compared to any other components of a treadmill.
- Despite admitting that different treadmills make different amounts of noise and volunteering a lengthy list of factors that can affect the amount of noise a treadmill make, Dr. Giachetti admitted that he came to the problem “preloaded with how quiet a belt on rollers is” and baldly asserted that he “didn’t have to” conduct any analysis to confirm his preconceived assumptions. EX2023 at 102:23-107:10.
 - **Thus, the only “evidence” the Petitions rely on for the purported motivation to substitute Sclater for Magid is this unsupported and untested say-so.**

Giachetti Testimony (EX2023 at 102:23-103:13)

Q. Did you do any actual analysis of the noise that would be caused by Magid's ratchet and pawl relative to other noises caused by the treadmill's operation as part of your analysis?

A. Well, having experience with conveyors, I came preloaded with how quiet a belt on rollers is....

...

Q. So you didn't actually conduct any sort of formal analysis comparing the sound of all the various components in Magid relative to each other, did you?

A. I didn't have to.

No Motivation to Substitute Sclater for Magid

Petitioner fails to provide any actual evidence to support the alleged motivation to replace Magid with the specific clutch Petitioner cites:

- Dr. Giachetti also failed to consider any of the factors Sclater itself explains must be considered before selecting a particular sprag-type clutch.
 - At most, Dr. Giachetti could point only to broad statements about sprag-type clutches in general or comparing general “speed” characteristics of ratchet-and-pawl clutches to roller-and-friction clutches, without specifically discussing overrunning speed. EX2023 at 89:8-15, 94:16-95:10.

“Overrunning sprag clutches transmit torque in one direction and reduce speed, rest, hold, or free-wheel in the reverse direction. Applications include overrunning, back stopping and indexing. **Their selection – similar to other mechanical devices – requires a review of the torque to be transmitted, overrunning speed, type of lubrication, mounting characteristics, environmental conditions, and shock conditions that might be encountered.**”

Sclater (EX1017) at 320
(emphasis added)

Giachetti Testimony (EX2023 at 101:2-23)

Q. ... Where in this discussion -- again, in your actual argument related to combining Sclater with the other references, do you mention the type of lubrication to be used?

A. I don't discuss -- I don't believe I discussed lubrication issues, except that it's present in Emerson and present in the Power Transmission Handbook.

Q. You don't actually reference any of those disclosures from Emerson or the PT Handbook in this section, do you?

A. I don't believe I do. But I do reference Emerson, that where they say they -- they sell these specific type of one-way bearings for exercise equipment, food processing equipment, and roll conveyors.

Q. What about shock conditions? Do you ever mention shock conditions anywhere in this section?

A. I don't recall mentioning shock conditions.

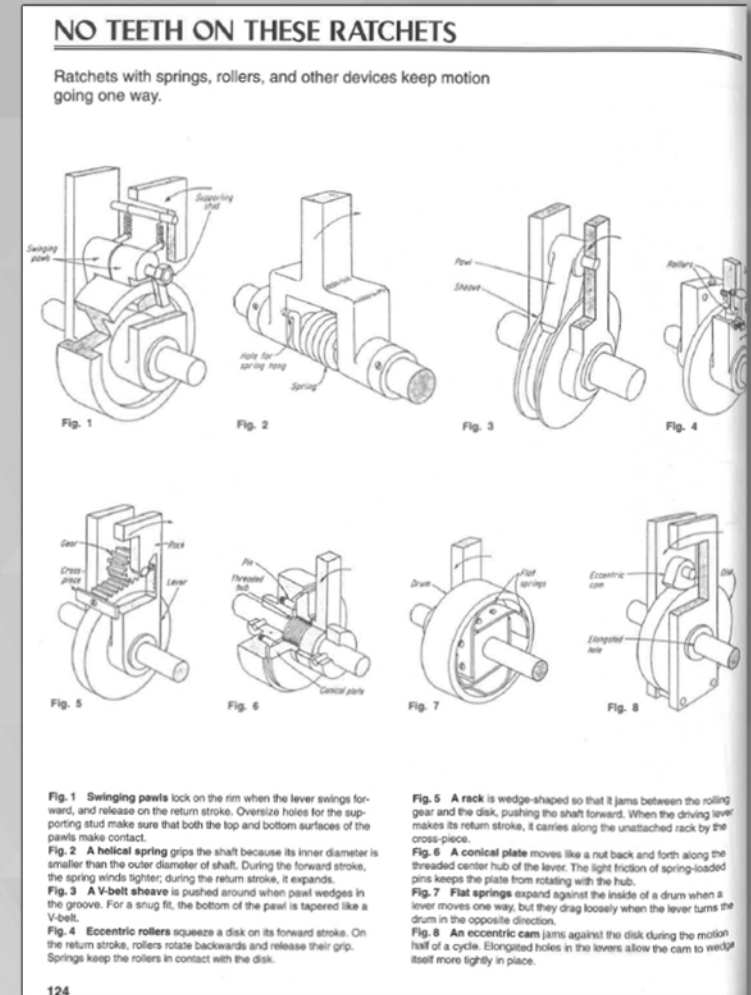
No Motivation to Substitute Sclater for Magid

