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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ALEXANDER WERJEFELT

Appeal 2016-006304
Application 12/859,067
Technology Center 2800

Before BEVERLY A. FRANKLIN, DONNA M. PRAISS, and
JANE E. INGLESE, *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from a final rejection of claims 1, 2, and 4–14. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

STATEMENT OF THE CASE

Appellant's claimed invention is generally directed to a wave action electric generating system. App. Br. 2–3. Claim 1 illustrates the subject matter on appeal and is reproduced below:

¹ Appellant identifies the real party in interest as the inventor, Alexander Werjefelt. Appeal Brief filed October 10, 2015 (“App Br”), 2.

1. A wave action electric generating system comprising:
 - a) a platform for floating on water, said platform being subject to rocking from side to side from wave action;
 - b) an electric generator;
 - c) a rigid arm for extending over the water, said arm including a first end pivotally attached to said platform with a first pivot shaft;
 - d) a buoyant member for being disposed on the water and pivotally connected to a second end of said arm with a second pivot shaft operably attached to said arm, said buoyant member when floating on water rises and falls with the wave action to alternately move said arm about said first pivot shaft clockwise and counterclockwise in an alternating pivoting motion;
 - e) said arm is extendable or retractable to change a distance of said buoyant member to be farther away from or nearer to said platform when waves have longer or shorter wavelengths; and
 - f) a power converter for harnessing the alternating pivoting motion of said arm to drive said electric generator.

App. Br. i (Claims Appendix).

Appellant requests review of the following rejections set forth in the Final Office Action entered March 3, 2015 (“Final Act.”), which the Examiner maintains in the Answer entered April 7, 2016 (“Ans.”):

I. Claims 1, 4, 7, and 10–13 under 35 U.S.C. § 103(a) as unpatentable over Nelson (US 1,018,678, issued February 27, 1912) in view of Kumbatovic (US 5,789,826, issued August 4, 1998);

II. Claim 2 under 35 U.S.C. § 103(a) as unpatentable over Nelson in view of Kumbatovic and Dubois et al. (US 4,392,061, issued July 5, 1983);

III. Claim 5 under 35 U.S.C. § 103(a) as unpatentable over Nelson in view of Kumbatovic and Kornbluh et al. (US 2008/0016860 A1, published January 24, 2008);

IV. Claim 6 under 35 U.S.C. § 103(a) as unpatentable over Nelson in view of Kumbatovic and Lamberti (US 4,389,843, issued June 28, 1983);

V. Claims 8 and 14 under 35 U.S.C. § 103(a) as unpatentable over Nelson in view of Kumbatovic and Smith (US 2008/0122225 A1, published May 29, 2008);

VI. Claim 9 under 35 U.S.C. § 103(a) as unpatentable over Nelson in view of Kumbatovic and Rubi (US 4,851,704, issued July 25, 1989); and

VII. Claim 9 under 35 U.S.C. § 103(a) as unpatentable over Nelson in view of Kumbatovic and the ordinary skill in the art.

DISCUSSION

Upon consideration of the evidence relied upon in this appeal and each of Appellant's contentions, we affirm the Examiner's rejections of claims 1, 2, and 4–14 under 35 U.S.C. § 103(a), for the reasons set forth in the Final Action, the Answer, and below.

Rejection I

Claims 1, 7, and 10–12

Appellant argues claims 1, 7, 10, and 11 as a group on the basis of claim 1, and provides separate arguments for the patentability of independent claim 12. App. Br. 4–16. However, because Appellant provides the same arguments for claims 1 and 12, we address claims 1, 7, and 10–12 together, and select claim 1 as representative of these claims. 37 C.F.R. § 41.37(c)(1)(iv) (2015).

The Examiner finds that Nelson discloses a wave motor system that derives power from the movement of waves or wave action (a wave action electric generating system) comprising float 1 (platform), which is subject to wave action; connecting rods 18 (rigid arms) that extend over the water and include first ends pivotally attached at flexible links 20 to float 1; float 2 and float 3 (buoyant members) pivotally connected at joints 19 to second ends of connecting rods 18 (rigid arms), which rise and fall with wave action, and in so doing, move rods 18 (rigid arms) in an alternating clockwise and counterclockwise pivoting motion; and pump 6, piston rod 9, and pitman 11 (power converter), which harness the alternating pivoting motion of rods 18 (rigid arms) to drive dynamo 15 (electric generator). Final Act. 2–3; Nelson 1, ll. 8–13, 67–70, 79–106; 2, ll. 7–22, 42–53; Fig. 1.

