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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HA VAN VO

Appeal 2014-009727
Application 13/254,461
Technology Center 3700

Before JOHN C. KERINS, AMANDA F. WIEKER, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Ha Van Vo (Appellant)¹ appeals under 35 U.S.C. § 134 from the Examiner's final decision rejecting claims 1, 8–10, 14, 16, 22, 29, 31, 33, 35, 36, 39, 41–43, and 58–66.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

¹ According to Appellant, the real party in interest is The Corporation of Mercer University. App. Br. 3.

² Claims 2–7, 11–13, 15, 17–21, 23–28, 30, 32, 34, 37, 38, 40, and 44–57 are canceled. *Id.*

SUMMARY OF DECISION

We AFFIRM.

SUMMARY OF INVENTION

Appellant's claimed invention "relates to prosthetic devices having a universal socket design." Spec. 1:12. Claim 1, reproduced below from pages 43–44 (Claims Appendix) of the Appeal Brief, is illustrative of the claimed subject matter:

1. A prosthetic device comprising:
 - a universal socket operatively adapted and sized to receive a variety of stump sizes, said universal socket consisting of a single continuous socket structure, said single continuous socket structure consisting of:
 - a first socket open end sized to receive a user stump,
 - a second socket end opposite the first socket end,
 - a side wall extending from said first socket open end to said second socket end, said side wall forming an outer surface and an inner surface of said single continuous socket structure,
 - at least two differently sized socket regions positioned along said side wall and between the first socket open end and the second socket end, said at least two differently sized socket regions consisting of an upper socket region proximate the first socket open end and a lower socket region positioned between the upper socket region and the second socket end, wherein the upper socket region has an upper region cross-sectional area, the lower socket region has a lower region cross-sectional area, and the upper region cross-sectional area is greater than the lower region cross-sectional area,
 - one or more air flow openings extending through said side wall of said single continuous socket structure from said outer surface to said inner surface of said single continuous socket structure,

one or more tightening element holes extending through said side wall of said single continuous socket structure from said outer surface to said inner surface of said single continuous socket structure,

a lower wall integrally connected to said side wall and extending along and forming said second socket end,

one or more rigid member connecting holes extending through said lower wall of said single continuous socket structure,

a rim extending along said first socket open end, wherein said rim comprises at least two rim sections with at least one rim section being positioned above another rim section so as to form an uneven height of said universal socket with at least one lower rim section and at least one upper rim section, and

a single slot (i) extending through said side wall of said single continuous socket structure from said outer surface to said inner surface of said single continuous socket structure, and (ii) from said at least one lower rim section of said first socket open end towards said second socket end and into said lower socket region.

REJECTIONS

Claims 1, 8–10, 14, 16, 22, 31, 41, 59–62, and 64 are rejected under 35 U.S.C. § 102(b) as being anticipated by Einarsson (US 2007/0225824 A1, pub. Sept. 27, 2007).

Claims 1, 8–10, 14, 31, 41, 59–62, and 64 are rejected under 35 U.S.C. § 102(b) as being anticipated by Shamp (US 4,988,360, iss. Jan. 29, 1991).

Claim 29 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Einarsson.

Claims 33, 35, 42, and 63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Einarsson and Marsh (US 4,128,903, iss. Dec. 12, 1978).

Claims 36 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Einarsson and Marsh, as evidenced by Lehneis (US 4,520,512, iss. June 4, 1985).

Claims 43 and 58 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Einarsson, Marsh, and Rincoe (US 5,246,465, iss. Sept. 21, 1993).

Claims 65 and 66 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Einarsson and Rincoe.