Petitioner fails to provide any actual evidence to support the alleged motivation to replace Magid with the specific clutch Petitioner cites:

- At the same time, Dr. Giachetti apparently assumed (incorrectly) that a ratchet-and-pawl device must have teeth, which is the sole feature he identifies as causing the supposed undesirable noise. EX2023 at 99:16-100:4, 106:9-20; '580 EX1003 at ¶466 ("Ratchet and pawl clutch mechanisms make noise during operation. The pawl is spring-loaded to engage each gear tooth of the ratchet and it would make an audible 'click' when colliding with the gear tooth root after overrunning or passing over each tooth.").
- But – in a section that Petitioner notably omitted it from its EX1017 – Sclater itself makes clear that there are many ratchet-and-pawl clutches that do not have teeth. Any one of these would have been a more obvious choice to a POSA than a sprag-type clutch. '580 EX2018, ¶¶178-179.

Giachetti Testimony (EX2023 at 99:25-100:2)

"[Y]ou're dependent on that pawl being able to lock into the teeth on the ratchet."



Sclater (EX2021) at 124

No Motivation to Substitute Sclater for Magid

Petitioner's approach has been consistently rejected:

- Generic statements like those Petitioner relies on in Sclater, which are untethered to the feature incorporated into the proposed combination, cannot support a motivation to combine:

Depomed contends that Purdue's generic and conclusory statements of interrelated teachings of the prior art are indicative of the fact that Purdue presented no credible evidence on a motivation to combine the prior art. . . . We agree with Depomed that the Board applied the correct legal standard in its obviousness analysis and that substantial evidence supports its finding that Purdue failed to establish that a person of ordinary skill in the art would have had a reason to combine Baveja and Shell to pursue the claimed invention with a reasonable expectation of success.

Purdue Pharma L.P. v. Depomed, Inc., 643 F. App'x 960, 964-66 (Fed. Cir. 2016).

- A POSA would immediately recognize that the same benefits also apply to the countless other mechanisms and devices that Sclater discloses in equal detail. '580 EX2018, ¶¶174-181. Petitioner's failure to explain why a POSA would have been motivated to use the **specific clutch Petitioner relies on** is fatal to the Sclater-based Grounds.
- Nor can the addition of Sclater be considered a simple "substitution" of known elements. Socwell, Chickering, and Schonenberger all lack any comparable one-way bearing element. Thus, there is no known element for which Sclater's sprag-type clutch could be "substituted" in the primary references.

No Motivation to Substitute Sclater for Magid

Petitioner's approach has been consistently rejected:

- Without any of the recited benefits being tied to the specific mechanism Petitioner relies on, it is clear that Petitioner only selected the sprag-type clutch described in the Petitions after using the Challenged Claims as a guide for its obviousness arguments.
- The Federal Circuit and the Board have long recognized that Petitioner's approach is improper and a clear example of impermissible hindsight bias.

Given the lack of any discussion of the advantages—if any—of the particular portion of the Katzman design used by Petitioner, the dissimilarity between Katzman's permanent structure and Wu's conveniently assembled and disassembled design, and the cursory nature of Professor Rake's analysis..., we are persuaded, based on the current record, that Professor Rake's analysis is based on improper hindsight.

