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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte URI RAPOPORT

Appeal 2018-005560
Application 13/903,050
Technology Center 3700

Before JENNIFER D. BAHR, LINDA E. HORNER, and
MICHELLE R. OSINSKI, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1, 4, 5, 9, 11, 13, 14, 23, and 24. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Aspect Imaging Ltd. Appeal Br. 1.

CLAIMED SUBJECT MATTER

Appellant's invention is directed to "an interfacing system and a reversible method thereof, for providing neonates and premature-babies a predefined, continuous, stabilized, non-interrupted environment within scanning or imaging-devices, such as MRI & CT, during the entire process of imaging or scanning, usually having an ambient environment unsuitable for said neonates and premature-baby." Spec. ¶ 1. Claims 1 and 23 are independent. Claim 1, reproduced below, is representative of the claimed subject matter.

1. A neonate incubator for inserting a neonate into an imaging device having a bore, the neonate incubator comprising:
 - a movable bed that translates between the neonate incubator and a bore of the imaging device, the movable bed for accommodating said neonate, wherein the movable bed is planar and configured to allow the neonate to rest on the movable bed continuously before, during and after imaging,
 - a life support system to provide said predefined life-support environmental conditions in said neonate incubator;
 - a first opening with at least one gasket surrounding said opening, the first opening dimensioned to allow moving said movable bed therethrough and to mate with a second opening of the imaging device such that pre-defined life-support conditions are achievable and maintainable when the moveable bed is inserted within said bore of said imaging device;
 - wherein said at least one gasket is reversibly and hermetically connected around said second opening and to hermetically seal said bore when said neonate incubator and said imaging-device are brought together and said first opening is juxtaposed with said second opening.

EVIDENCE

The prior art relied upon by the Examiner is:

Name	Reference	Date
Proctor	US 6,193,285 B1	Feb. 27, 2001
Rohling	US 2002/0173717 A1	Nov. 21, 2002
Feenan	US 2007/0232894 A1	Oct. 4, 2007
Radko	US 2011/0048424 A1	Mar. 3, 2011
Dumoulin ²	US 2014/0357981 A1	Dec. 4, 2014
Dumoulin	US 2014/0364722 A1	Dec. 11, 2014

REJECTIONS

- I. Claims 1, 4, 5, 9, 11, 13, 14, 23, and 24 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite.
- II. Claims 1, 4, 5, 9, 11, 13, 14, 23, and 24 stand rejected 35 U.S.C. § 103(a) as unpatentable over Dumoulin, Feenan, Rohling, and Proctor.
- III. Claims 1, 4, 5, 9, 11, 13, 14, 23, and 24 stand rejected 35 U.S.C. § 103(a) as unpatentable over Dumoulin, Radko, Rohling, Feenan, and Proctor.
- IV. Claims 1, 4, 5, 9, 11, 13, 14, 23, and 24 stand rejected 35 U.S.C. § 103(a) as unpatentable over Dumoulin, Dumoulin 2, Rohling, Feenan, and Proctor.

OPINION

Rejection I—Indefiniteness

The Examiner rejected claims 1, 4, 5, 9, 11, 13, 14, 23, and 24 under 35 U.S.C. § 112, second paragraph, as indefinite. Final Act. 2–3. Appellant

² For convenience, we adopt the nomenclature used by the Examiner in identifying this reference, as well as the other Dumoulin reference. *See* Final Act. 10.

does not present any substantive arguments contesting these rejections; rather, Appellant states that “Appellant will make any necessary claim amendments to address the deficiencies after the appeal, during regular prosecution, after the prior art rejections are overcome.” Appeal Br. 3; *see* Ans. 2 (stating that the rejections under 35 U.S.C. § 112, second paragraph, are maintained). Accordingly, Appellant has waived any argument of error in the rejections of 1, 4, 5, 9, 11, 13, 14, 23, and 24 under 35 U.S.C. § 112, second paragraph, and we, therefore, summarily sustain these rejections. *See In re Berger*, 279 F.3d 975, 984, 985 (Fed. Cir. 2002) (holding that the Board did not err in sustaining a rejection under 35 U.S.C. § 112, second paragraph, when the applicant failed to contest the rejection on appeal); Manual of Patent Examining Procedure (MPEP) § 1205.02 (9th ed. rev. 08.2017 Jan. 2018) (“If a ground of rejection stated by the examiner is not addressed in the appellant’s brief, appellant has waived any challenge to that ground of rejection and the Board may summarily sustain it, unless the examiner subsequently withdrew the rejection in the examiner’s answer.”).