ANALYSIS

Anticipation Based on Einarsson

Claims 1, 8–10, 14, 16, 31, 41, 60–62, and 64

Appellant argues claims 1, 8–10, 14, 16, 31, 41, 60–62, and 64 together. App. Br. 9–14. Accordingly, we select claim 1 as representative, treating claims 8–10, 14, 16, 31, 41, 60–62, and 64 as standing or falling with representative claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner finds that Einarsson discloses all of the elements of independent claim 1, including a prosthetic device (prosthesis system 10)³ including a single continuous socket structure (anterior shell 12) having a lower wall (connector 18). Final Act. 4–6 (citing Einarsson, ¶¶ 39, 46, 49, 76, Figs. 2, 3). The Examiner further finds that the socket has a single

³ Parentheticals refer to the terminology of the cited references.

continuous structure “[a]t least when the components of Einarsson are connected.” Ans. 3. Appellant traverses, arguing that Einarsson’s socket includes “shell 12, connector 18 and retainer 16,” and therefore does not disclose a single continuous socket structure. App. Br. 13. Similarly, Appellant also argues that Einarsson’s shell 12 has an open second socket end and, therefore, does not include the recited lower wall. *Id.* at 13–14. These arguments are not commensurate with the rejection as set forth by the Examiner, as the Examiner did not rely on Einarsson’s retainer 16 as forming part of the socket structure; rather, the Examiner relied only on Einarsson’s shell 12 and connector 18. Final Act. 4–6. As correctly noted by the Examiner (*see* Ans. 3), when these components are assembled, they are connected in such a manner to form a single continuous socket structure having a lower wall (*see, e.g.*, Einarsson, Figs. 2, 3). We note that a lower wall, as claimed, does not require that it close off a lower end of the socket. Additionally, Einarsson discloses that “the connector may be integrally formed with the shell.” Einarsson ¶ 78. Thus, we are not persuaded by Appellant’s arguments.

Appellant also argues that although Einarsson discloses a slot, the slot extends from an upper rim section rather than from a lower rim section of the first socket open end. App. Br. 13. However, the rejection specifies two lower rim sections in Einarsson’s prosthesis, one on the shell anterior and one on the shell posterior, and it is the posterior lower rim section to which the rejection refers. *See* Final Act. 6 (annotated Figures 2, 3). Appellant has therefore failed to apprise us of any error.

Finally, Appellant argues that Einarsson’s socket includes additional components—namely, openings 32 and compliant feature 90—that are precluded due to Appellant’s use of “consisting of.” App. Br. 14. We initially note that Appellant uses the open-ended transitional phrase “comprising” in line 1 of the claim, and uses non-limiting language such as “at least two” and “one or more” in the claim. App. Br. 43–44 (Claims Appendix). Appellant’s contention that certain components are “specifically excluded” by the claim is therefore questionable. We need not make a determination on this issue, however, because when the components of Einarsson are connected, openings 32 are filled by connector buttons 40 (or are nonexistent in the “integrally formed” embodiment noted above) (*see* Einarsson ¶ 77, Fig. 2) and Einarsson discloses that compliant feature 90 is an optional feature which need not be included (*see id.* ¶ 50). Appellant has therefore failed to apprise us of any error.

Accordingly, for the foregoing reasons, we affirm the Examiner’s rejection of claims 1, 8–10, 14, 16, 31, 41, 60–62, and 64 as being anticipated by Einarsson.

Claim 22

Claim 22 depends directly from claim 1 and further requires that the prosthetic device includes at least one ring section. App. Br. 45 (Claims Appendix). The Examiner finds that Einarsson’s retainer 16 is the recited ring section. Final Act. 7. Appellant traverses, arguing that “‘ring section’ as used within Appellant’s original [S]pecification does not encompass an object such as retainer 16 within Einarsson’s ‘socket.’” App. Br. 15. Appellant’s conclusory argument fails to apprise us of error in the

Examiner's rationale. Accordingly, we affirm the Examiner's rejection of claim 22 as being anticipated by Einarsson.