Amazon.com, Inc. v. JumpSport, Inc., IPR2018-00715, Paper 8 at 38-39 (PTAB Sept. 6, 2018).

"Care must be taken to avoid hindsight reconstruction by using 'the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.'"

In re NTP, Inc., 654 F.3d 1279, 1299 (Fed. Cir. 2011) (citations omitted).

"To the extent that [Petitioner] relies on the problem to be solved to supply the reason to combine the prior art, it failed to demonstrate to the Board that the problem was known in the art or that [Petitioner's] formulation of the problem was derived directly from the prior art, rather than from the challenged claims."

Purdue Pharma L.P. v. Depomed, Inc., 643 F. App'x 960, 966 (Fed. Cir. 2016).

U.S. Patent No. 6,923,746 (“Skowronski”)
No Motivation to Combine

No Motivation to Combine Skowronski with Schonenberger

Ground 2 of the '884 Petition must fail because Petitioner fails to show that a POSA would understand Skowronski to teach the required elements and be motivated to combine it with Schonenberger:

- Skowronski does not necessarily teach a pulley formed “from an electrically insulating material.” Rather, Skowronski simply teaches constructing a pulley from “plastic,” and as Petitioner’s expert Dr. Giachetti admits, not all plastics are electrically insulating, and whether plastic will prevent static buildup “depends on how it’s used.”
- Petitioner’s argument is supported by nothing but Dr. Giachetti’s conclusory testimony that a POSA would understand “plastic” to be electrically insulating, which is devoid of any scientific basis. Such testimony is entitled to little to no weight.
- The Board cannot supplement Petitioner’s deficient evidence through reliance on “basic knowledge or common sense.”

“[T]he Board cannot ‘simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense.’”

FanDuel, Inc. v. Interactive Games LLC,
966 F.3d 1334, 1344 (Fed. Cir. 2020)
(quoting *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001)).

Giachetti Testimony (EX2024 at 142:5-143:2)

Q. Are all types of plastic electrically insulative?

A. I think plastic generally is. There may be conditions over other circumstances where it might not be.

...

Q. Will all plastic prevent static buildup?

A. I think it depends on how it’s used.

Secondary Considerations of Nonobviousness

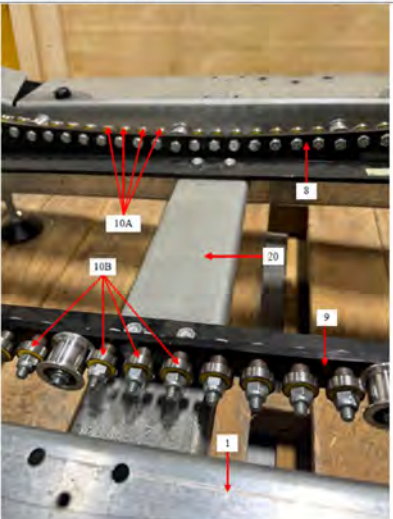
Secondary Considerations Confirm Nonobviousness

- Patent Owner has established nexus between many of the challenged claims by showing that the claims are coextensive with the claimed inventions.
 - Petitioner's arguments to the contrary rely on misstatements of law and should be rejected.
- Patent Owner has established the existence of various secondary considerations, including:
 - Commercial Success
 - Industry Praise
 - Copying
 - Failure of Others
 - Passage of Time Between Publication of the Prior Art and the Inventions


Patent Owner Has Established Nexus

Nexus is established by Dr. Blair’s unrebutted testimony:


- Dr. Blair provided a detailed analysis confirming that Patent Owner’s CURVE® line of treadmills on the whole practice and are coextensive with at least the following Challenged Claims:
 - Claims 1-8, 10-12, 14, 15, 18, and 25 of the '580 Patent (EX2025; '580 EX2018 at ¶¶189-191);
 - Claims 1, 4, 7-12, 14, 17-18, and 20-25 of the '745 Patent (EX2026; '745 EX2018 at ¶¶198-200); and
 - Claims 30-34, 37-43, 45-50, 52-54, 57, and 59 of the '884 Patent (EX2027; '884 EX2018 at ¶¶226-228).