The Examiner finds that Nelson does not disclose that rods 18 (rigid arms) are extendable or retractable, and the Examiner relies on Kumbatovic for suggesting this feature. Final Act. 3–4. Kumbatovic discloses a system for harnessing the energy of ocean waves to produce electricity comprising turntable 115 mounted on base 110 that is connected via mechanical boom 105 and mounting arm 125 to power generating apparatus 10. Kumbatovic col. 1, ll. 49–51; col. 2, ll. 54–64; col. 3, ll. 5, 21; Fig. 1. Kumbatovic discloses that hydraulic cylinders 130A and 130B are attached between support member 12 in power generating apparatus 10 and the end of mounting arm 125, while hydraulic cylinders 130C, 130D, and 130 E are each connected between an intermediate point of mechanical boom 105 and base 110. Kumbatovic col. 2, l. 65–col. 3, l. 4. Kumbatovic discloses that “by rotating turntable 115 and selectively actuating hydraulic cylinder 130A, 130B, 130C, 130D[,] and 130E, power generating apparatus 10 can be

moved in all directions so as to permit optimal placement of power generating apparatus 10 in the direction of water flow.” Kumbatovic col. 3, ll. 5–9. Kumbatovic discloses that such placement allows for optimal generation of power. Kumbatovic col. 2, ll. 6–11.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of Appellant’s invention to modify the connecting rods 18 (rigid arms) of the wave motor disclosed in Nelson to have the ability to extend or retract and rotate, as suggested by Kumbatovic, to allow float 2 and float 3 to be disposed in an optimal position for generation of power. Final Act. 4.

Appellant argues that Nelson does not disclose a rigid arm that is extendable or retractable to change a distance of the buoyant member from the platform. App. Br. 5–6. However, this argument lacks persuasive merit because the Examiner acknowledges that Nelson lacks this disclosure, and relies on Kumbatovic for suggesting this feature, as discussed above.

Appellant argues that Kumbatovic does not disclose or suggest making the mechanical boom 105 pivot up and down with the rise and fall of waves, and use of that motion to generate power. App. Br. 6–7. Appellant further argues that Kumbatovic does not disclose or suggest locating the mechanical boom 105 on a floating base subject to rocking from side to side from wave motion, and actually teaches against such a location for the mechanical boom 105. App. Br. 7–8.

However, Appellant’s arguments lack persuasive merit because they do not address the basis for the Examiner’s reliance on Kumbatovic, which is set forth above (and explained in detail in the Answer). Ans. 4–12. Accordingly, because Appellant’s arguments do not address the rejection as

presented by the Examiner, the arguments are unpersuasive of reversible error in the Examiner's rejection.

Appellant further argues that neither Nelson nor Kumbatovic recognize the advantage of an extendable or retractable arm that changes the distance between a buoyant member and a platform when waves have longer or shorter wavelengths. App. Br. 8–9. Appellant also contends that Nelson utilizes sail 26 to maintain float 2 in proper relation to waves, and Appellant argues that one of ordinary skill in the art therefore would not have been motivated to modify Nelson's connecting rods 18 as proposed by the Examiner. App. Br. 10–11; Rep. Br. 5.

However, as discussed above, Kumbatovic discloses that rotating turntable 115 and actuating hydraulic cylinders 130A, 130B, 130C, 130D, and 130E, allows power generating apparatus 10 to move in all directions. Figure 1 of Kumbatovic illustrates this movement with arrows, and shows that mechanical boom 105 and mounting arm 125 extend and retract from base 110, and shows that turntable 115 rotates. As also discussed above, Kumbatovic discloses that such movement advantageously allows power generating apparatus 10 to be placed in the water in a position relative to the direction of water flow or waves optimal for generation of power.

In view of these disclosures, one of ordinary skill in the art would have recognized the advantages of an extendable or retractable arm that changes the distance between a buoyant member and a platform in a system for harnessing the energy of ocean waves to produce electricity. Therefore, one of ordinary skill in the art would have been led at the time of Appellant's invention to modify Nelson's wave motor to enable connecting rods 18 (rigid arms) to extend or retract and rotate, in order to

advantageously permit float 2 and float 3 to be placed in the water in a position optimal for generation of power, as suggested by Kumbatovic, regardless of whether the skilled artisan would have recognized the advantage of extending or retracting connecting rods 18 (rigid arms) when waves have longer or shorter wavelengths. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007) (“In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls.”).

