

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIFECORE FITNESS, INC.
d/b/a ASSAULT FITNESS
Petitioner,

v.

WOODWAY USA, INC.
Patent Owner.

U.S. Patent No. 11,465,005 to Bayerlein et al.

Case No.: IPR2024-00083

SECOND DECLARATION OF ROBERT GIACHETTI, Ph.D.

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List of Exhibits

Exhibit #	Description
1001	U.S. Patent No. 11,465,005 (“the ‘005 Patent”)
1002	U.S. Patent No. 11,465,005 File History (“the ‘005 Patent File History”)
1003	Declaration of Robert Giachetti, Ph.D. P.E. (“Giachetti”)
1004	Robert Giachetti, Ph.D. P.E. Curriculum Vitae (“Giachetti CV”)
1005	Complaint, <i>Woodway USA, Inc., v. LifeCORE Fitness, Inc. d/b/a Assault Fitness</i> , Case No. 3:22-cv-00492-JO-BLM, Southern District of California, Filed April 11, 2022 (“Complaint”) (Ex. 1005 at 1-8)
1006	Amended Complaint, <i>Woodway USA, Inc., v. LifeCORE Fitness, Inc. d/b/a Assault Fitness</i> , Case No. 3:22-cv-00492-JO-BLM, Southern District of California, Filed October 24, 2022 (“Amended Complaint”)
1007	Treadmills: Supplier Guide © 2010. Trade Practices (Consumer Product Safety Standard) (Treadmills) Regulations 2009 (“ACCC Product Safety Supplier Guide”)
1008	U.S. Patent No. 641,424 to Ziebell (“Ziebell”)
1009	U.S. Patent No. 1,211,765 to Schmidt (“Schmidt”)
1010	U.S. Patent No. 4,614,337 to Schonenberger (“Schoenenberger”)
1011	U.S. Patent No. 5,897,461 to Socwell (“Socwell”)
1012	U.S. Patent No. 5,538,489 to Magid (“Magid”)
1013	U.S. Patent No. 3,637,206 to Chickering (“Chickering”)
1014	U.S. Patent No. 3,642,279 to Cutter (“Cutter”)
1015	U.S. Patent No. 6,042,514 to Abelbeck (“Abelbeck”)
1016	Power Transmission Handbook, (Power Transmission Distributors Association 1993) (“PT Handbook”) (available at https://cod.on.worldcat.org/oclc/49571648)
1017	Neil Sclater and Nicholas P. Chironis, <i>Mechanisms & Mechanical Devices Sourcebook</i> , Third Ed., (McGraw-Hill 2001) (“Sclater”) (available at https://catalog.loc.gov/vwebv/holdingsInfo?searchId=26&recCount=25&recPointer=0&bibId=12308523)
1018	Mechanical Clutches and Torque Overload Devices, (Emerson Industrial Automation, 2001) (“Emerson”)
1019	Standard Specification for Motorized Treadmills, (ASTM, 2005) (“ASTM Standard”)

Exhibit #	Description
1020	Stationary Training Equipment – Part 6: Treadmills, additional specific safety requirements and test methods. (ISO, 2005) (“ISO Standard”)
1021	U.S. Patent No. 8,986,169 File History (“the ‘169 Patent File History”)
1022	Responsive Claim Constructions, <i>Woodway USA, Inc., v. LifeCORE Fitness, Inc. d/b/a Assault Fitness</i> , Case No. 3:22-cv-00492-JO-BLM, Southern District of California, Filed January 5, 2022
1023	United States District Courts – National Judicial Caseload Profile, December 2022
1024	Inhabitat, “HUMAN-POWERED GYMS in Hong Kong” (March 8, 2007) (available at https://inhabitat.com/human-powered-gyms-in-hong-kong/)
1025	Minute Order, <i>Woodway USA, Inc., v. LifeCORE Fitness, Inc. d/b/a Assault Fitness</i> , Case No. 3:22-cv-00492-JO-BLM, Southern District of California, March 30, 2023.
1026	U.S. Patent No. 10,561,884 File History (“the ‘884 File History”)
1027	Claim Construction Brief, <i>Woodway USA, Inc., v. LifeCORE Fitness, Inc. d/b/a Assault Fitness</i> , Case No. 3:22-cv-00492-JO-BLM, Southern District of California, March 1, 2023
1028	Responsive Claim Construction Brief, <i>Woodway USA, Inc., v. LifeCORE Fitness, Inc. d/b/a Assault Fitness</i> , Case No. 3:22-cv-00492-JO-BLM, Southern District of California, March 14, 2023
1029	U.S. Patent No. 4,635,771 to Shoji (“Shoji”)
1031	English Translation of German Patent DE 199 22 822 B4 to Tollkien (“Tollkien”)
1032	U.S. Provisional Patent Application No. 61/161027 File History
1033	Claim Construction Order <i>Woodway USA, Inc., v. LifeCORE Fitness, Inc. d/b/a Assault Fitness</i> No. 3:22-cv-00492-JO-BLM, Dkt. No. 59, Southern District of California, November 14, 2023
1036	Second Declaration of Robert Giachetti, Ph.D. P.E. (“Giachetti”)
1038	Transcript of Deposition of Dr. Kim. B. Blair taken on April 8, 2024 <i>LifeCore Fitness, Inc., d/b/a Assault Fitness v. Woodway USA, Inc.</i> , IPR2023-00836
1039	Transcript of Deposition of Dr. Kim. B. Blair taken on April 8, 2024 <i>LifeCore Fitness, Inc., d/b/a Assault Fitness v. Woodway USA, Inc.</i> , IPR2023-00843

Exhibit #	Description
1040	Transcript of Deposition of Dr. Kim. B. Blair taken on April 9, 2024 <i>LifeCore Fitness, Inc., d/b/a Assault Fitness v. Woodway USA, Inc.</i> , IPR2023-00849
1050	Transcript of Deposition of Dr. Kim. B. Blair taken on October 21, 2024 <i>LifeCore Fitness, LLC., d/b/a Assault Fitness v. Woodway USA, Inc.</i> , IPR2024-00083
1051	Webster's New Universal Abridged Dictionary Deluxe 2 nd Edition 162-163 (Simon & Schuster 1983)
1053	Tru Grit Runner Webpage (accessed on September 4, 2024) (available at https://trugrit-fitness.com/collections/cardio/products/grit-runner-curved-manual-treadmill)

I. Introduction

I, Robert Giachetti, Ph.D., P.E., hereby declare as follows:

1. I provided my background, qualifications and opinions pertaining to a Petition for *Inter Partes* Review, Case No. IPR2024-00083, of certain claims of U.S. Patent No. 11,465,005 (“the ’005 Patent,” Ex. 1001) in a Declaration that was filed on October 24, 2023. (Ex. 1003.)

2. I am making this Second Declaration (“Reply Decl.,” Ex. 1036) at the request of LifeCORE Fitness, LLC. (“LifeCORE”) in support of LifeCORE’s Reply to Patent Owner (PO) Woodway’s Response regarding certain factual issues raised in IPR2024-00083.

3. Specifically, for purposes of this Second Declaration, I have been asked to analyze the arguments made by Woodway in its Patent Owner Response (Public Redacted POR, Paper 23), along with the declaration of Woodway’s expert, Dr. Blair (“Blair Decl.,” Ex. 2018). I have also analyzed the Patent Trial and Appeal Board’s decision to institute (“DI,” IPR2024-00083, Paper 13) my deposition transcripts (Ex. 2082, and Exs. 2022-2024 in related proceedings), and Dr. Blair’s deposition transcripts (Ex. 1050, and Exs. 1038-1040 in related proceedings).

4. I have also reviewed my first declaration (Ex. 1003) and the exhibits cited in my first declaration.

5. In forming the opinions expressed below, I have considered:

- a. The documents listed above, as well as additional patents and documents referenced herein;
- b. The relevant legal standards, including the standard for obviousness provided in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007), and any additional documents cited in the body of this declaration; and
- c. My knowledge and experience based upon my work and study in this area as described below.

II. Woodway's Response – Disputed Claims

6. Woodway did not argue all claim limitations. For all claim limitations not analyzed in this declaration, I refer to the analysis in my First Declaration (Ex. 1003.)

III. Construction of Terms in the Challenged Claims

7. As discussed in my first declaration (Ex. 1003), I understand that the terms of the claims must first be construed before the claims can be properly evaluated. I also understand that, at the same time, absent some reason to the contrary, claim terms are typically given their ordinary and accustomed meaning as would be understood by one of ordinary skill in the art.

8. I applied alternate claim construction positions for the term “*safety device*”, and for the term “*substantially prevent*” in my first declaration. (Ex. 1003,

¶¶108-109.) I understand that the Board did not construe any terms in the Institution Decision but stated that its analysis was “consistent with the district court’s construction of these claim terms” in parallel litigation proceedings. (DI, 25.) The District Court issued its Markman Order (Ex. 1033) on November 14, 2023 and construed multiple terms. For purposes of this declaration, I am applying the claim constructions of “substantially prevent” and “safety device” based on the District Court’s Constructions and the Board’s application of these terms.

A. “substantially prevent[]”

9. The Court construed “*substantially prevent[]*” as “restricts rotation to allow for only one rotational direction of movement.” (Claim Construction, Ex. 1033, 16.) This construction will not affect my analysis in my first declaration.

B. “safety device”

10. The Court construed “*safety device*” as “a device that includes the elements recited and restricts rotation to allow for only one rotational direction of movement or resists rotation in one direction of rotation.” (Claim Construction, Ex. 1033, 23.) This construction will not affect my analysis in my first declaration.

C. “*plurality of bearings*”

11. It is my understanding that claims generally should be given their plain and ordinary meaning and that neither party has argued otherwise. I further understand that there is a dispute over what is the plain and ordinary meaning of

bearing. I understand the plain and ordinary meaning of a term is the meaning of that term to a POSA. As I explained in my first declaration, a bearing is a general term for a mechanical element that provides a means for low-friction movement between two surfaces. The motion between the elements may be rotary motion or linear motion. (Ex. 1003, ¶65; PT Handbook, Ex. 1016, 2-1.) My understanding is based on my expertise as a POSA, as well as by the language of the claims, and the specification of the '005 Patent. My understanding of “bearing” is in line with commercial dictionaries. For example, Webster’s defines a bearing as “any part of a machine in or on which another part revolves, slides, etc.” (Websters, Ex. 1051, 163.)

12. Dr. Blair fails to provide an explicit construction for “bearing.” Based on his arguments, he implies that “*bearing*” requires a position below another object or a weight-bearing relationship. Dr. Blair’s implied construction, which focuses on location and use, is overly narrow and wrong.