the '580 Patent	Woodway CURVE
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, wherein the first and second bearing rails define a curved top profile;	
As shown, a first bearing rail [8] includes a plurality of bearings [10A] and extends longitudinally on one side of the frame [1] (i.e., the left side), and a second bearing rail [9] includes a plurality of bearings [10B] and extends longitudinally on one side of the frame [1] (i.e., the right side).	
See also, e.g., Woodway Non-Motorized Treadmills User Manual: 02/2018, UM-NT-EN-02 32 (2018) (stating “[t]he bearing rail system consists of two support rail units, with steel-wire-reinforced V-belts, high-	

EX2025 at 37

the '745 Patent	Woodway CURVE
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” is literally present in the Woodway CURVE.	
As shown, the running belt [11] is disposed on the plurality of bearings [10] such that the curved top profile [21] defines at least a portion of a curved running surface [12] of the running belt [11].	
See also, e.g., Woodway Non-Motorized Treadmills User Manual: 02/2018, UM-NT-EN-02 32 (2018) (stating “[t]he bearing rails support the running surface.”).	

EX2026 at 36

the '884 Patent	Woodway CURVE
a running belt at least partially supported by the plurality of bearings, wherein the running belt comprises a curved running surface; and	
A “running belt at least partially supported by the plurality of bearings” and including a “curved running surface” is literally present in the Woodway CURVE.	
As shown, a running belt [11] includes a curved running surface [12], described in the Woodway User Manual as an “upwardly curved running surface”. See also, e.g., Woodway Non-Motorized Treadmills User Manual: 02/2018, UM-NT-EN-02 31 (2018).	
As shown in the second image depicting an underside of the running belt [11], the running belt [11] is supported by the plurality of bearings [10].	
See also, e.g., Woodway Non-Motorized Treadmills User Manual: 02/2018, UM-NT-EN-02 32 (2018) (stating “[t]he bearing rails support the running surface.”) and at 32 (stating “[t]he bearing rail system consists of two support rail units, with steel-wire-reinforced V-	

EX2027 at 5

Patent Owner Has Established Nexus

Nexus is established by Dr. Blair's un rebutted testimony:

- Woodway's CURVE® line of treadmills include the Curve (formerly called the Speedboard), the Curve XL, the Curve LTG, the Curve FTG, the Curve 3.0, the Curve Trainer, the EcoMill, and the EcoMill Legacy Treadmills.



- The differences between the treadmills within the CURVE® line do not affect whether they practice the claims of the '580, '745, and '884 Patents. '580 EX2018 at ¶191; '745 EX2018 at ¶200; '884 EX2018 at ¶228.

[T]here is a presumption of nexus for objective considerations when a patentee shows that the asserted objective evidence is tied to a specific product and that product is the invention disclosed and claimed in the patent. . . . [A] patent challenger cannot successfully rebut the presumption with argument alone—it must present evidence.

WBIP, LLC v. Kohler Co., 829 F.3d 1317, 1329 (Fed. Cir. 2016) (internal citations and quotation marks omitted).

Patent Owner Has Established Nexus

Rather than provide actual evidence to rebut the established presumption of nexus, Petitioner misstates the law to claim that the presumption does not apply in the first place:

- Although Petitioner asserts that a presumption of nexus should not apply because all claim elements are (allegedly) found in the prior art, the case Petitioner relies on (*Lectrosonics, Inc., v. Zaxcom, Inc.*, IPR2018-01129, Paper 33 (PTAB Jan. 24, 2020) (precedential)), both stands for the opposite proposition and is inapplicable when Patent Owner has provided an analysis demonstrating that its products are coextensive with the Challenged Claims.
- In *Lectrosonics*, the Board offered **alternative** ways of showing nexus only after finding that “a presumption of nexus is **inappropriate**” where because Patent Owner did “**not provide an analysis demonstrating that its products are coextensive (or nearly coextensive) with the challenged claims.**” *Lectrosonics*, Paper 33 at 33 (emphasis added):