With respect to Nelson’s disclosure that float 3 is provided with sail 26 that maintains floats 2, 3 “in proper relation to the waves” (Nelson 2, ll. 81–86), assuming that this “proper” position is the position optimal for power generation, one of ordinary skill in the art would have understood that sail 26 serves the same purpose as Kumbatovic’s mechanical boom 105, mounting arm 125, turntable 115, and hydraulic cylinders 130A, 130B, 130C, 130D, and 130E—positioning a floating power generating apparatus in water in a way that is optimal for generation of power. Accordingly, one of ordinary skill in the art would have been led to utilize either approach, and modifying Nelson’s wave motor to utilize the approach disclosed in Kumbatovic as proposed by the Examiner (discussed above), therefore, would have been obvious. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) (“[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.”).

In addition, the recitation in claim 1 that the arm is extendable or retractable to change the distance between a buoyant member and a platform *when waves have longer or shorter wavelengths* is directed to an intended

use of the arm. It is well-settled that language in an apparatus claim directed to an intended use that does not structurally limit the claimed apparatus components or patentably differentiate the claimed apparatus from an apparatus suggested by the prior art, will not support patentability. *See, e.g., In re Schreiber*, 128 F.3d 1473, 1477–79 (Fed. Cir. 1997) (“Schreiber’s contention that his structure will be used to dispense popcorn does not have patentable weight if the structure is already known” and “the Board [correctly] found that the Harz dispenser [for dispensing lubricating oil] would be capable of dispensing popcorn in the manner set forth in claim 1 of Schreiber’s application.”); *see also In re Rishoi*, 197 F.2d 342, 344–45 (CCPA 1952); *In re Otto*, 312 F.2d 937, 940 (CCPA 1963); *In re Ludtke*, 441 F.2d 660, 663–64 (CCPA 1971); *In re Yanush*, 477 F.2d 958, 959 (CCPA 1973). Because the recitation of changing the distance between a buoyant member and a platform *when waves have longer or shorter wavelengths* does not structurally limit the system of claim 1, it does not patentably differentiate the claimed system from the system suggested by the combined disclosures of Nelson and Kumbatovic, because the suggested system would be capable of performing the recited intended use. *Schreiber*, 128 F.3d at 1477–79.

Appellant also argues that modifying Nelson’s system with the mechanical boom 105 disclosed in Kumbatovic would render Nelson’s system unsatisfactory for its intended purpose because it would make Nelson’s connecting rods 18 (rigid arms) unable to pivot. App. Br. 9–11.

However, this argument lacks persuasive merit because it does not address the rejection as set forth by the Examiner, which is not based on a literal combination of Kumbatovic’s mechanical boom 105 and Nelson’s

system. Ans. 13. Rather, as discussed above, the rejection is based on Kumbatovic's suggestion of utilizing an extendable or retractable and rotatable mechanical boom 105 and mounting arm 125 (rigid arm) to change the distance between a buoyant power generating apparatus and a base or platform, in a system for harnessing the energy of ocean waves, such as Nelson's system. *In re Keller*, 642 F.2d 413, 425 (CCPA) ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of a primary reference . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.").

Appellant's arguments are therefore unpersuasive of reversible error, and we accordingly sustain the Examiner's rejection of claims 1, 7, and 10–12 under 35 U.S.C. § 103(a).

Claim 4

Claim 4 depends from claim 1 and recites that the arm is rotatable about a vertical axis to bring the buoyant member closer to the platform when waves have shorter wavelengths.

Appellant argues that cross connections 17 present in Nelson's system would prevent rods 18 from pivoting about a vertical axis. App. Br. 12. However, to the extent that Appellant asserts that one of ordinary skill in the art would not have had sufficient skill to adapt the structure of Nelson's system appropriately to enable rods 18 to extend, retract, and rotate, Appellant's argument does not demonstrate that this proposed modification of Nelson's system would have been "uniquely challenging or difficult for one of ordinary skill in the art." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (*citing KSR*, 550 U.S. at 418-19).

Appellant's argument is therefore unpersuasive of reversible error.

Appellant further argues that Kumatovic does not disclose moving boom 105 closer to support 110 when waves have shorter wavelengths because Kumatovic harnesses the horizontal motion of the waves as they move toward the shore. App. Br. 12–13.