Rejections II–IV—Obviousness

For each of the obviousness rejections, Appellant argues all of the claims together. *See* Appeal Br. 6 (stating that “claim 23 defines patentable subject matter, for the same reasons described above with respect to claim 1” and that “[t]he dependent claims are allowable because they incorporate each of the limitations of the respective base claims”). We decide the appeal of each of the obviousness rejections on the basis of independent claim 1, and claims 4, 5, 9, 11, 13, 14, 23, and 24 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (providing that when multiple claims subject to the same ground of rejection are argued as a group by the appellant, the

Board may select a single claim from the group to decide the appeal with respect to the group as to the ground of rejection on the basis of the selected claim alone).

For each of the obviousness rejections, the issue presented in this appeal is whether the Examiner erred in determining it would have been obvious to add a gasket to Dumoulin's incubator 130 surrounding the opening created when front panel 136 is flipped down, as illustrated in the annotated figure on pages 5, 9, and 12 of the Final Action, to hermetically seal the scanning chamber/bore when incubator 130 and the imaging device are brought together "in order to better maintain the equalized life-support environmental conditions when the incubator is 'wheeled up' to the MRI system." *See* Final Act. 5, 8, 12; Appeal Br. 4–6. We discuss all of the obviousness rejections together because the pertinent arguments of Appellant and findings and reasoning of the Examiner are the same for each of these rejections.

The Examiner found that Dumoulin discloses a neonate incubator substantially as recited in claim 1, with the exception of a gasket surrounding the first opening (i.e., the opening created when front panel 136 is flipped down) that is reversibly and hermetically connected around the opening to bore 105 of the imaging device (MRI scanner 102) to hermetically seal the bore when the neonate incubator and the imaging device are brought together and the first opening is juxtaposed with the second opening. *See* Final Act. 3–4, 6–7, 10. The Examiner also found that it is not clear whether Dumoulin's "MRI bore is hermetically sealed with said life-support environmental conditions." *Id.* at 4, 7, 10.

The Examiner relied on Feenan for its teaching of the importance of equalizing the environments of the neonate incubator and the MRI system prior to scanning when imaging neonates, but found that “it is unclear if Feenan’s MRI bore includes a sealed bore in order to facilitate the aforementioned equalization.” Final Act. 4 (italics omitted), 8, 11–12. The Examiner relied on Rohling for its teaching of using a closed magnet bore in MRI imaging of a neonate associated with an incubator. *Id.* at 4, 8, 11. In view of the combined teachings of Dumoulin, Feenan, and Rohling, the Examiner determined “it would have been obvious to one skilled in the art to have ensured that the MRI bore described by Dumoulin was closed and equalized as described by Feenan and Rohling in order to expand the life-support environment into the scanner.” *Id.* at 4 (italics omitted). Further, the Examiner determined “it would have been obvious to a person skilled in the art to have sealed the MRI bore described by Dumoulin as described by Rohling in order to expand the life-support environment into the scanner,” especially in view of Feenan’s teaching of the importance of equalizing an MRI environment when imaging neonates.” *Id.* at 8, 11–12 (italics omitted).

The Examiner found that “Proctor teaches a flexible gasket system for joining two structures in an air-tight fashion.” Final Act. 5, 8, 12 (italics omitted). The Examiner determined that “it would have been obvious to a skilled artisan to have included any conventional, cooperating gasket means, such as the flexible gasket system described by Proctor[,], in order to better maintain the equalized life-support environmental conditions when the incubator is ‘wheeled up’ to the MRI system.” *Id.* (italics omitted). The Examiner added that “the proposed modification would hermetically seal the scanning chamber (e.g. closed bore) as claimed.” *Id.* (referring to an

annotated figure on pages 5, 9, and 12 of the Final Action identifying the closed bore and the location of the gasketing system to be added to Dumoulin).

Appellant argues that one of ordinary skill in the art would not need to look to Proctor for sealing an MRI bore because “Feenan provides a solution to the difference of environment between an incubator and imaging device, which is each having their own environmental controls,” thereby obviating the need for hermetic sealing, such as a gasket. Appeal Br. 5. Appellant contends that Feenan’s reference to “equalizing” the environments within the incubator and the MRI system “merely means that the atmosphere between the MRI and incubator is made equal and is not the same thing as a shared atmosphere within a hermetically sealed space.” *Id.* Appellant cites apertures in Feenan’s bulkhead 504 as “further suggesting that Feenan’s ‘equalization’ has nothing to do with creating a shared atmosphere as is done in [Appellant’s] claimed invention.” *Id.* at 5–6; *see* Feenan, Fig. 5; ¶¶ 78–82 (describing carriage 111 as including front bulkhead 502 and rear bulkhead 504 connected by carriage support 506). Similarly, Appellant contends that Rohling’s closed magnet teaching requires that the patient be placed within the magnet and then the magnet door be closed, further suggesting an MRI environment that is separate from the incubator environment, rather than shared with the incubator environment. Reply Br. 2.