13. Intentionally left blank.

14. It is my understanding that it is legally improper to read limitations from the specification into the claims. But Dr. Blair’s implied construction appears to do just that. Moreover, the preferred embodiment of the specification is not as narrow as Dr. Blair alleges, and his prior testimony undercuts his overly narrow claim constructions. During his deposition for the related IPRs, Dr. Blair confirmed

that: 1) similar claims do not expressly require these additional location and weight-bearing limitations (Dr. Blair Deposition, Ex. 1038, 45:21-47:5, 58:5-19, 61:20-23); 2) Woodway/Dr. Blair is not proposing a construction to add these limitations (Dr. Blair Deposition, Ex. 1038, 47:20-23, 58:20-23, 61:24-62:1); and 3) the District Court did not provide such constructions (Dr. Blair Deposition, Ex. 1038, 48:7-9, 58:24-59:5, 62:2-5). Instead, Dr. Blair argued that a POSA would understand that the claims require these additional limitations based on disclosure in the '580 Patent:

Q. Okay. All right. So if we go back to your paragraph 104, if this positioning and weight-bearing relationship is not expressly in the plurality of bearings Claim limitation, and the District Court did not provide a construction, and you're not providing a construction, why would a POSA understand that: "The plurality of bearings must all be positioned below and have some kind of weight-bearing relationship with the running belt"?

MS. JELENCHICK: Objection, form.

THE WITNESS: Because of the description of the specification of '580.
(Dr. Blair Deposition, Ex. 1038, 48:10-23.)

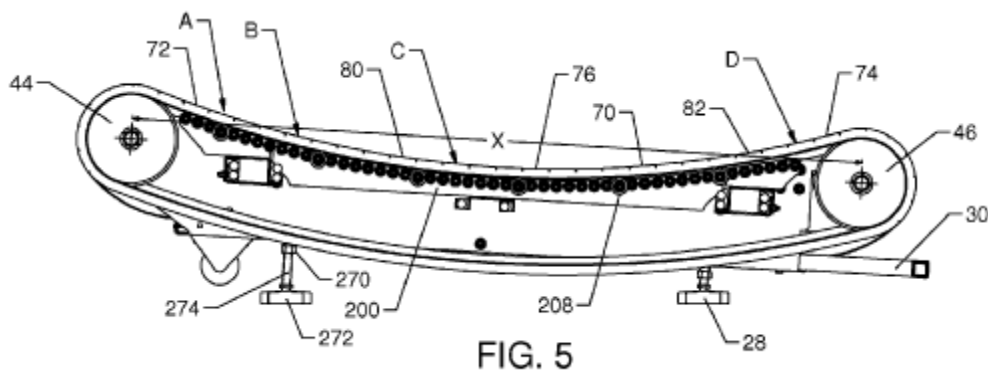
15. More specifically, Dr. Blair relied on the '580 Patent disclosure at col. 11, lines 58-62 for supporting this claim construction of "bearings" in a related IPR, which is the same disclosure in the '005 Patent at col. 11, lines 39-43:

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.

(Ex. 1001, 11:39-43, emphasis added.)

16. Woodway stated that “[i]n the ’005 Patent, the ‘plurality of bearings’ is only described and depicted as lying below and supporting the running belt 16[]” and that “[t]his requires the bearings 208 to be positioned below the running belt 16.” (POR, 7, citing Ex. 1001, 11:39-40.) However, as admitted by Dr. Blair regarding the related ’580 Patent, the ’580 Patent disclosure “doesn’t explicitly say the word ‘below’.” (Dr. Blair Deposition, Ex. 1038, 49:6-10.) Further, as illustrated below in Figure 5, the bearings 208 are below an upper portion of the running belt 16 and above a lower portion of the running belt 16.



’580 Patent, Ex. 1001, Fig. 5

17. The ’005 Patent discloses that the “running belt 16 contacts and is supported **in part** by the bearings 208 of the bearing rails” (Ex. 1001, 11:35-40, emphasis added.) This disclosure of partial support by contact does not provide

specific location and weight-bearing relationship. Further, the '005 Patent describes other bearings that do not provide a weight-bearing relationship with the belt. For example, as I explained in my first declaration, the '005 Patent describes a one-way bearing assembly with reference to Figures 2 and 36. (Ex. 1003, ¶¶94.) Dr. Blair admitted that the "'580 Patent does [not] describe the one-way bearing assembly as providing a weight-bearing relationship with the running belt[.]" (Dr. Blair Deposition, Ex. 1038, 52:19-22.) Since Woodway's/Dr. Blair's implied construction conflicts with the '005 Patent, the Board should reject PO's unsupported implied constructions.

IV. Level of Ordinary Skill in the Art

18. Woodway/Dr. Blair proposed a skill level that includes "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." (POR, 4) (emphasis added.)

19. It is my opinion that the Woodway/Dr. Blair proposed skill level is insufficient. For example, their proposed skill level requires education or industry experience, and both are important to understand the '005 Patent. Further, the Woodway/Dr. Blair proposed skill level does not include any understanding of exercise biomechanics, or the proportions of people, which is important to understand the design of curved treadmills. For example, as I explained in my first

declaration, a curved running surface provides a shape that conforms to the natural path of the foot in relation to the body and results in less impact loading as compared to a flat treadmill. (Ex. 1003, ¶¶61-62.)

20. Intentionally left blank.

V. Patentability Analysis of the Challenged Claims

A. Ground 1: Claims 6, 13, 16—Socwell discloses “a plurality of bearings”

... [6.] The manually powered treadmill of claim 1, further comprising a plurality of bearings coupled to the frame, at least one bearing of the plurality of bearings configured to at least partially support the running belt.

... [13.] The treadmill of claim 9, further comprising a plurality of bearings coupled to the frame, at least one bearing of the plurality of bearings configured to at least partially support the running belt.

... [16.] The treadmill of claim 9, further comprising a plurality of bearings coupled to the frame, at least one bearing of the plurality of bearings configured to at least partially support the running belt.

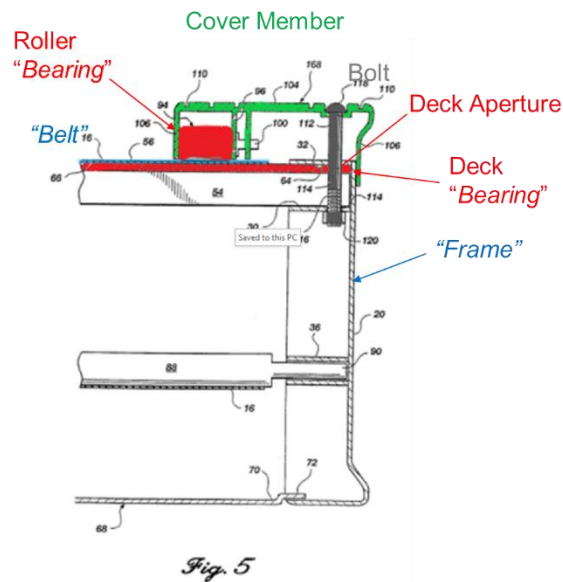
21. As I explained in my first declaration, Socwell discloses the “*plurality of bearings*” limitations of claims [6], [13], [16]. (Ex. 1003, ¶¶193-197, 221-222, 232-233.)

22. Woodway/Dr. Blair does not dispute that the deck 56 is a bearing, but argue that “Socwell does not disclose ‘a plurality of bearings’” because the ’005 Patent “requires the bearings 208 to be positioned below the running belt 16.” (POR, 7; Dr. Blair Declaration, Ex. 2018, ¶¶73-74.) Woodway/Dr. Blair further argue that “[a] POSA would therefore understand the ’005 specification to require a relative, weight-bearing relationship between the running belt and the plurality of bearings[.]” (POR, 8; Dr. Blair Declaration, Ex. 2018, ¶80.) As I explained above, “bearing” does not require a position below the running belt to provide a weight-bearing relationship.

23. Intentionally left blank.

24. Intentionally left blank.

25. As I explained in my first declaration, Socwell discloses with reference to Figure 5 that its cover members 168 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*”). The cover member 168 attaches to the frame 12 using bolts 118 that may extend through apertures in the deck 56 (“bearing”) to attach the deck 56 to the frame 12. (Socwell, Ex. 1011, 11:15-29; Ex. 1003, ¶¶193-197, 221-222, 232-233.)



Socwell, Ex. 1011, Fig. 5 (Annotated)

26. The rollers 98 and the deck 56 are both mechanical elements of a treadmill that provide a means for low friction movement between two surfaces, itself and the belt as it slides, therefore both are bearings. (Ex. 1051, 163; PT Handbook, Ex. 1016, 2-1.) Further, both the rollers 98 and the deck 56 sustain the belt in between them and therefore support the belt.

27. Additionally, the claim is directed to “*at least one*” of the bearings,” i.e., “*at least one of the plurality of bearings ... to at least partially support the running belt.*” Therefore, Socwell’s deck 56 alone would still disclose the claim limitation.

28. Intentionally left blank.

B. Ground 2:

1. **Claims 1.4, 9.3, 15.4—Tolkien Discloses “*wherein the***

running belt includes a running surface”

***... [1.4]/[15.4] a running belt at least partially supported
by at least one of the at least one front running belt
pulley and the at least one rear running belt pulley,
wherein the running belt includes a running surface,
at least a portion of which is curved;***

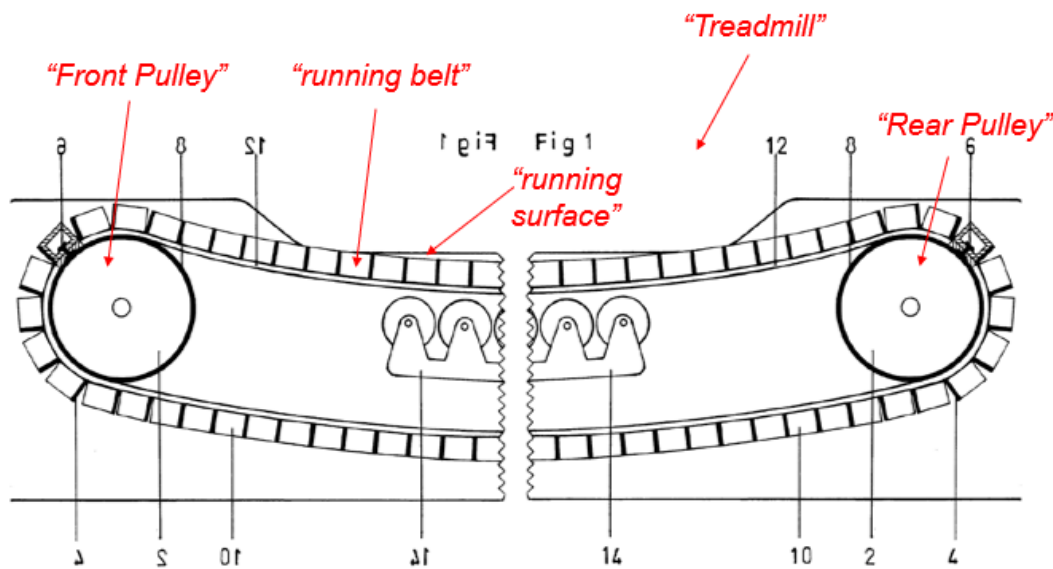
***... [9.3] a running belt at least partially supported by the
rotatable element, wherein the running belt includes a
running surface, at least a portion of which is curved;
and***

29. As I explained in my first declaration, Tolkien discloses the “*running belt [belt 12/30] at least partially supported by at least one of the at least one front running belt pulley [roller 2/32] and the at least one rear running belt pulley [roller 228], wherein the running belt includes a running surface, at least a portion of which is curved*” limitations of claims [1.4], [15.4] and similar limitations of claim [9.3]. (Ex. 1003, ¶¶271-274, 326-327, 355.)