However, as with claim 1 discussed above, the recitation in claim 4 of bringing the buoyant member closer to the platform *when waves have shorter wavelengths* is directed to an intended use that does not structurally limit the system of claim 4. Therefore, this intended use does not patentably differentiate the claimed system from the system suggested by the combined disclosures of Nelson and Kumatovic because the suggested system would be capable of performing the intended use. Because Appellant's arguments do not establish otherwise, we sustain the Examiner's rejection of claim 4 under 35 U.S.C. § 103(a).

Claim 13

Claim 13 depends from claim 7, which recites:

7. A wave action electric generating system as in claim 1, wherein:

a) said power converter includes a cylinder and piston assembly operably attached to said arm, said cylinder and piston assembly includes a cylinder and a piston within said cylinder;

b) said piston reciprocates within said cylinder in response to said movement of said arm to generate an output of pressurized fluid; and

c) a hydraulic motor operably connected to said output of pressurized fluid to drive said electric generator.

Claim 13 recites:

13. A wave action electric generating system as in claim 7, wherein:

a) said cylinder includes a first outlet and a first inlet at one end of said cylinder, said first outlet and said first inlet are operably connected to said hydraulic motor;

b) said cylinder includes a second outlet and a second inlet at another end of said cylinder, said another end is opposite to said one end, said second outlet and said second inlet are operably connected to said hydraulic motor;

c) said piston reciprocates between said one end and said another end;

d) when said piston is moving toward said one end, said first outlet is open, said first inlet is closed, said second outlet is closed and said second inlet is open; and

e) when said piston is moving toward said another end, said first outlet is closed, said first inlet is open, said second outlet is open and said second inlet is closed.

App. Br. ii–iii, vi (Claims Appendix).

The Examiner finds that Nelson discloses that the wave motor system described in the reference comprises a piston and pump 6 having inlets and outlets arranged as recited in claim 13, which are operably connected to turbine 12 (hydraulic motor). Final Act. 6–7.

Appellant argues that Nelson does not disclose the inner structure of pump 6, and, therefore, “there is no basis in the Examiner’s description of the inner structure of the claimed cylinder and piston.” App. Br. 16. In response to Appellant’s argument, the Examiner provides a thorough, detailed explanation of the Examiner’s interpretation of Nelson’s disclosures, and a reasoned analysis of how Nelson discloses the features of claim 13. Ans. 21–23. In response, Appellant argues in the Reply Brief that Nelson’s “inlets cannot be operably connected to the turbines 12, directly or indirectly, since when the corresponding outlet is open, the corresponding inlet is closed, and when the corresponding inlet is open, the corresponding

outlet is closed.” Rep. Br. 8–9.

However, as set forth above, claim 13 recites that the first and second outlets and the first and second inlets are operably connected to the hydraulic motor. Claim 13 further recites that when the piston is moving toward one end of the cylinder, the first outlet is open, the first inlet is closed, the second outlet is closed, and the second inlet is open. Claim 13 further recites that when the piston is moving toward the other end of the cylinder, the first outlet is closed, the first inlet is open, the second outlet is open, and the second inlet is closed. Appellant’s argument that Nelson’s inlets cannot be operably connected to turbines 12 because when the corresponding outlet is open, the corresponding inlet is closed, and when the corresponding inlet is open, the corresponding outlet is closed, is contrary to the arrangement recited in claim 13 in which the first and second inlets are operably connected to the hydraulic motor, and when one of the inlets is open the corresponding outlet is closed, while when one of the outlets is open the corresponding inlet is closed. Appellant’s argument is therefore based on an arrangement that is not recited in claim 13, and for that reason is unpersuasive of reversible error. *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (“[A]ppellant’s arguments fail from the outset because . . . they are not based on limitations appearing in the claims.”).

We accordingly sustain the Examiner’s rejection of claim 13 under 35 U.S.C. § 103(a).

Rejection II

Claim 2 depends from claim 1 and recites that the platform is round in plan view. The Examiner finds that the combined disclosures of Nelson and Kumbatovic “are silent regarding the possibility that the platform may be

round in plan view,” and relies on Dubois’ disclosure of a wave action electric generating system comprising boat 1 (platform) that has an arcuately rounded bottom 2, which facilitates pitching while avoiding sinking under waves. Final Act. 7; Dubois col. 1, ll. 6–11; col. 2, ll. 37–44; Fig. 1. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of Appellant’s invention to make float 1 (platform) of Nelson’s system rounded as disclosed in Dubois to facilitate pitching while avoiding sinking under waves. Final Act. 7–8.