Claim 59

Independent claim 59 is similar to independent claim 1, and additionally requires "an artificial foot" and "a rigid member extending from and connecting said second socket end to said artificial foot." App. Br. 48–49 (Claims Appendix). The Examiner finds that Einarsson discloses all of the elements of claim 59. Final Act. 4–7. Appellant traverses with arguments similar to those presented with respect to claim 1. App. Br. 15–17. For the same reasons as provided above, we affirm the Examiner's rejection of claim 59 as being anticipated by Einarsson.

Anticipation Based on Shamp

The Examiner finds that Shamp discloses all of the elements of independent claims 1, 59, and 64, including, *inter alia*, a single continuous socket structure including one or more rigid member connecting holes. Final Act. 8–10 (citing Shamp, 10:16–21). Appellant traverses, arguing, *inter alia*, that "there is no mention of 'one or more rigid member connecting holes extending through a lower wall of the single continuous socket structure' as suggested by [the] Examiner." App. Br. 19.

We are persuaded by Appellant's argument. The portion of Shamp relied upon by the Examiner as disclosing the rigid member connecting holes reads as follows:

As should now be apparent, the present invention not only provides an improved article and method by which to fit the interface of a prosthetic socket employed to secure an

artificial limb to the residual thigh of an above-knee amputee but also accomplishes the other objects of the present invention.

Shamp 10:16–21. As correctly noted by Appellant, there is no disclosure of a rigid member connection hole. Accordingly, we reverse the Examiner’s rejection of independent claims 1, 59 and 64, as well as their dependent claims 8–10, 14, 31, 41, and 60–62, as being anticipated by Shamp.

Obviousness Based on Einarsson

Claim 29 depends directly from claim 22 and further requires that the ring section comprises a tri-laminate. App. Br. 45 (Claims Appendix). The Examiner finds that it would have been obvious to a skilled artisan to include a tri-laminate ring section in Einarsson’s prosthetic device “since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.” Final Act. 11 (citing *In re Leshin*, 277 F.2d 197 (CCPA 1960)). Appellant traverses, arguing that “[t]here is no suggestion in the teaching of Einarsson, alone or in combination with the general state of the art, that would have guided one skilled in the art to form retainer 16 . . . from a tri-laminate.” App. Br. 25. Appellant further argues that the Examiner has failed to set forth motivation for modifying the disclosure of Einarsson. *Id.* at 26–27.

We are not persuaded by Appellant’s arguments. It has been held that the reason to modify or combine references need not be found in the references themselves. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415–21 (2007) (setting forth that the motivation to modify or combine reference teachings may arise in the interrelated teachings of multiple prior

art references, the effects of demands known to the design community or present in the marketplace, the background knowledge possessed by a person having ordinary skill in the art, the existence at the time of invention of a known problem for which there was an obvious solution encompassed by the claims, and common sense). Here, the Examiner relied on the *In re Leshin* case as providing a reason why it would have been obvious to modify Einarsson. Final Act. 11. Appellant's argument that *In re Leshin* "does not state that it would have been obvious for one skilled in the art to substitute a tri-laminate . . . for a single layer of material" (App. Br. 26) is misplaced, as the Examiner did not suggest that *In re Leshin* makes such a statement. Rather, the Examiner relied on the case as establishing that it is "within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use." Final Act. 11. Appellant has failed to address the rejection as set forth by the Examiner, and has therefore failed to apprise us of any error.

Obviousness Based on Einarsson and Marsh

Appellant argues claims 33, 35, 42, and 63 together. App. Br. 27–29. Accordingly, we select claim 33 as representative, treating claims 35, 42, and 63 as standing or falling with representative claim 33. See 37 C.F.R. § 41.37(c)(1)(iv).