30. Dr. Blair states that “a POSA would also understand that Petitioner and Dr. Giachetti do not identify a section of the running belt as being the running surface. Instead, they point to the cross members that are attached to either belt 12 or belt 3[0] but are not included in the running belt.” (Ex. 2018, ¶93.) This is not correct, and furthermore, the running surface is not a physical element in the treadmill art, rather it is a spatial and temporal designation for the portion of the

running belt that is exposed to the runner's foot where contact between the foot and the belt is expected in a given moment.

31. First, I relied on Tollkien's cross members 10 for satisfying the "*at least one slat*" limitation of claim 8. (Ex. 1003, ¶¶317-318.) As explained by Tollkien, "[t]he running surface is formed by cross members 10" (Ex. 1031, ¶[0018].) Therefore, consistent with what is understood in the treadmill art, the top or outside surface of the cross members 10 form or define the "*running surface*" as they pass through the topside of the treadmill; they are not structurally separate components from the belt assembly as suggested by Dr. Blair. As I explained in my first declaration, the running surface is the portion of the treadmill where the user is expected to place their feet while exercising, e.g., on a top surface of the running belt assembly. (Ex. 1003, ¶58.) I annotated Tollkien's Figure 1 in paragraph 271 to identify the "*running surface*" by pointing to a top surface of the belt assembly where the user is expected to place their feet while exercising, as reproduced below:



Tollkien, Ex. 1031, Fig. 1 (Annotated)

32. Second, I relied on Tollkien's belt assembly 12 for satisfying the "running belt" limitation. (Ex. 1003, ¶¶271-274.) Tollkien describes the belt 12 as an assembly that includes a belt and cross members, i.e., "The belt 30 is analogous to the belt 12 shown in Fig. 1, in particular **comprising** numerous cross members." (Ex. 1031, ¶[0022], emphasis added.) The belt assembly 12 also includes a belt that is attached to the cross members 10. "The running surface is formed by cross members 10 that are transverse to the direction of movement, which are attached with rivets 6 to a continuous belt 12." (Ex. 1031, ¶[0018].) Similarly, the '005 Patent describes the running surface 70 as being on top of the slats 228. (Ex. 1001, Figs. 1, 5, 13:53-56.)

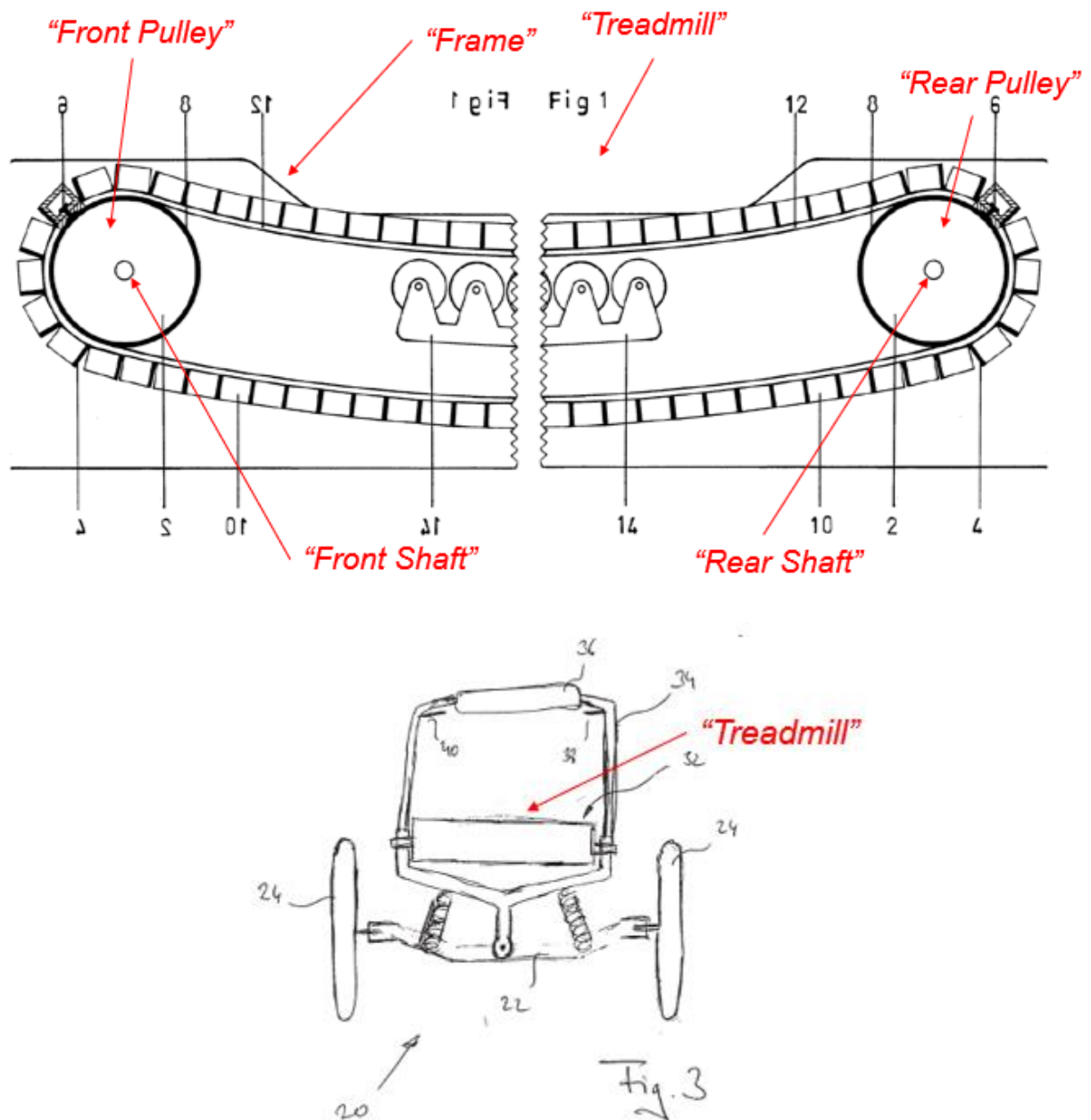
33. Intentionally left blank.

2. Tollkien Discloses “*a front [or rear] shaft coupled to frame, the front [or rear] shaft being adapted to support the at least one front [or rear] running belt pulley*” (Claims 2-3)

... [2.] *The manually powered treadmill of claim 1, further comprising a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley.*

... [3.] *The manually powered treadmill of claim 1, further comprising a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley.*

34. As I explained in my first declaration, Tollkien discloses “*a front shaft coupled to frame, the front shaft being adapted to support the at least one front running belt pulley [roller 2/32]*” and “*a rear shaft coupled to frame, the rear shaft being adapted to support the at least one rear running belt pulley [2/28].*” (Ex. 1003, ¶¶300-301)



Tollkien, Ex. 1031, Figs. 1 and 3 (Annotated)

35. Regarding the “pulley” limitations of claim 1, I explained that the vehicle embodiment of Figs. 2 and 3. Fig. 3 shows that the rollers 32 include a shaft that extends through the frame to support the rollers 32 for rotation. (Ex. 1003, ¶268.)

36. PO and Dr. Blair discount Tollkien's disclosure in its Figures and fault Tollkien for not expressly stating all features in the text of the patent. (POR, 14-15; Blair, Ex. 2018, ¶98.) During my deposition, I was repeatedly asked to find the word "shaft" in the Tollkien Patent, and I explained that "the teachings of Tollkien are not just the words. They are the pictures also":

Q. Again, I'm not referring to the images when I ask you these questions. I am asking solely about Tollkien's written description. Can you identify any word in this reference that refers to the structures explicitly that you have identified as the shafts for purposes of claims 2 and 3, yes or no?

A. I think that everything that we discussed points to the shaft, you know. I can't speak for the German translation in terms of maybe there could have been a word translated as "shaft." In this English translation I see roller, roller assembly, there is a mention of an axle. Beyond that, I can't really speak to an explicit particular word for shaft other than, you know, what we've stated already.

Q. So, again, very simple yes or no question and I will repeat it again, can you identify any word in this reference that refers to the structures explicitly that you have identified as shafts for purposes of claims 2 and 3?

A. No, because I don't speak German so I can't to go [*sic* do] that.

Q. I am not asking about the original German. I am asking about this translation in English. Can you identify any word that meets those criteria? You relied on the English translation, correct?

A. I did rely on the English translation but my reading of it is as through the lens of a person of ordinary skill in the art and the whole disclosure, not the disclosure but **the teachings of Tollkien are not just the words. They are the pictures also.** So I relied on all of that and I know you are just asking me about the words. I think in there roller, roller assembly, the way those are used in the context, I see that as meaning "shaft."

(Ex. 2082, 65:4-66:19, emphasis added.)

37. I understand Woodway argues that my above response regarding there potentially being a different German word that could be translated into shaft or another word "calls into question the credibility of the entire translation." (POR, 18.)

38. I did not question the credibility of the Tollkien translation. In my first declaration, I stated that "[e]ach of the exhibits listed [in my Exhibit List] are true and accurate copies." (Ex. 1003, ¶19) Tollkien is included in my Exhibit List, and my opinion that Tollkien is a true and accurate copy of the original German patent has not changed.

39. The word "shaft" may be described in different ways and may have a similar technical meaning as other words, such as rod, projection, protrusion, roller, etc. I have reviewed many English translations of technical documents in my career, and I have seen technical terms that have been translated into different terms that have similar meanings. My comment that the translator may have selected a word

such as roller instead of shaft is not questioning the credibility of the translation, just explaining that Tollkien still teaches “*a front [or rear] shaft coupled to frame, the front [or rear] shaft being adapted to support the at least one front [or rear] running belt pulley*” even if the word “shaft” itself is not expressly used in the patent, despite it being shown graphically in the Figures.

40. Dr. Blair argues that “a POSA would not understand [Tollkien’s Figures 1, 3], nor any other disclosure in Tollkien, to disclose structures that meet the ‘shaft’ limitations of Claims 2-3.” (Ex. 2018, ¶98.)

41. Regarding Tollkien’s Figure 1, Dr Blair states:

With no express description in Tollkien, a POSA would not necessarily understand the circle depicted in Figure 1 to correspond to a “shaft,” or even a hole that is meant to receive a shaft, as required in Claims 2-3. Rather, a POSA would understand that the depicted circle could represent a number of different structures. Even assuming that the circle is meant to represent the attachment point of some rotational coupling between the roller 2 and the frame of the device, the circle could just as easily represent the socket of a ball-type joint or an out-shoot of the roller itself that fits into a complementary-shaped receiver on the frame. Moreover, given the lack of disclosure in Tollkien, the circle may not represent a connection point at all, in which case **a POSA would have no indication of what the circle in Figure 1 is intended to represent.**

(Ex. 2018, ¶101, emphasis added.)

42. However, during his deposition Dr. Blair admitted that the circle in

Tollkien's Figure 1 could be a shaft, and that shafts are commonly used in treadmills to support rollers/pulleys:

Q. Could that circle be a shaft?

A. It could be.

Q. And shafts are commonly used in treadmills to support a roller or a pulley, are they not?

A. Yes.

Q. Are they the most common means?

A. I don't know that I've surveyed enough of the treadmill space to know if they're most common, but they are fairly common.

Q. Have you ever seen a commercial treadmill that did not include a shaft for supporting the belt pulleys or rollers?

A. The only commercial treadmills that I've disassembled or worked on in relationship to these matters would have been in the CURVE treadmills and those have all had shafts in them.

(Ex. 1050, 59:12-60:2.)

43. Based on the above admissions, Dr. Blair's statement that "a POSA would have no indication of what the circle in Figure 1 is intended to represent" is not reasonable and contrary to what is commonly understood in the industry as the means to connect rollers and pulleys to frames of treadmills.

44. Regarding Tollkien's Figure 3, Dr. Blair states:

Figure 3 similarly does not disclose either a front shaft or a rear shaft coupled to the frame, nor does Tollkien’s written description of the Figure 2-3 embodiment discuss a “shaft” or equivalent structure that would meet the requirements of Claims 2-3. EX1031 at Fig. 3, ¶¶[0021]-[0026]. While Dr. Giachetti states that Figure 3 illustrates that “the frame defines holes and the front shaft is receive [sic] through the holes,” his annotations to this figure do not actually identify the reference “holes,” nor am I able to discern any such “holes” from my own review of Figure 3. See EX1003 at ¶300 (reproducing Figure 3 and adding annotations limited to denoting the full “Treadmill”). Likewise, Dr. Giachetti’s annotations to Figure 3 do not indicate what structure he contends would be understood as a “shaft... adapted to support the at least one front [or rear] running belt pulley” as required by Claims 2-3. *Id.* Based on the referenced evidence, a POSA would not necessarily understand Figure 3 to disclose a “shaft,” or even a hole that is meant to receive a shaft, as required in Claims 2-3.

(Ex. 2018, ¶102, emphasis added.)

45. However, during his deposition, Dr. Blair admitted that “Figure 3 shows a roller 32 with two cylindrical projections extending from its ends[,]” that these projections or “protrusions would be coupled to the frame[,]” and that the Y-shaped component “could be called a frame” and “supports the roller 32”:

Q. And in Figure 3, there is an arrow to 32. Do you agree that that's pointing at the front roller?

A. Yes, paragraph 22 says there's a second roller at 32 in the front of vehicle 20.

Q. Figure 3 shows a Y-shaped component; do you see that?

A. Yeah, I think I understand what you're talking about.

Q. Would you agree that that's the frame?

A. I don't know that explicitly they ever name it, but **it could be called a frame.**

Q. Despite the lack of description, **would you agree that the Y-shaped component supports the roller 32?**

A. As best you can tell from the hand sketch, **yes**, in Figure 3.

Q. And what does the hand sketch of Figure 3 show with regards to the connection between the roller 32 and the Y-shaped component?

A. Very little, actually. There's some protuberances from both sides of the roller and then there's the frame piece there that they overlap one another in some way, but it's not really clear in how they're connected at all.

Q. Would you agree that Figure 3 shows that those -- I believe you called them -- you didn't call them protrusion. What did you call them?

A. Protuberances, yes.

Q. Would you agree that those extend through the Y-shaped component?

A. Again, if you just look at the figure, if you just look at the sketch, and if it's actually drawn correctly, I wouldn't agree with that because

on the one on the left, it looks like it's in front of or closer to me in the frame and the one on the right has a little bit of a line going through it, so it's really hard to tell.

Q. That roller 32 cannot float in space, can it?

A. No.

Q. Something is holding roller 32 in position shown in Figure 3, is it not?

A. Yes.

Q. Do you agree that the Y-shaped component is holding the roller 32 in space?

A. It doesn't appear to be anything else that would be.

Q. And each of those protrusions has a first side which touches the roller 32 and a second side which is outside of the Y-shaped component?

A. Correct.

Q. You would then agree that it's either extending through the Y-shaped component or those two components do not overlap; is that correct?

A. I think a third option -- again, depending on what that frame piece, how the frame piece actually is -- it could be resting on top of.

Q. In your third option, if those protrusions were resting on top of the frame, the frame would still be supporting the roller, correct?

A. Yes.

Q. In your third option, **would you agree that the protrusions would be coupled to the frame?**

A. Yes.

Q. Figure 3 is a front view. What shape would you describe those protrusions as being? In the view itself, not if you were to extrapolate into 3D space. Just looking at the view of Figure 3, what shape are they?

A. Well, it's a rectangle on the page.

Q. Right. And then if you turn to Figure 1, do you disagree that that circle shown is an end view of those protrusions?

A. Well, again -- I'm sorry. Again, he never specifically calls out what those pieces are, Tolkien never does, but if one is looking at engineering drawings or as part of ordinary skill, I would assume that the circle in the center of item 2 on Figure 1 could potentially -- is probably likely the same -- representing the same thing as the protrusion in Figure 3.

Q. So a skilled artisan, using their skills as a mechanical engineer or their experience in the field of treadmills, would be able to look at the side view of Figure 1 and the front view of Figure 3 and understand that those two figures are expressing that those protrusions are cylindrical in shape?

A. It's likely, yes.

Q. Would you then agree that **Figure 3 shows a roller 32 with two cylindrical projections extending from its ends?**

A. That's what it appears to be, yes.

(Ex. 1050, 60:14-64:4, emphasis added.)

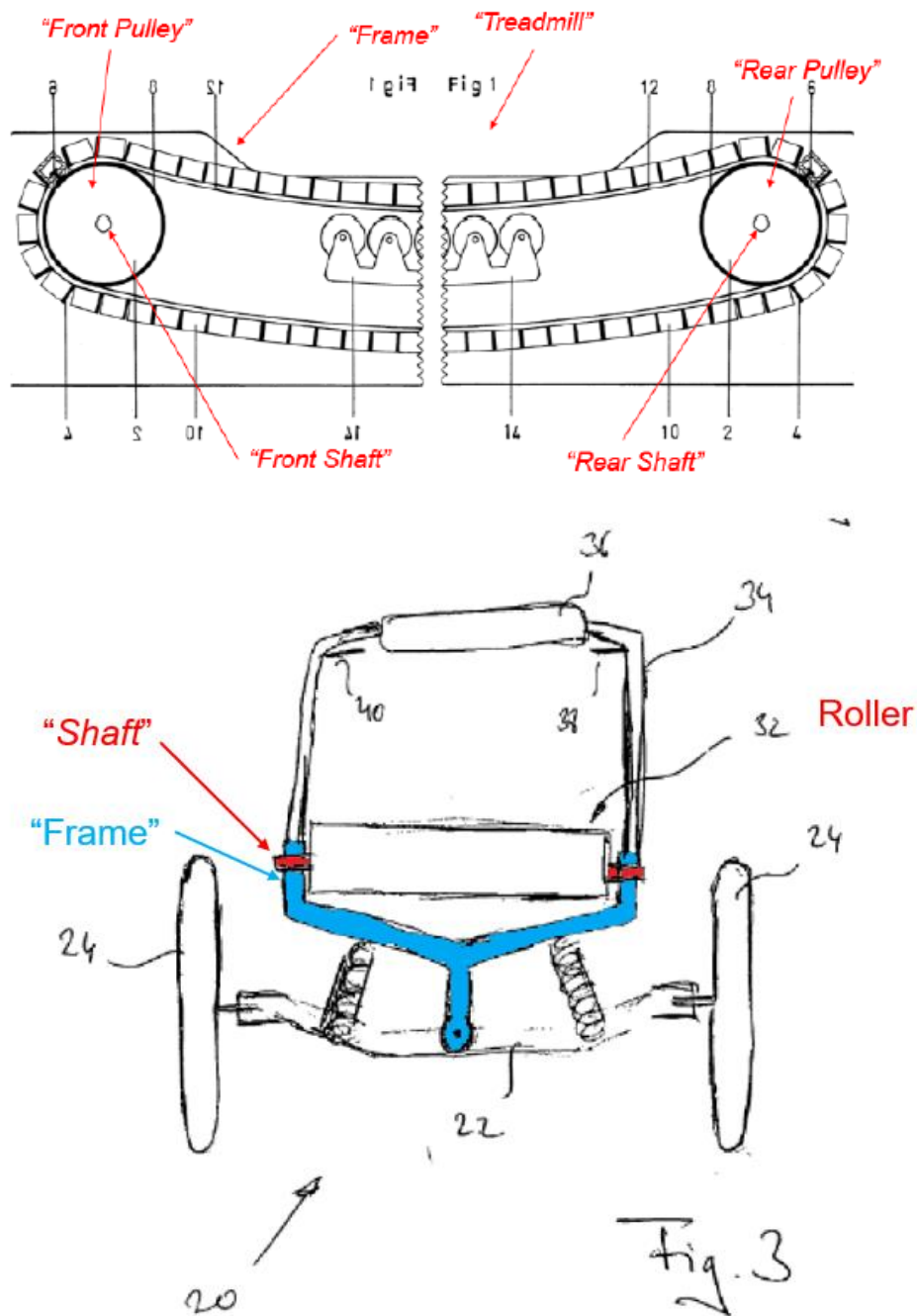
46. Dr. Blair would not agree that Tollkien's protrusions were shafts, implying a narrow construction of the term "shaft." However, I understand that during the related litigation, PO argued for a broad construction of the term "shaft" and offered the following dictionary definitions:

Plaintiff cites to a technical dictionary defining the term "shaft" as simply being "[a] long slender, usually cylindrical part." MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS 804 (5th ed. 1994). Plaintiff cites to another dictionary that defines "shaft" as "[a] long, usu[ally] cylindrical bar, esp[ecially] one that rotates and transmit power." WEBSTER'S II NEW COLLEGE DICTIONARY 1037 (3d ed. 2005).

(Claim Construction Order, Ex. 1033 at 27.)

47. A POSA would have understood Tollkien's protrusions to be long slender, usually cylindrical parts and therefore meet the plain and ordinary meaning of shafts according to PO's dictionary definitions.

48. I added additional annotations to Tollkien's Figure 3 below to clarify how Tollkien's shaft is coupled to the frame:



Ex. 1031, Figs. 1, 3 (Annotated)

49. Intentionally left blank.

3. Tolkien Discloses *“a plurality of bearings coupled to the frame”* (Claims 6, 13, 16)

... [6.] The manually powered treadmill of claim 1, further comprising a plurality of bearings coupled to the frame, at least one bearing of the plurality of bearings configured to at least partially support the running belt.

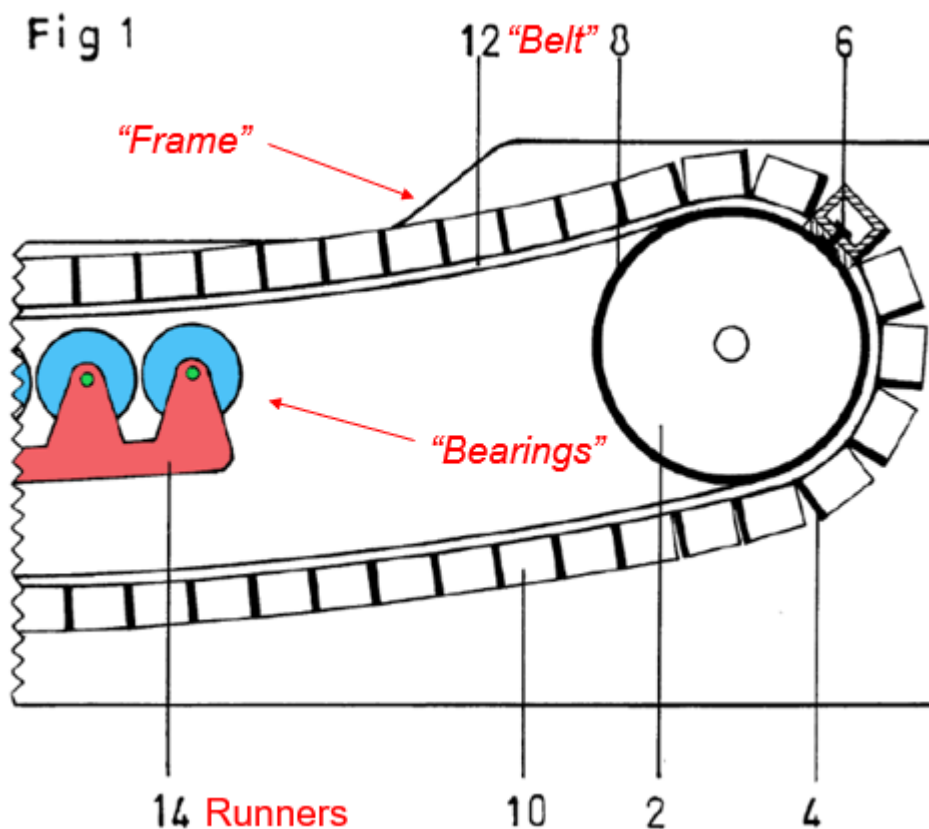
... [13.] The treadmill of claim 9, further comprising a plurality of bearings coupled to the frame, at least one bearing of the plurality of bearings configured to at least partially support the running belt.

... [16.] The manually powered treadmill of claim 15, further comprising a plurality of bearings coupled to the frame, wherein at least one bearing in the plurality of bearings at least partially supports the running belt.

50. As I explained in my first declaration, Tollkien discloses the “*plurality of bearings*” limitations of claims 6, 13, and 16. (Ex. 1003, ¶¶307-309, 348-349, 363-364.)

51. Tollkien discloses runners 14 that support a middle portion of the belt 12: “The runners 14 placed underneath the running surface prevent the belt from bouncing when in use.” (Ex. 1031, ¶[0020].) As shown in Fig. 1, the runners 14 include a base or support structure (annotated in red) that supports a plurality of bearings (annotated in blue). The bearings are supported for rotation relative to the support structure by a plurality of axles (annotated in green). The bearings are

arranged underneath the running belt 12 and are configured to engage the underside of the running belt 12 to provide support and prevent bouncing of the belt.



Tollkien, Ex. 1031, Fig. 1 (Annotated)

52. As I explained in my first declaration, a POSA would have understood that the runners 14 are mounted and fixed to the frame and the bearings are mounted for rotation about the axels and relative to the frame to provide rolling engagement with the continuous belt 12. (Ex. 1003, ¶308.)

53. A POSA would have such an understanding based on, for example, the teachings of other prior art treadmills having side bearing systems that include small rolling element bearings mounted to the side of the frame to support track style

running surfaces such as U.S. Patent No. 4,614,337 to Schonenberger (Ex. 1010) and U.S. Patent No. 6,042,514 to Abelbeck (Ex. 1015). (Ex. 1003, ¶¶58-59, 68.)

54. I included a state of the art section in my first declaration to explain a POSA's understanding of the treadmill technology at the relevant time. (Ex. 1003, ¶¶50-91.) Regarding treadmill running surfaces, I explained that treadmills typically include one of two different types of running surfaces: a belt style (e.g., Ex. 1011, Fig. 1), and a track-style running surface (e.g., Ex. 1010, Fig. 1 and Ex. 1031, Fig. 1; *see also* Ex. 1003, ¶¶58-59.)

55. The type of running surface that is used corresponds with the type of bearing system selected for the treadmill. For example, small rolling element bearings are predominantly selected for the track style running surface because the transverse slats are strong enough to resist the operator's loads without anything directly underneath the slats where the operator's foot is. (Ex. 1003, ¶66.)

56. Historically, treadmills that implement small rolling element bearings still include front and rear connections, such as a roller, drum, sheave, pulley or shaft assembly, between the two frontmost side bearings and also the two rearmost side bearings to ensure alignment of the endless belt(s). These common and well understood methods are also found in known Power Transmission technology, i.e., conveyor technology, *see*, for example PT Handbook, Ex. 1016, 6-2, 6-4. (Ex. 1003, ¶66.)

57. Accordingly, a POSA would have understood that Tollkien teaches that its runners include small rolling element bearings to correspond with Tollkien's track style running surface.

58. A side bearing system is often used with track style running surfaces because track style running surfaces are typically much more rigid than a belt style and accordingly, are able to resist the loads from the user without a supplemental support structure beneath. For example, U.S. Patent No. 4,614,337 to Schonenberger (Ex. 1010) and U.S. Patent No. 6,042,514 to Abelbeck (Ex. 1015) are examples of treadmills with track-style running surfaces with side roller bearing systems including small rolling element bearings. (Ex. 1003, ¶68.)

59. Abelbeck discloses, with reference to Figure 12 below, support members 36 or bearings (annotated in blue) that are mounted to the side frame 110 of a treadmill and support a track style deck that is formed from a plurality of deck members 22, i.e., a "support system . . . in which the deck member 22 receives the support member 36 that is rotateably secured here to the modified side frame 110[.]" (Ex. 1015, 10:48-54.)

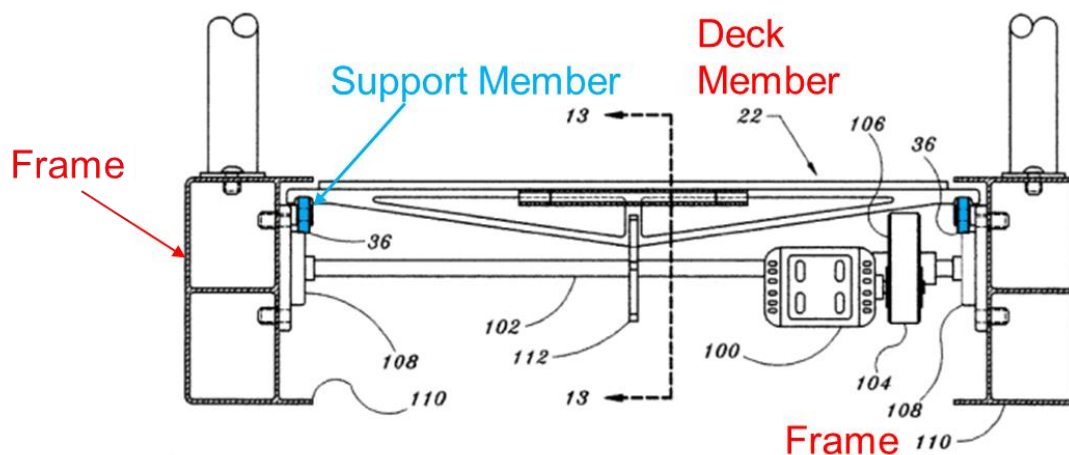
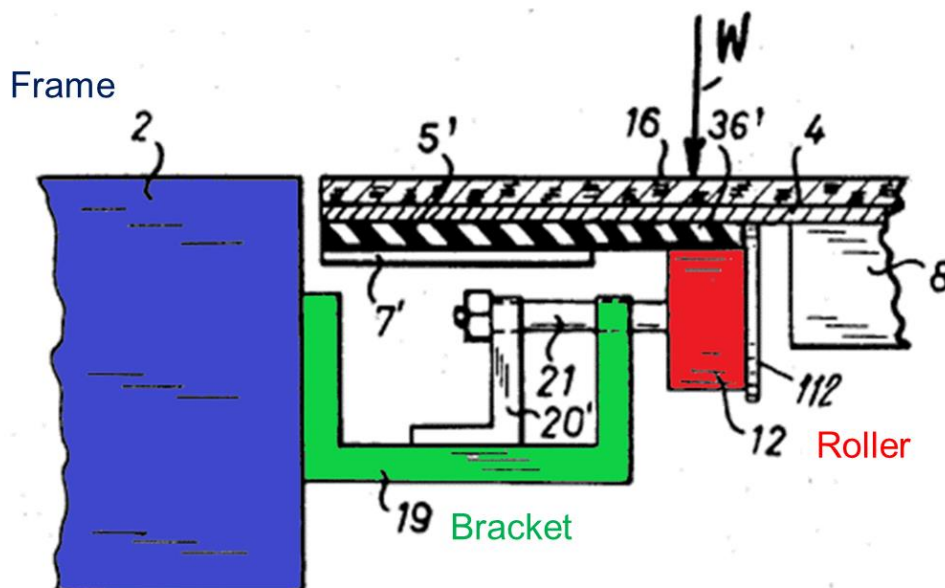


Fig. 12

Abelbeck, Ex. 1015, Fig. 12 (Annotated)

60. Similarly, Schonenberger discloses, with reference to Figure 10 below, rollers 12 or bearings that “are carried on shafts 21 secured to a bracket 19 which is attached to the sidewall 2 . . . or to the frame of the apparatus.” (Ex. 1010, 8:45-51.)



Ex. 1010, Fig. 10 (Annotated)

a. Tollkien's Runners are Bearings not Fixed Bumpers

61. Dr. Blair argues that Tollkien's runners function as fixed bumpers that are spaced apart from the running belt:

[A] POSA would understand that Tollkien may not intend for the belt and the round part of the runner 14 to be in continuous contact during use, but rather intend for the runner to simply be positioned some amount of space below the belt to "prevent the belt from bouncing." EX1031 at ¶[0020]. **That is, a POSA would understand that a runner 14 may act as more of a bumper.**

(Ex. 2018, ¶112, emphasis added.)

62. However, a POSA would have understood that this gap between the belt and the runners would not be present when a user is running on the treadmill due to the weight of the runner.

63. Additionally, a POSA would have understood that fixed bumpers, as proposed by Dr. Blair, would create excessive friction and would not be a reasonable treadmill bearing. The only fixed, i.e., non rotating, bearings commonly used for treadmills are planer or decks, such as that used in Socwell. (Ex. 1003, ¶69.)

64. Even if the runners 14 provided a bumper feature like Dr. Blair opines, the construction of these elements still would necessarily correspond to a bearing. This is because in his hypothesis the running belt contacts runners 14 by the force of the runner contacting the running belt causing it to move rearward and deflect

downward. If the runners 14 were not constructed from a bearing element, then the running belt would abruptly lose speed every time the runner took a step and caused the running belt to contact runners 14. Such abrupt stops are contrary to the nature of treadmills that strive for smooth movement of the running belt. Therefore, the runners 14 must be formed by a bearing to function the way Dr. Blair suspects.

b. Tollkien's runners are "coupled to the frame."

65. Tollkien discloses "runners 14 placed underneath the running surface to prevent the belt from bouncing when in use." (Ex. 1031, ¶[0020].)

66. I explained during my deposition that a POSA would have understood that this sentence means that the runners are attached to the frame of the treadmill underneath the running surface to provide an upward reaction force while the person is on it:

Q. So just to repeat my question from earlier, does Tollkien ever expressly state how runners 14 are attached to the rest of Tollkien's treadmill?

A. So it says, you know, in Paragraph 20 that the runners 14 are placed underneath the running surface to prevent the belt from bouncing while in use. So that means that **the runners are attached to the treadmill underneath the running surface and that they provide an upward force to that running surface while the person is on it.** That's all contained in that one sentence.

(Ex. 2082, 71:22-72:8, emphasis added.)

Q. Well, does it even say it is attached to the frame?

A. Well, **it must be coupled to the frame in some way, otherwise, it wouldn't provide the upward force** for what Tollkien is talking about in terms of the bouncing.

(Ex. 2082, 72:18-23, emphasis added.)

67. I was asked to identify the attachment point between the runners 14 and the frame in Tollkien's Figure 1:

Q. Can you point to any structure actually depicted here on figure 1 that is the attachment point between runners 14 and the frame?

A. Well, there could be **a ton of different ways that it's attached** and it's not specified because the POSA can pick. So there is not a -- I think what you're asking me is do I see like **a hole for a screw** or something like that and I don't know that that's needed for these. There are a number of different ways they could be attached. So it's not depicted here. Also, it's only a portion of the runner that is shown. So there could be another area there but Tollkien leaves it up to the POSA who is more than confident to attach these to the frames.

(Ex. 2082, 73:23-74:13, emphasis added.)

68. Dr. Blair interpreted my response above to be referring to mounting the runners to something other than the frame. (Ex. 2018, ¶114.) This is not correct. I was explaining that there could be different fasteners (e.g., bolts, pins, and screws) and attachment points on the frame.

69. Dr. Blair further argued that a "POSA would therefore recognize that

any of a number of arrangements are possible. For example, the runners 14 could be attached to the belt itself or attached to and suspended between the front and rear pulleys.” (Ex. 2018, ¶114.)

70. However, Dr. Blair admitted during his deposition that Tollkien’s runners 14 cannot be attached to the belt itself:

Q. Tollkien describes the runners 14 as preventing the belt from bouncing. Based on that description, **does that mean that the runners 14 have to be fixed to something other than the belt?**

A. **Yes**, but -- yes.

(Ex. 1050, 88:11-15, emphasis added.)

71. Dr. Blair also clarified his statement that the runners could be suspended between the pulleys and referred to attaching the runners to a structure external to the treadmill, such as the ceiling or floor:

Q. In paragraph 114, **you opined that runners 14 could be suspended between the front and rear pulleys. Could you please elaborate on how that would work?**

A. Well, that would be the case I was describing a little bit ago, right? You could actually have them mounted outside and not connected to the frame. They could be **suspended from above** --

Q. By what?

A. -- or **supported from below**.

Q. You're referring to a design where the runners are attached to the floor as opposed to the frame?

A. That could be an example, yes.

(Ex. 1050, 88:16-89:2, emphasis added.)

Q. Is it your opinion that the runners 14 would have to be eventually joined to the frame albeit through an intermediary component?

A. Well, one possible option is you could have the front cylinder 2 and the rear cylinder affixed to a -- if you didn't want to move the whole treadmill around as an individual unit, **you could actually mount all the individual components to the floor** and it would all function the same.

Q. **Have you ever seen a commercial treadmill that was designed that way?**

A. **No**, but Tollkien is silent on how it's put together.

(Ex. 1050, 87:14-88:1, emphasis added.)

72. Dr. Blair admitted that he had never “seen a commercial treadmill that was designed that way” i.e., with runners/bearings attached to an external structure such as the floor. (Ex. 1050, 87:23-25.)

73. I agree with Dr. Blair that Tollkien’s runners would not prevent the belt from bouncing if they were coupled to the belt itself, and I also have not seen a commercialized treadmill that includes bearings that are mounted to the floor or ceiling. Therefore Dr. Blair’s hypothetical attachments of Tollkien’s

runners/bearings to structure other than the frame would not have been reasonable to a POSA.

74. Intentionally left blank.

C. A POSA would have been motivated to combine Magid with Socwell

75. As I explained in my first declaration, it would have been obvious to a POSA to combine the manual treadmill topology with a curved running surface disclosed in Socwell with the known technique of a one-way clutch to prevent treadmill belt motion in a forward direction as disclosed in Magid. (Ex. 1003, ¶¶129-140.)

76. As I explained in my first declaration, Socwell and Magid are from the same field – Exercise Equipment, more specifically treadmills for home exercise use. (Ex. 1003, ¶ 130; Socwell, Ex. 1011, 1:10-12; Magid, Ex. 1012, 1:53-56; 3:23-27.)

77. Woodway/Dr. Blair argue that Magid is limited to therapeutic use and Socwell is limited to non-therapeutic exercise: “Magid focuses on a two-belt therapeutic walker device” whereas “Socwell is directed to a non-therapeutic ‘exercising treadmill()’ that is suitable for recreational running and other purely recreational purposes.” (POR, 27; Dr. Blair Declaration, Ex. 2018, ¶¶119, 126.)

78. However, Magid describes its walker apparatus being used for exercise

and that its disclosure should be interpreted broadly:

Another objective of the present invention is to provide a walker apparatus which may be used with the functional supporting frame of an **exercise walker**, the latter having an adjustable hand bar for use by small children, physically handicapped people, old people and by those who feel more confident holding onto something while exercising.

(Magid, Ex. 1012, 1:53-59, emphasis added.)

Any one of the different embodiments of the walker apparatus of the present invention may further comprise the functional supporting frame of an exercise walker, a baby chair or a baby stroller. When used as an exercise walker, the walker apparatus is an ideal way of losing weight and keeping fit. When used as a baby chair or baby stroller, the walker apparatus provides a safe and effective way for exercising a baby and for teaching the baby to stand and walk.

(Magid, Ex. 1012, 3:23-31, emphasis added.)

While the present invention has been described in connection with what is considered the most practical and preferred embodiments, it is understood that this invention is not limited to the disclosed embodiments but is intended to cover various arrangements included within the spirit and scope of the broadest interpretation so as to encompass all such modifications and equivalent arrangements.

(Magid, Ex. 1012, 7:61-67, emphasis added.)

79. Socwell describes its treadmill as having “rehabilitative functionality” and being used for “rehabilitative exercises” which a POSA would have understood

relates to therapeutic use:

Another meaningful disadvantage of prior art exercise treadmills is their general inability to reduce the physical impact to the joints and muscles of a user conducting general exercise routines in relation thereto. In this regard, an exercise treadmill which is capable of reducing the physical impact on the knees and back of a user will resolve several barriers left unsolved by known prior art devices, especially in light of providing an operative role in **rehabilitative exercises**.

(Socwell, Ex. 1011, 3:1-9, emphasis added.)

Moreover, it is an object of the present invention to provide a curved deck treadmill which is capable of reducing the physical impact to the joints and muscles (e.g., the knees and back) of a user, thus providing an operative device having **rehabilitative functionality**.

(Socwell, Ex. 1011, 3:52-57, emphasis added.)

Similarly, the novel configuration of the present invention is capable of reducing the physical impact to the joints and muscles (e.g., the knees and back) of a user, thus providing an operative device having **rehabilitative functionality**. Moreover, the present invention provides a continuous, smooth **exercising** motion capable of providing meaningful exercise comfort, thereby facilitating an upper surface which supportably provides for a longer stride with more flexibility.

(Socwell, Ex. 1011, 13:38-47, emphasis added.)

80. I explained **how** a POSA would have combined Socwell and Magid

(Ex. 1003, ¶¶138-140) in my first declaration. In summary, a POSA would have been motivated to modify Socwell to include Magid's control means mounted to the front roller or the rear roller. (*Id.*)

81. I also explained why a POSA would have been motivated to combine Socwell with Magid in my first declaration. (Ex. 1003, ¶¶135-137.) It would have been obvious to a POSA to combine Socwell's treadmill with Magid's control means to permit only unidirectional movement of the running belt to reduce the risk of a user stepping onto the running belt of the treadmill and losing their balance when the belt moves in the forward direction. (*Id.*)

82. Dr. Blair identified the same problem of unintended motion with Socwell:

The treadmill belt of Socwell is free to move in both a forward direction and a rearward direction. When a user steps onto the rear of the treadmill having a curved running surface, the user's weight may cause the treadmill belt to move in the unintended rotational direction, particularly if the user inadvertently mounts the device from or towards the rear.

(Dr. Blair Declaration, Ex. 2018, ¶138.)

83. Several professional organizations have produced standards to provide guidance to manufacturers regarding both exercise equipment safety in general and other standards specifically for treadmill safety. See ASTM Standard, Ex. 1019; ISO

Standard, Ex. 1020; and ACCC Product Safety Supplier Guide, Ex. 1007. These standards establish requirements for foot rails and handrails on treadmills to address user stability. (ASTM Standard, Ex. 1019, 3-4; ISO Standard, Ex. 1020, 8.)

84. As I explained during my deposition for a related proceeding, the ISO standard defines a treadmill as “training equipment with a unidirectional moving surface on which a walking or running activity can take place, where the feet are free to leave the moving surface.” (ISO Standard, Ex. 1020, 4; Ex. 2024, 61:20-25.) Dr. Blair explained that a POSA would understand from this definition “that the [treadmill] is designed to be only walked on or run on in one direction.” (Dr. Blair Deposition, Ex. 1040, 58:18-20.) In view of this definition, a POSA would have been further motivated to modify Chickering and Socwell with Magid’s unidirectional control means to limit their moving surfaces to one direction.

1. Magid does not teach away from its combination with Socwell

85. Woodway/Dr. Blair argue that Magid teaches away from its combination with Socwell because “Magid focuses on a two-belt therapeutic walker device[]” and that “[i]f a single belt were utilized, the key feature of ‘preventing the action of the user’s left foot from influencing the action of his right foot and vice versa’ would be lost.” (POR, 27, citing Dr. Blair Declaration, Ex. 2018, ¶¶120-122.) Woodway/Dr. Blair argue that “[d]esign and engineering requirements would urge

a POSA to avoid combining the teachings of Socwell or other non-planar or multi-planar treadmills with Magid[’s]” “narrow-use walker device with a flat or uniplanar surface[.]” (POR, 30, citing Dr. Blair Declaration, Ex. 2018, ¶¶137-142.)

86. My proposed combination of Socwell and Magid is not relying on Magid’s two-belts or flat or uniplanar surface for satisfying any claim limitations. Therefore Magid’s disclosure regarding these features is not relevant to the proposed combinations.

87. Intentionally left blank.

D. A POSA would have been motivated to combine Sclater with Socwell/Magid

88. As I explained in my first declaration, A POSA would have been motivated to substitute Sclater’s one-way sprag-type bearing assembly for Magid’s ratchet-and-pawl one-way mechanism. (Ex. 1003, ¶¶141-151.)

89. I explained in my first declaration how a POSA would have replaced Magid’s control means with Sclater’s one-way bearing assembly that was commercially available. (Ex. 1003, ¶¶148-151.)

1. My obviousness arguments do not rely on hindsight

90. I explained in my first declaration why a POSA would have replaced Magid’s control means with Sclater’s one-way bearing assembly to obtain predictable results, e.g., reduced noise and improved durability. (Ex. 1003, ¶¶142-

145.)

91. Woodway/Dr. Blair argue that “Petitioner does not adequately explain why a POSA would have been specifically motivated to select the mechanism Petitioner relies on, rather than one of the dozens of other options Sclater present[s].” (POR, 32.)

92. As I explained in my first declaration, a POSA would have been specifically motivated to select the sprag-type clutch disclosed in Sclater based on Sclater’s description of the sprag-type clutch for back stopping a conveyor belt, and based on the description of such sprag-type clutches as a commercially available option for exercise equipment in the Emerson bearing catalog from 2001. (Ex. 1003, ¶¶146-147, citing Ex. 1018 at 52-53.)

93. Sclater further discloses that roller clutches are better suited for high speed freewheeling than pawl-and-ratchet clutches. This is because the pawl may skip past a few teeth before backstopping the ratchet gear, whereas the sprags are always in contact with the rings and do not need to find a discrete gear tooth to stop. Additionally, because there are multiple sprags, they distribute the load over a larger surface area:

Fig. 9 Cam and Roller Clutch: This over-running clutch is better suited for higher-speed free-wheeling than a pawl-and-ratchet clutch. The inner driving member has cam surfaces on its outer rim that hold light springs that force the rollers to wedge between the cam surfaces and the

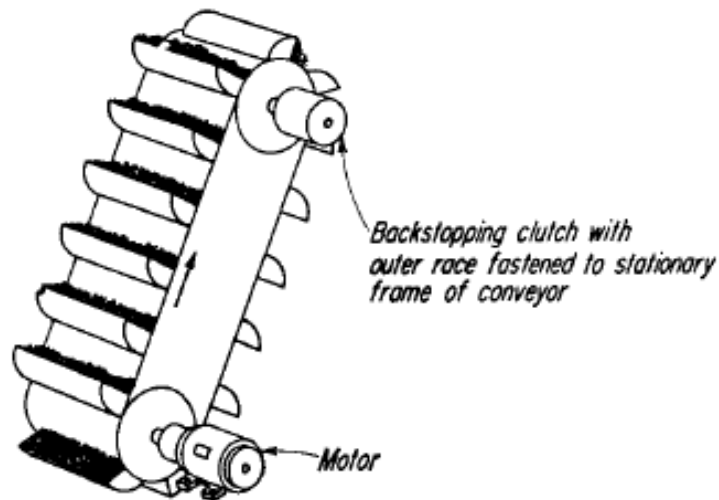
inner cylindrical face of the driven member. While driving, friction rather than springs force the rollers to wedge tightly between the members to provide positive clockwise drive. The springs ensure fast clutching action. If the driven member should begin to run ahead of the driver, friction will force the rollers out of their tightly wedged positions and the clutch will slip.

(Sclater, Ex. 1017, 303, emphasis added.)

Overrunning sprag clutches transmit torque in one direction and reduce speed, rest, hold, or free-wheel in the reverse direction. Applications include overrunning, backstopping, 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, Ex. 1017, 320.)

94. Sclater illustrates a back stopping mode of operation for a conveyor belt using a “sprag-type clutch[]” in which the “outer race [is] fastened to [the] stationary frame of [the] conveyor”:



Sclater, Ex. 1017, 320

Fig. 2 Backstopping permits rotation in one direction only. The clutch serves as a counter-rotation holding device. An example is a clutch mounted on the headshaft of a conveyor. The outer race is restrained by torque-arming the stationary frame of the conveyor.

(Sclater, Ex. 1017, 320.)

95. A POSA would have understood that conveyers and treadmills operate the same. Accordingly, a POSA would have considered a sprag-type one-way clutch bearing for an exercise equipment application, such as a treadmill. For example, Emerson is a bearing catalog from 2001 that specifically describes its NSS Series sprag-type one-way clutch as an option for multiple “Field Applications,” including “Exercise equipment,” “Food processing equipment,” “Printing presses,” and “Roll conveyors.” (Emerson, Ex. 1018, 52-53, emphasis added; Ex. 1003, ¶¶89-91, 147.)

96. PO argues that I did not consider the Sclater factors reproduced below

when selecting a sprag clutch. (POR, 38.)

Overrunning sprag clutches transmit torque in one direction and reduce speed, rest, hold, or free-wheel in the reverse direction. Applications include overrunning, backstopping, 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, Ex. 1017 at 320.)

97. I did consider these factors, e.g., I explained how a POSA would mount Sclater's outer race to the frame and inner race to a roller using a key/keyway interface. (Ex. 1003, ¶¶148-150.) However, from an application perspective, sprag clutches were already known to be appropriate for exercise equipment and conveyor equipment, rendering any discussion of such a consideration superfluous to debating if one should be used in a treadmill or not. Secondly, this instruction in Sclater is not directed at selecting a sprag over another style of clutch, such as a wrap spring clutch; rather, it is directed at what size and style OF sprag clutch should be selected. And the POSA has ample technical background to peruse a catalog, e.g. Emerson (Emerson, Ex. 1018), and pick the geometric size, torque rating and other features of the desired sprag clutch that only serve as reliability concerns, which are not a consideration in these patents, or required by the claims.

98. Furthermore, a POSA would have also understood that since such one-way sprag type clutches were ubiquitous at the time, clutch manufactures already considered such factors and produced an array of sprag clutch options. Therefore, commercially available and inexpensive sprag-type clutches would be attractive since they require less design and qualification work to implement as well. For example, as explained by Dr. Blair, a user could identify a problem and a potential solution in a catalog, e.g., the Emerson catalog (Emerson, Ex. 1018) and then call the tech support line to confirm their clutch selection.:

Q. All right. So how would a person of ordinary skill in the art use a catalog like this?

A. Well, it depends on where they are in their process. Like, for example, on page 8, there's some general description about how these systems work. So they may use it to educate themselves on principles of operations on how they work. If they've identified a particular problem they're trying to solve, they would go into the more detailed sections, like in -- starting on pages 34 that has the specifications.

And use their calculations or their understanding of the problem they're trying to solve. And use this as a collection tool to go through and pick up potential -- pick out potential products in this catalog that might serve their purpose.

Oftentimes, in reality, what they do, they get that far and then they call up the tech support line at the company and have a detailed

conversation with somebody on the company side that can really help them dial in their needs.

Q. Help them pick out the specific clutch or bearing for their application?

A. Yes.

(Dr. Blair Deposition, Ex. 1038, 89:12-90:12.)

Q. So based on the description on page 48 that this is serving the fitness industry and exercise equipment field applications, would a person of ordinary skill in the art have considered these one-way bearings for treadmills?

A. If they -- if the person of ordinary skill in the art had already identified the need that a one-way bearing fulfills, then they would potentially -- they'd be drawn to -- they would certainly be drawn to this -- or this particular product because it calls it out as an application for it.

(Dr. Blair Deposition, Ex. 1038, 92:4-14.)