Appellant’s arguments regarding Feenan and Rohling suggesting an MRI environment separate from the incubator environment are unavailing because they are not responsive to the rejections, which propose to modify Dumoulin’s neonate incubator and transfer table assembly apparatus, not the apparatus of either Feenan or Rohling. As is apparent from Figures 1*b*, 1*c*,

and 2, Dumoulin's transfer table assembly 200 "creates an MR compatible extension to the incubator that the baby can be moved into without being detached from patient monitoring or life support systems." Dumoulin ¶ 28. In other words, Dumoulin's transfer table assembly 200, which is connected to incubator 130 and brought into the bore of the imaging system with the infant placed therein for imaging, is not sealed off from incubator 130 either before or during imaging. *See, e.g., id.* ¶ 38 (stating that "baffles may be provided to route heated air from the incubator 130 into and through the transfer table assembly 200"). Thus, even if Appellant is correct that neither Feenan nor Rohling teaches the MRI bore and the incubator having a shared environment, this would not undercut the Examiner's reasoning in reaching a conclusion of obviousness because the Examiner does not propose modifying Feenan or Rohling, but, rather, proposes modifying Dumoulin. *See Ans. 6* (emphasizing that Dumoulin is the primary reference and there is no suggestion in the rejections to modify Feenan).

Moreover, the issue of whether or not the environment for the neonate within the MRI bore is shared with the environment within the incubator is not inherently germane to the issue of the need or desirability of a gasket to hermetically seal the bore. The gasketing system to be added to Dumoulin would hermetically seal the scanning chamber (i.e., the MRI bore), as well as any environment that is in communication with the scanning chamber, such as the transfer table assembly and the incubator, from the external environment. The proposed gasketing system would neither cause the scanning chamber environment to be shared with the incubator environment nor seal the scanning chamber from the incubator environment.

Appellant argues that “[t]he combination of Proctor into the cited references is impermissible hindsight.” Appeal Br. 5. According to Appellant:

Although useful in a HVAC context, Proctor has no relevance in the MRI neonatal care and/or incubator context. Means for creating a hermetically sealed environment using tools from the HVAC art would only have been considered by [one of ordinary skill] in the art of MRI of neonates, if at all, after the combination was decided on, to seal the incubator to the MRI, i.e., in hindsight.

Id.

Although Appellant does not expressly assert that Proctor is not analogous art to Appellant’s invention, the Examiner interprets Appellant’s statement that “Proctor has no relevance in the MRI neonatal care and/or incubator context” as arguing that Proctor is not analogous art. *See* Ans. 8. Our reviewing court has established two criteria for determining whether prior art is analogous, namely, “(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *Scientific Plastic Prods., Inc. v. Biotage AB*, 766 F.3d 1355, 1359 (Fed. Cir. 2014) (citing *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992)). To the extent that Appellant’s “no relevance” statement constitutes an argument that Proctor is not analogous art, it appears to address only the first criterion in the analogous art inquiry, namely, whether the art is from the same field of endeavor. However, Appellant’s argument does not address whether Proctor satisfies the second criterion, namely, whether it is reasonably pertinent to the particular problem with which Appellant is

involved. The Examiner finds that “Proctor is reasonably pertinent to the problem faced by the inventor (e.g. joining two structures in an air-tight or hermetic[] fashion).” Ans. 8 (italics omitted). Appellant does not specifically contest this finding. *See Reply Br. passim*. Accordingly, Appellant does not apprise us of error in the Examiner’s determination that Proctor is analogous art.

As for Appellant’s assertion of hindsight, Appellant does not identify any flaw in the Examiner’s reasoning or point to any knowledge relied on by the Examiner that was gleaned only from Appellant’s disclosure and that was not otherwise within the level of ordinary skill in the art at the time of the invention, thereby failing to support Appellant’s hindsight assertion. *See In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971) (“Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure, such a reconstruction is proper.”). The Examiner reasoned that it would have been obvious to include gasketing on Dumoulin’s apparatus in the location shown in the annotated figure on pages 5, 9, and 12 of the Final Action “in order to better maintain the equalized life-support environmental conditions when the incubator is ‘wheeled up’ to the MRI system.” Final Act. 5, 8, 12. The Examiner explains that “[t]he gasket system, when fitted to the modified system described by Dumoulin, Feenan and Rohling system would enhance the system’s ability to maintain the appropriate environment for the neonate by forming an air-tight connection.” Ans. 8 (italics omitted). As explained in more detail below, this reasoning takes into account

knowledge that was within the level of ordinary skill in the art at the time of Appellant's invention.