Claim 33 depends indirectly from claim 1, and further requires a rigid member that is adapted to have an adjustable length and to lock into a chosen position. App. Br. 46 (Claims Appendix). The Examiner finds that Einarsson discloses the invention substantially as claimed in claim 33, but relies on Marsh to teach the use of telescopic tube 11 with a prosthetic

device. Final Act. 12–13. Appellant traverses, providing arguments regarding independent claims 1 and 59. App. Br. 28–29. For example, Appellant argues that “the teachings of Einarsson and Marsh actual[ly] teach[] away from Appellant’s claimed invention given that the teaching of Marsh guides one skilled in the art to utilize a thickened lower socket section so as to encompass an attachment (e.g., attachment 18),” noting recitations of claims 1 and 59. App. Br. 29. Appellant’s arguments are unpersuasive because the teachings in Marsh noted by Appellant are not relied upon by the Examiner in the proposed modification of Einarsson, nor do such teachings discourage the Examiner’s proposed modification of Einarsson. Appellant has failed to address the rejection set forth by the Examiner, and therefore has failed to apprise us of any error.

Accordingly, for the foregoing reasons, we affirm the Examiner’s rejection of claims 33, 35, 42, and 63 as being unpatentable over Einarsson.

Obviousness Based on Einarsson, Marsh, and Lehneis

Claim 36

Claim 36 depends indirectly from claims 1 and 33, and further requires an upper rigid member to have holes therein and a plurality of fasteners adapted to extend through the holes to secure the upper rigid member to a lower rigid member. App. Br. 46 (Claims Appendix). The Examiner finds that Einarsson and March disclose the invention substantially as claimed in claim 36, but relies on Lehneis to teach the use of L-shaped members and fasteners in a prosthetic device. Final Act. 13. Appellant traverses, first making arguments regarding independent claim 1. App. Br. 31–32. These arguments are unpersuasive because Appellant has

not identified any error in the Examiner's findings or reasoning, but, rather, merely recites limitations of the parent claim and alleges they are not disclosed in the cited references. *See In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (“[T]he Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art.”). Appellant also argues “that the proposed combination of the teachings of Einarsson, Marsh and Lehneis fails to guide one skilled in the art to produce Appellant’s claimed prosthetic device as recited in claim 36.” *Id.* at 32. Appellant’s conclusory argument fails to apprise us of error in the Examiner’s rationale. Accordingly, we affirm the Examiner’s rejection of claim 36 as being unpatentable over Einarsson, Marsh, and Lehneis.

Claim 39

Claim 39 depends indirectly from claims 1 and 33, and further requires a socket connector plate, a set of L-shaped members, and a set of fasteners, all adapted to connect the upper rigid member to the second socket end. App. Br. 47 (Claims Appendix). The Examiner finds that Einarsson and March disclose the invention substantially as claimed in claim 39, but relies on Lehneis to teach the use of L-shaped members and fasteners in a prosthetic device. Final Act. 13. Appellant traverses, first making arguments regarding independent claim 1. App. Br. 33–34. These arguments are unpersuasive because Appellant has not identified any error in the Examiner’s findings or reasoning, but, rather, merely recites limitations of the parent claim and alleges they are not disclosed in the cited references.

See In re Lovin, 652 F.3d at 1357. Appellant also argues “that Lehneis does not ‘evidence’ the use of ‘L-shaped members, a set of second fasteners, and/or at least two rows of holes and fasteners operatively adapted to extend through said holes’ as suggested by [the] Examiner” (*id.* at 34) and “that the proposed combination of the teachings of Einarsson, Marsh and Lehneis fails to guide one skilled in the art to produce Appellant’s claimed prosthetic device as recited in claim 39” (*id.* at 35). Appellant’s conclusory arguments fail to apprise us of error in the Examiner’s rationale. Accordingly, we affirm the Examiner’s rejection of claim 39 as being unpatentable over Einarsson, Marsh, and Lehneis.