Appellant argues that the Examiner ignores the limitation “plan view” in claim 2, and Appellant contends that Dubois discloses that boat 1 has a rectangular plan view, as shown in Figure 3. App. Br. 17–18; Rep. Br. 9–10.

However, even if Dubois discloses that boat 1 has a rectangular shape in plan view, a claimed difference in shape from a prior art structure does not make a product nonobvious in circumstances where the claimed shape is not of functional significance and accomplishes the same purpose as the prior art structure. *In re Dailey*, 357 F.2d 669, 672–3 (CCPA 1966) (holding that the configuration of a claimed disposable plastic nursing container was a matter of choice that a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant). On this record, Appellant does not demonstrate that a round shape in plan view for the platform recited in claim 2 is of any functional significance, or serves a unique or critical purpose, which is not served by the arcuately rounded bottom 2 of the boat disclosed in Dubois (Ans. 25). App. Br. 17–18. Nor does Appellant demonstrate that a round shape in plan view provides any unexpected result or advantage for the platform recited in claim 2. *Id.* Accordingly, forming Nelson’s float 1

(platform) to be round in plan view would have been a matter of design that was well within the ambit of one of ordinary skill in the art at the time of Appellant's invention.

We accordingly sustain the Examiner's rejection of claim 2 under 35 U.S.C. § 103(a).

Rejection III

Claim 5 depends from claim 1 and recites that the wave action electric generating system further comprises a drag member attached to the buoyant member to exert a pulling force on the arm to increase the amount of torque generated at the first pivot shaft.

The Examiner relies on Kornbluh's disclosure of a breakwater generator system 450 for converting mechanical energy in waves comprising a generator 452 that includes frame 454, water brake 456 (drag member), and float 457 (buoyant member). Final Act. 8; Kornbluh ¶¶ 28, 128–129; Fig. 17B. According to the Examiner, Kornbluh discloses that water brake 456 attaches to a bottom portion of frame 454 (rigid arm), rests under water surface level 458, and resists vertical motion of generator 452 (exerts a pulling force on frame 454). Final Act. 9; Kornbluh ¶ 130.

Appellant argues that Kornbluh discloses that water brake 456 is mechanically coupled to energy transmission system 455a, which includes a rod that mechanically couples to the water brake 456 and vertically translates relative to the frame 454. App. Br. 18. Appellant contends that if there is relative motion with frame 454, and the float is attached to the frame, then water brake 456 is not attached to float 457. *Id.*

However, Appellant's argument is based on a particular embodiment of the breakwater generator system 450 disclosed in Kornbluh (Kornbluh

¶ 131), and ignores Kornbluh’s broader disclosure—clearly illustrated in Figure 17B—that water brake 456 attaches to a bottom portion of frame 454. Figure 17B also shows that float 457 is attached to frame 454, which reasonably would have indicated to one of ordinary skill in the art that water brake 456 is attached to float 457 because water brake 456 and float 457 are both attached to frame 454. Because Appellant’s arguments do not take these broader disclosures into consideration, they are unpersuasive of reversible error. *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (quoting *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976)) (“[T]he fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered.”); *In re Boe*, 355 F.2d 961, 965 (CCPA 1966) (All of the disclosures in a prior art reference “must be evaluated for what they fairly teach one of ordinary skill in the art.”).

We accordingly sustain the Examiner’s rejection of claim 5 under 35 U.S.C. § 103(a).

Rejection IV

Claim 6 depends from claim 1 and recites that the first pivot shaft is rigidly attached to the arm, and the power converter includes a plurality of gears operably connected to the first pivot shaft and the electric generator.

The Examiner relies on Lamberti’s disclosure of a water wave energy transducer comprising shaft 9 (first pivot shaft) rigidly attached to pivoted arm 7 (rigid arm), and a power converter that includes gears 30, 31, 36 operably connected to shaft 9 (first pivot shaft) and electric generator 40. Final Act. 9–10; Lamberti col. 1, ll. 40–53; col. 2, ll. 38–42; col. 4, ll. 1–5; Fig. 1–3. The Examiner concludes that it would have been obvious to one of

ordinary skill in the art at the time of Appellant's invention to modify the wave action electric generating system suggested by the combined disclosures of Nelson and Kumbatovic with the gear-based power converter taught by Lamberti, to provide unidirectional rotary movement that drives an electric generator by utilizing a plurality of gears operably connected to a pivot shaft and an electric generator. Final Act. 10.

Appellant argues that the Examiner does not provide any teaching, suggestion, or motivation for the proposed combination of the relied-upon disclosures in Lamberti, Nelson, and Kumbatovic. App. Br. 19. However, the Examiner provides a rationale for the proposed combination in the Final Action (Final Act. 10), and, in the Answer, the Examiner further explains the basis for the proposed combination (Ans. 27–28), which Appellant does not challenge in the Reply Brief. Appellant's arguments are therefore unpersuasive of reversible error, and we accordingly sustain the Examiner's rejection of claim 6 under 35 U.S.C. § 103(a).

Rejection V

Appellant argues claims 8 and 14 together based on claim 14, and provides the same arguments for claim 14 as provided for claim 13, which are discussed above. *Compare* App. Br. 16, *with* App. Br. 20. Appellant's arguments for claim 14 are unpersuasive of reversible error for the reasons discussed above in connection with claim 13, and we therefore sustain the Examiner's rejection of claims 8 and 14 under 35 U.S.C. § 103(a).

Rejections VI and VII

Claim 9 recites:

9. A wave action electric generating system as in claim 1, wherein:

a) said power converter includes a first cylinder and piston assembly operably attached to said arm, said first cylinder and piston assembly includes a first cylinder and a first piston within said first cylinder;

b) said first piston reciprocates within said first cylinder in response to said movement of said arm to generate an output of pressurized fluid;

c) a second cylinder and piston assembly, said second cylinder and piston assembly includes a second cylinder and a second piston within said second cylinder, said second cylinder and piston assembly is operably connected to said output of pressurized fluid to cause reciprocating movement of said second piston;

d) a crank wheel operably connected to said second piston such that said reciprocating movement causes said crank wheel to turn; and

e) said crank wheel is operably connected to said electric generator to drive said electric generator.

App. Br. iii–iv (Claims Appendix).

The Examiner finds that a first cylinder and piston assembly operably connected to a second cylinder and piston assembly by pressurized fluid as recited in claim 9 constitutes a well-known simple hydraulic circuit. Final Act. 13. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of Appellant's invention to use such a well-known hydraulic circuit to transfer the movement of waves to hydraulic pressure, causing rotary movement that drives dynamo 15 (electric generator) in Nelson's wave motor system, in order to provide a flexible connection between power-bearing connecting rods 18 (rigid arms) and dynamo 15 (electric generator), which would enable greater system longevity while in heavy seas. *Id.* at 14.

Appellant argues that the Examiner fails to provide evidence of what

constituted common knowledge and skill at the time of Appellant's invention. App. Br. 21. In the Answer, the Examiner relies on Cunningham (US 2,766,632, issued October 16, 1956) as an evidentiary reference to show that a first cylinder and piston assembly operably connected to a second cylinder and piston assembly by pressurized fluid as recited in claim 9 was known in the art at the time of Appellant's invention. Ans. 32–35; Cunningham col. 1, l. 61–col. 2, l. 31; Fig. 1. Because this finding is reasonable and Appellant does not challenge it in the Reply Brief, we accept it as fact. *See In re Kunzmann*, 326 F.2d 424, 425 n.3 (CCPA 1964).

We therefore are not persuaded of reversible error in the Examiner's rejection of claim 9 as unpatentable over Nelson in view of Kumbatovic and the level of ordinary skill in the art. We also are not persuaded of reversible error in the Examiner's rejection of claim 9 as unpatentable over Nelson in view of Kumbatovic and Rubi, considering the state of the art at the time of Appellant's invention, as demonstrated by Cunningham. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (explaining that prior art references must be read in context, taking into account “the background knowledge possessed by a person having ordinary skill in the art” and “the inferences and creative steps that a person of ordinary skill in the art would employ.”)

We accordingly sustain the Examiner's rejection of claim 9 under 35 U.S.C. § 103(a).

DECISION

In view of the reasons set forth above and in the Final Action and the Answer, we affirm the Examiner's rejections of claims 1, 2, and 4–14 under 35 U.S.C. § 103(a).

Appeal 2016-006304
Application 12/859,067

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