In particular, Feenan teaches the importance of providing a controlled environment in which environmental factors, including temperature, humidity, and oxygenation, are controlled by the incubator control module to match those in the incubator “so as to limit trauma to the neonate during scanning.” Feenan ¶ 53; *see also* Rohling ¶ 2 (teaching that “[a] typical incubator is adapted to maintain temperature, humidity and other environment aspects” and that, “during imaging, the infant must be maintained in a similar environment (temperature, humidity, and the like) along with the required life-support mechanisms for the duration of the imaging session, which typically lasts more than one hour”). As is well known in the art, temperature, as well as other environmental factors, must be controlled to within very strict tolerances of a steady state in accordance with established standards applicable for neonates. *See, e.g.*, Spec. ¶ 3. A person having ordinary skill in the art of neonatal incubators would have appreciated that providing an air-tight, hermetically sealed environment for the neonate within the MRI bore during scanning would greatly facilitate, if not be critical and indispensable for, maintaining environmental factors within such tolerances. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421(2007). What a reference teaches or suggests must be examined in the context of the knowledge, skill, and reasoning ability of a skilled artisan and is not limited to what a reference specifically “talks about” or what is specifically “mentioned” or “written” in the reference. *Syntex (U.S.A.) LLC v. Apotex, Inc.* 407 F.3d 1371, 1380 (Fed. Cir. 2005).

Indeed, Rohling evidences that it was conventional in the art to provide a sealed environment for the neonate during scanning. *See* Rohling ¶ 20. Rohling provides a sealed environment for the neonate by supporting the neonate in a self-contained, sealed enclosure in a magnet of an MRI system during imaging. *Id.* ¶¶ 5, 20. Rohling’s enclosure 150 is “adapted to maintain an environment prescribed for neonates.” *Id.* ¶ 18.

Unlike Rohling’s apparatus, Dumoulin discloses a transfer table assembly 200 that is not a sealed enclosure. *See, e.g.*, Dumoulin ¶ 43 (describing a transfer table assembly, in one embodiment, in the form of an open isolette and, in another embodiment, as enclosed with a cover open on the ends (Figs. 1*b*, 1*c*, 1*d*). In order to provide a sealed environment for the neonate, when placed in an open isolette form of table transfer assembly, a person having ordinary skill in the art would have understood that the bore itself would have to be sealed and, further, that, with the transfer table assembly extending from incubator 130 and into the opening of the bore, it would be necessary to form a seal between the bore opening and the incubator opening. Thus, despite Appellant’s assertion to the contrary, a person having ordinary skill in the art of neonate MRI scanning apparatus would have looked to conventional sealing means, such as the gasketing arrangement taught by Proctor, for forming an air-tight seal between two structures mated together in designing an incubator and transfer table assembly like that of Dumoulin for use with a closed MRI machine.

Appellant contends that “the figures of Dumoulin show a square incubator is rolled up to a circular magnet, suggesting that there isn’t a gasket, as the shapes are clearly mismatched.” Reply Br. 1. To the extent that Appellant may be suggesting that providing a gasket surrounding the

incubator opening and connected around the MRI bore opening when the incubator and MRI device are brought together would not be feasible, Dumoulin discloses end plate 210, with a circular opening (i.e., a shape matching the MRI bore), to provide additional structural support and keep incubator 130 enclosed when front panel 136 is not in position. Dumoulin ¶ 33; Fig. 2.

For the above reasons, Appellant does not apprise us of error in the Examiner's determination that it would have been obvious to add a gasket to Dumoulin's incubator 130 surrounding the opening created when front panel 136 is flipped down, as illustrated in the annotated figure on pages 5, 9, and 12 of the Final Action, to hermetically seal the scanning chamber/bore when incubator 130 and the imaging device are brought together, and, thus, does not apprise us of error in the rejections of claim 1 under 35 U.S.C. § 103(a). Accordingly, we sustain each of the rejections of claim 1, as well as claims 4, 5, 9, 11, 13, 14, 23, and 24, which fall with claim 1, under 35 U.S.C. § 103(a).

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 4, 5, 9, 11, 13, 14, 23, 24	112, second paragraph	Indefiniteness	1, 4, 5, 9, 11, 13, 14, 23, 24	
1, 4, 5, 9, 11, 13, 14, 23, 24	103(a)	Dumoulin, Feenan, Rohling, Proctor	1, 4, 5, 9, 11, 13, 14, 23, 24	
1, 4, 5, 9, 11, 13, 14, 23, 24	103(a)	Dumoulin, Radko, Rohling, Feenan, Proctor	1, 4, 5, 9, 11, 13, 14, 23, 24	
1, 4, 5, 9, 11, 13, 14, 23, 24	103(a)	Dumoulin, Dumoulin 2, Rohling, Feenan, Proctor	1, 4, 5, 9, 11, 13, 14, 23, 24	
Overall Outcome			1, 4, 5, 9, 11, 13, 14, 23, 24	

TIME PERIOD FOR RESPONSE

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

AFFIRMED