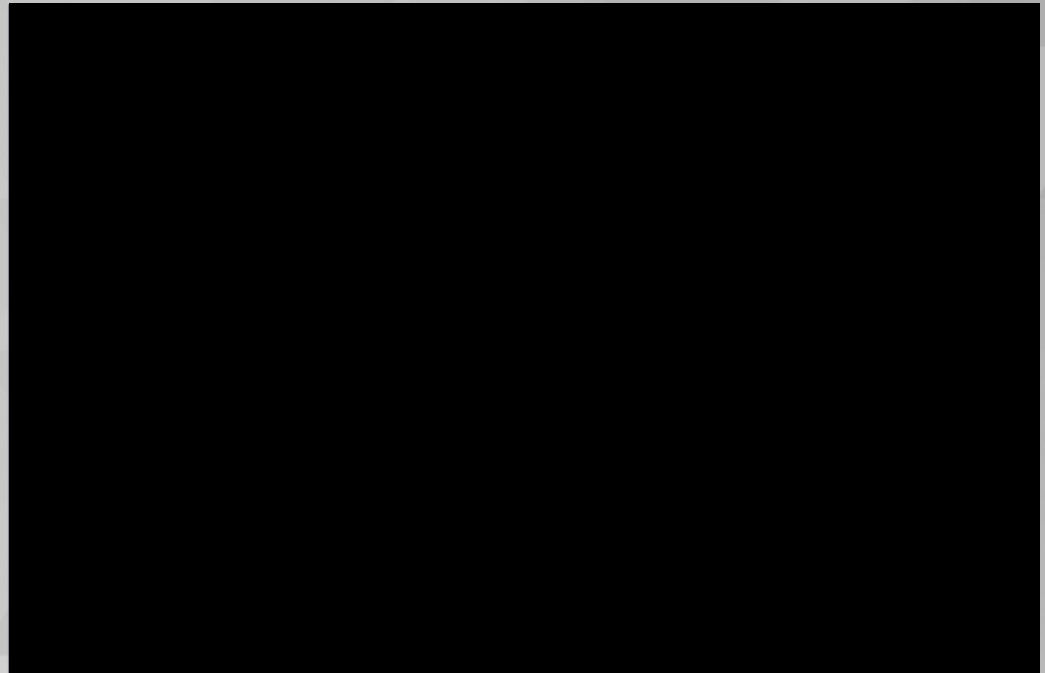
However, “[a] finding that a presumption of nexus is inappropriate does not end the inquiry into secondary considerations.” *Fox Factory*, 944 F.3d at 1375. “To the contrary, the patent owner is still afforded an opportunity to prove nexus by showing that the evidence of secondary considerations is the ‘direct result of the unique characteristics of the claimed invention.’” *Id.* at 1373–74 (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). “Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention,” meaning that “there must be a nexus to some aspect of the claim not already in the prior art.”

- Even then, *Lectrosonics* reaffirms that “there is **no requirement** that ‘objective evidence must be tied exclusively to claim elements that are not disclosed in a particular prior art reference in order for that evidence to carry substantial weight.’” *Lectrosonics*, Paper 33 at 33 (quoting *WBIP*, 829 F.3d at 1331) (emphasis added).

Commercial Success Is Uncontroverted

PROTECTIVE ORDER FINANCIAL MATERIAL

- Patent Owner introduced the first commercial product of its kind.
- Patent Owner then enjoyed 100% of the market share for curved, manual treadmills for several years – Patent Owner's sales increased steadily and significantly through 2017 when Petitioner's introduction of a copycat treadmill – the infringing Assault AirRunner (see EX2067, EX2068, EX2070) – heavily impacted Patent Owner's sales.
- [REDACTED]
- Patent Owner's commercial success is based on the key features of its claimed inventions. Indeed, except for copycats and infringers, prior to the introduction of Patent Owner's CURVE® line of treadmills, competitors focused on fundamentally different treadmill designs and did not offer any manual curved treadmills.



When a patentee can demonstrate commercial success, usually shown by significant sales in a relevant market, and that the successful product is the invention disclosed and claimed in the patent, it is presumed that the commercial success is due to the patented invention.

Chemours Co. FC, LLC v. Daikin Indus.,
4 F.4th 1370, 1378 (Fed. Cir. 2021).

Commercial Success Is Uncontroverted

Patent Owner's evidence is more than sufficient to establish commercial success with a nexus to the claimed inventions:

- Market share data is not required to show commercial success. Petitioner's arguments to the contrary are contradicted by Federal Circuit precedent. *Chemours Co. FC, LLC v. Daikin Indus.*, 4 F.4th 1370, 1378 (Fed. Cir. 2021).
- Unreported sales of the Samsara treadmill, which is manufactured and sold pursuant to a license to the '580 Patent ('580 POR at 62-63), would only serve as further evidence of commercial success, not undermine it.
- Likewise, the commercial success of the CURVE® line of products is not undermined by the fact that some CURVE® products include unclaimed features.
 - Petitioner's laundry list of purported unclaimed features and bare speculation that they contributed to the commercial success of some products cannot overcome the presumption of commercial success.
 - In fact, the unclaimed features Petitioner identifies are not found in all CURVE® treadmills (e.g., EX1037, 27:8-30:8) and all CURVE® treadmills have experienced commercial success.

"[T]he commercial success of the embodiment with additional unclaimed features is to be considered when evaluating the obviousness of the claim, provided that embodiment's success has a sufficient nexus to the claimed and novel features of the invention."

ArcelorMittal France v. AK Steel Corp., 700 F.3d 1314, 1325 (Fed. Cir. 2012).

"[W]e have never held that the existence of one or more unclaimed features, standing alone, means nexus may not be presumed."

Teva Pharms. Int'l GmbH v. Eli Lilly & Co., 8 F.4th 1349, 1361 (Fed. Cir. 2021).

"[A] patent challenger cannot successfully rebut the presumption with argument alone—it must present evidence."

WBIP, LLC v. Kohler Co., 829 F.3d 1317, 1329 (Fed. Cir. 2016).

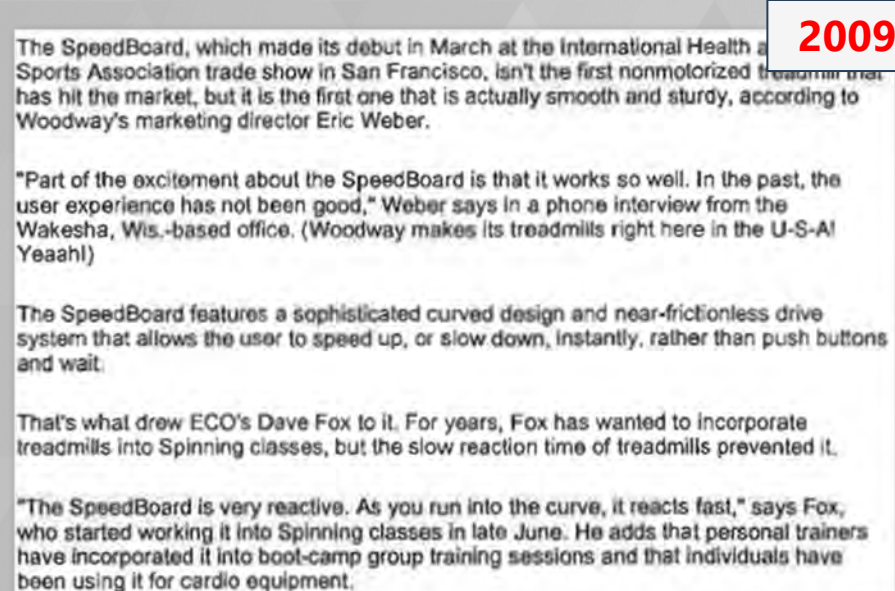
Industry Praise Is Undeniable

Patent Owner's products that embody and are coextensive with the claimed inventions have received significant and undeniable industry praise:

- In 2010, the CURVE® treadmill was nominated for an Innovation Award by FIBO – the leading international trade show for fitness, wellness, and health. EX2020 at ¶156; EX2057.
- Treadmills within the CURVE® line have been featured and praised in numerous industry publications, including Health and Fitness Sports Magazine (2010), Athletic Business (2010), Government Recreation & Fitness (2010), and Club Solutions Magazine (2014), and in mainstream media publications such as Men's Health (2014), Men's Health U.K. (2017), the Los Angeles Times (2019), South Carolina's Post and Courier (2009), and the Wall Street Journal (2015). EX2020 at ¶¶43-55.



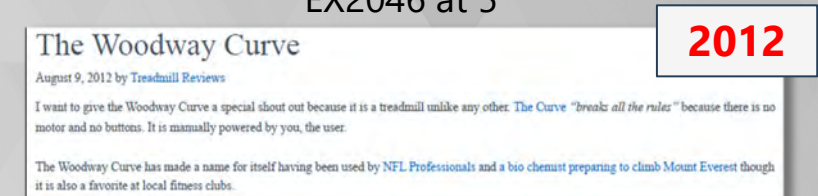
EX2045 at 5



EX2053 at 2



EX2046 at 5



EX2050 at 1

Copying by Petitioner and Third Parties Highlights Nonobviousness

Copying by both Petitioner and others confirms the nonobviousness of the claimed inventions:



Samsara copycat



Petitioner's copycat



CURVE® treadmill

EX2058 at 1;
EX2067 at 1;
EX2018 at ¶45;
EX2020 at ¶¶57-58, 64

- Samsara Fitness released a clear copycat product that not only superficially resembles the CURVE® treadmill but was also found to infringe several of Patent Owner's patents – including the '580 Patent. Samsara has since taken a license to those patents. EX2020 at ¶¶23, 59.
- Petitioner's AirRunner is similarly the subject of ongoing litigation due to its copying and infringement of Patent Owner's patents, including the '580, '745, and '884 Patents. EX2067; EX2068; EX2069.

Clear Copying by Petitioner

- Petitioner's own documents – which its former co-CEO testified are not confidential – also establish that Petitioner copied Patent Owner's documentation and the specific associated products, even retaining express references to "WOODWAY Customer Service" and the results of Woodway's testing of its products. EX2071; EX2072.



EX2071

WOODWAY Customer Service. 11.2 Running Surface Belt is Stuck/Difficult to Move: Check for any obstacles around or under the belt and remove them if possible. Remove si
bells are properly aligned on rollers. Contact a WOODWAY Customer Service technician to determine where the cause of the problem could be. 11.3 Squeaking Sounds: Bea
Customer Service to replace bearing. Toothed belt rubbing against guide roller: Grease edge of belt with a universal lubricant. Broken guide roller or roller bearing: Conta
replace broken part. Timing belt rubbing against the pulley: Grease the edge of the timing belt with a small amount of all-purpose grease. Note: Excessive grease can cause

EX2071 at 20

The name says it all: Like running on air, but with a powerful amount of punch. This treadmill is like none you have ever known, burning up to 30% more calories than the average motorized version and built with intense training in mind.

EX2072

Failure of Others and Passage of Time Underscore Nonobviousness

The failure of others to successfully develop and commercialize a curved, manual treadmill and the length of time between the cited prior art and Patent Owner’s priority date demonstrate the nonobviousness of the claimed inventions:

- No one had successfully commercialized a curved, manual treadmill before the priority date of the ‘580, ‘745, and ‘884 Patents, and even then, Patent Owner was the only provider of curved, manual treadmills on the market until others began to copy Patent Owner’s CURVE® products, beginning in 2014. EX2020, ¶¶17, 22, 35. This is evidence of nonobviousness.
- The cited prior art predates the earliest possible priority date Petitioner identifies for the ‘580, ‘745, and ‘884 Patents by at least a decade, further emphasizing the nonobviousness of the claimed inventions, particularly when combined with evidence of failure of others.

Reference	Issue Date	
Chickering (EX1013)	January 25, 1972	Provisional Application No. 61/161,027, filed March 17, 2009
Schonenberger (EX1010)	September 30, 1986	
Magid (EX1012)	July 23, 1996	
Socwell (EX1011)	April 27, 1999	

The finding that the claimed invention resolved a long-felt need to do away with the wasteful sulfuric acid process and its unwanted by-products tends to show the nonobviousness of the claimed invention as does failure of others and copying; Cyanamid tried but failed to develop the claimed invention and copied it instead.

Dow Chem. Co. v. Am. Cyanamid Co.,
816 F.2d 617, 622 (Fed. Cir. 1987).

Thank You