99. Dr. Blair further confirmed that a POSA would have used the Emerson catalog to find a solution for “[p]reventing motion in the unintended direction” on “a curved manual treadmill”:

Q. In a different application, then, how the Morse KK clutch would be utilized in a curved manual treadmill?

A. It's the same physical principle, but it's a different application. You need different reasons you're putting it there.

* * *

Q. What's the reason for including the Morris KK clutch or something like the Morse KK clutch in a curved manual treadmill?

A. The direction. Preventing motion in the unintended direction.

(Dr. Blair Deposition, Ex. 1038, 104:21-105:1, 105:8-12, emphasis added.)

100. Woodway argues that Petitioner's argument does not apply to ratchet gears that do not include teeth. (POR, 34-35.) However, as admitted by Dr. Blair, Magid does not describe any ratchet gears that do not have teeth. (Dr. Blair Deposition, Ex. 1038, 85:16-19.) Woodway's no teeth argument is not relevant to Petitioner's proposed substitution of Magid's toothed ratchet gear with Sclater's one-way bearing.

101. Intentionally left blank.

E. A POSA Would Have Been Motivated to Combine Sclater with Tollkien (Ground 2)

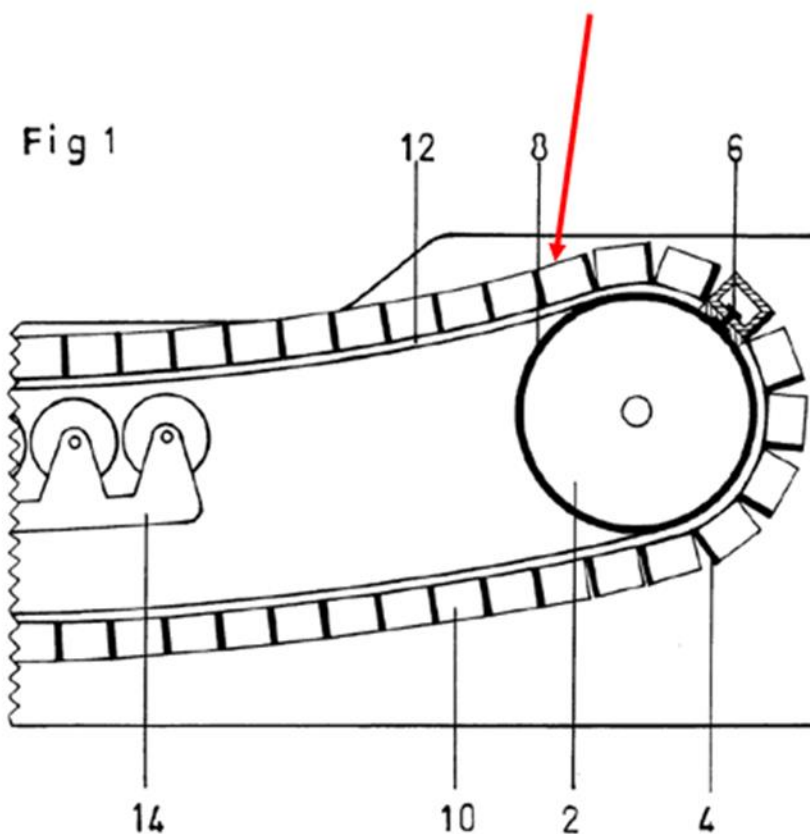
102. As I explained in my first declaration, A POSA would have been motivated to combine Sclater with Tollkien. (Ex. 1003, ¶¶235-251.)

1. The prior art recognized inadvertent forward belt movement as a safety hazard.

103. As I explained in my first declaration, it has long been recognized that users may be injured by falling off of a treadmill while mounting or dismounting it, or during use. This may be due to the treadmill belt moving in an unexpected

direction or in such a way that the user cannot regain their equilibrium. The prior art, such as Socwell and Chickering, identify the problem, but do not solve it. (Ex. 1003, ¶¶238, 241, 71-72.)

104. A POSA would have understood that this safety concern is exacerbated in curved treadmills with unrestrained running belts, e.g., if a user steps onto the rearward end of the running surface (indicated by the red arrow below), causing the foot to unexpectedly move towards the lowest portion of the treadmill. This unexpected forward motion could result in a fall. (Ex. 1003, ¶¶71-72, 238-246.)



Tollkien, Ex. 1031, Fig. 1 (Annotated)

105. Woodway/Dr. Blair state that I admitted “that Socwell itself does not expressly identify any safety issues associated with curved running surfaces[]” based on my testimony from my prior deposition for the ’745 Patent. (POR, 43 citing Ex. 2023, 55:21-56:1, emphasis added.)

106. That is not an accurate summary of my testimony. During that deposition, I was asked about Socwell’s curved treadmill addressing the specific issue of a user falling off the back of the treadmill, and if Socwell disclosed safety devices, but I was not asked if Socwell identified “any safety issue”:

Q. If you look at the end of this paragraph, you include a couple block quotes from Socwell, Exhibit 1011.

In that second block quote, you quote Socwell as saying: Another meaningful disadvantage of exercise treadmills of the prior art is the inherent danger associated with users tending to fall off the back end of the treadmill and become injured.

Is that -- is that accurate?

A. That's reflective of that caption.

Q. Didn't Socwell conclude that it was sufficient to curve the running surface to address this inherent danger?

A. Yeah. So they state that that is for safety while the user is exercising on the treadmill.

Q. Socwell doesn't disclose any other sort of safety device besides the curved shape of the treadmill, does it?

A. Not while for -- not for getting on and off of it, no. But it discloses the curve for safety while actually performing exercise.

Q. Are you aware of any structure in Socwell that you would characterize as a safety device, as that term is used in the '745 patent?

A. Not as I -- not as I sit here. I don't believe so.

(Ex. 2023, 55:10–56:12.)

107. Intentionally left blank.

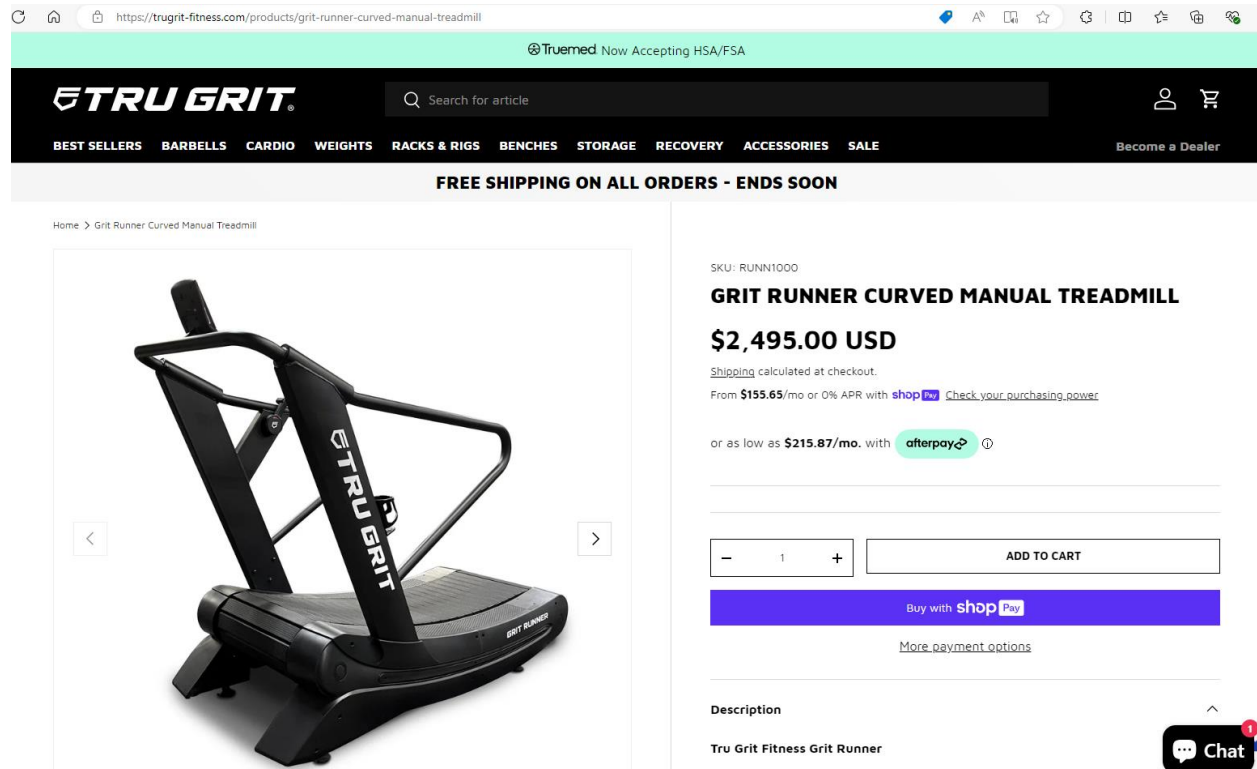
VI. Objective Indicia Does Not Support Patentability

108. Intentionally left blank

109. PO's employee Mr. Weber states that he has “personally seen at various tradeshow over the years, other copycats, including the In10ct Health Runner, the Xebex Runner, the NOHrD Sprintbok, the Cascade Ultra Runner Plus, the Tru Grit Runner, and other no-name Chinese knockoffs.” (Ex. 2020 (redacted), ¶66.)

110. I have reviewed some of these competing curved treadmills and noted treadmills that don't include a one-way device to substantially prevent or resist movement of the belt in any one direction versus the other.

111. One such example is the Tru Grit Runner Curved Manual Treadmill, which is available at <https://trugrit-fitness.com/collections/cardio/products/grit-runner-curved-manual-treadmill>:



(True Grit Runner Webpage, Ex. 1053, 1)

112. I have inspected, purchased, and used such a Tru Grit Runner treadmill and it does not have a one-way device to substantially prevent or resist movement of the belt in any one direction versus the other. The Tru Grit includes a variable resistance magnetic brake that is comprised of a rotatable circular metal disk operably connected via a belt to a pulley on the front running belt pulley shaft and a magnet arrangement including magnets on each side of the disk that can be manually moved by a user via a control closer or farther away from the metal disk to adjust resistance to rotation of the front pulley shaft. In the lightest resistance setting, the belt moves or rotates easily and equally in both directions.

113. Intentionally left blank.

114. Intentionally left blank.

VII. Conclusion

115. In my opinion, all the elements of the Challenged Claims are disclosed by the references discussed above and in my first declaration, and the claims are unpatentable in view of these prior art references.

116. I reserve the right to supplement my opinions to address any information obtained, or positions taken, based on any new information that comes to light throughout this proceeding.

I declare under penalty of perjury that the foregoing is true and accurate to the best of my ability.

Executed on: November 5, 2024



Robert Giachetti, Ph.D.