Obviousness Based on Einarsson, Marsh, and Rincoe

Claim 43

Claim 43 depends indirectly from claims 1 and 33, and further requires the upper rigid member to have a pivot point and a tensioning member extending from the upper rigid member to the lower rigid member. App. Br. 47 (Claims Appendix). The Examiner finds that Einarsson and Marsh disclose the invention substantially as claimed in claim 43, but relies on Rincoe to teach the use of a tensioning member (extension cables 54 and extension pulleys 48) in a prosthetic device. Final Act. 14–16. Appellant traverses, first making arguments regarding independent claim 1. App. Br. 36–37. These arguments are unpersuasive because Appellant has not identified any error in the Examiner’s findings or reasoning, but, rather, merely recites limitations of the parent claim and alleges they are not disclosed in the cited references. *See In re Lovin*, 652 F.3d at 1357. Appellant also argues “that the proposed combination of the teachings of

Einarsson, Marsh and Rincoe fails to guide one skilled in the art to produce Appellant’s claimed prosthetic device as recited in claim 43.” *Id.* at 37. Appellant’s conclusory argument fails to apprise us of error in the Examiner’s rationale. Accordingly, we affirm the Examiner’s rejection of claim 43 as being unpatentable over Einarsson, Marsh, and Rincoe.

Claim 58

Claim 58 depends indirectly from claims 1 and 33, and further requires that the tensioning member extends over a cable guide. App. Br. 47 (Claims Appendix). The Examiner finds that Einarsson and Marsh disclose the invention substantially as claimed, but relies on Rincoe to teach the use of a tensioning member (extension cables 54 and extension pulleys 48) extending over a cable guide (front idle pulleys 58) in a prosthetic device. Final Act. 14–16. Appellant traverses, first making arguments regarding independent claim 1. App. Br. 38–39. These arguments are unpersuasive because Appellant has not identified any error in the Examiner’s findings or reasoning, but, rather, merely recites limitations of the parent claim and alleges they are not disclosed in the cited references. *See In re Lovin*, 652 F.3d at 1357. Appellant also argues “that the proposed combination of the teachings of Einarsson, Marsh and Rincoe fails to guide one skilled in the art to produce Appellant’s claimed prosthetic device as recited in claim 58.” *Id.* at 39. Appellant’s conclusory argument fails to apprise us of error in the Examiner’s rationale. Accordingly, we affirm the Examiner’s rejection of claim 58 as being unpatentable over Einarsson, Marsh, and Rincoe.

Obviousness Based on Einarsson and Rincoe

Appellant argues claims 65 and 66 together. App. Br. 39–41. Accordingly, we select claim 65 as representative, treating claim 66 as standing or falling with representative claim 65. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Independent claim 64 is similar to independent claim 59, and additionally requires “an artificial knee joint.” App. Br. 52–53 (Claims Appendix). Claim 65 depends directly from claim 64, and further requires that the artificial knee joint includes a tensioning cable. *Id.* at 53. The Examiner finds that Einarsson discloses the invention substantially as claimed in claim 65, but relies on Rincoe to teach the use of a tensioning member (extension cables 54 and extension pulleys 48) in an artificial knee joint of a prosthetic device. Final Act. 16–19. Appellant traverses, first making arguments regarding independent claim 64. App. Br. 40–41. These arguments are unpersuasive because Appellant has not identified any error in the Examiner’s findings or reasoning, but, rather, merely recites limitations of the parent claim and alleges they are not disclosed in the cited references. *See In re Lovin*, 652 F.3d at 1357. Appellant also argues “that the proposed combination of the teachings of Einarsson and Rincoe fails to guide one skilled in the art to produce Appellant’s claimed prosthetic device as recited in claim 65.” *Id.* at 41. Appellant’s conclusory argument fails to apprise us of error in the Examiner’s rationale. Accordingly, we affirm the Examiner’s rejection of claim 65 as being unpatentable over Einarsson and Rincoe.

DECISION

The Examiner's decision to reject claims 1, 8–10, 14, 16, 22, 29, 31, 33, 35, 36, 39, 41–43, and 58–66 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED