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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS KILPATRICK MCLAUGHLIN

Appeal 2014-006994
Application 12/756,389
Technology Center 3600

Before GEORGE R. HOSKINS, BRANDON J. WARNER, and
LISA M. GUIJT, *Administrative Patent Judges*.

GUIJT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ seeks our review under 35 U.S.C. § 134 of the Examiner's decision rejecting claims 1–31. We have jurisdiction under 35 U.S.C. § 6(b).²

We AFFIRM-IN-PART.

¹ Appellant identifies the real party in interest as National Oilwell Varco, L.P. App. Br. 3.

² The oral hearing scheduled for October 13, 2016, is waived due to Appellant's failure to file within 21 days any response to the Notice of Hearing, dated August 15, 2016, or to appear at the hearing as scheduled.

CLAIMED SUBJECT MATTER

Claims 1 and 21 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the claims on appeal.

1. A ring for use in a coupling member for coupling two tubulars, the coupling member being generally cylindrical and having an interior wall therein and a coupling channel therethrough, the coupling member having two spaced-apart ends, each of the spaced-apart ends threaded for threaded mating with a threaded external end of one of the two tubulars so that the coupling member is connectable to the two tubulars, the ring comprising:

a ring body positionable adjacent the interior wall of the coupling member for contact by the threaded external ends of the two tubulars, the ring body being generally cylindrical and having a ring channel therethrough, the ring body having at least one opening therein extending into the ring body through at least one surface thereof; and

at least one energizing member, each of the at least one energizing members positionable within one of the at least one openings of the ring body and extending around the ring body such that, under compression, the at least one energizing member pushes the ring body against the interior wall of the coupling member.

REJECTIONS

I. Claims 1–10, 14, 18, 20–26, 28, and 30 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Routh (US 2,805,872; iss. Sept. 10, 1957) and Housas (US 4,487,421; iss. Dec. 11, 1984).

II. Claims 11–13, 15–17, 27, and 29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Routh, Housas, and Montgomery (US 1,889,869; iss. Dec. 6, 1932).

III. Claims 19 and 31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Routh, Housas, and Hilton (US 2,487,241; iss. Nov. 8, 1949).

ANALYSIS

Rejection I

Claims 1, 9, 10, 14, 20, 21, 23, 26, and 28

Regarding independent claim 1, the Examiner finds, *inter alia*, that Routh discloses a ring (gasket 10) for use in a coupling member 18 for coupling two tubulars (pipes 20). Final Act. 4 (citing Routh, Fig. 1). In particular, the Examiner finds that Routh discloses a ring body (resilient portion 14 of gasket 10) having an opening (at 12) and also an energizing member (metallic re-inforcing ring 12) positionable within the opening. *Id.* at 4–5 (citing Routh, Figs. 3, 4). The Examiner determines that “Routh fails to explicitly disclose the . . . opening extending into the ring body through at least one surface thereof, and also that, under compression, the . . . energizing member pushes the ring body against the interior wall of the coupling member,” as claimed. *Id.* at 5. The Examiner relies on Housas for disclosing a reinforced gasket with an opening extending into the ring body through a surface thereof, for example, gap 102 (as depicted in Figure 9), or the opening between fulcrum bridge 178 and reinforcing ring 181 (as depicted in Figure 13), and also an energizing member (reinforcing ring 181) that pushes or compresses base 170 of the gasket against an interior wall of the coupling member (bell 169) (as depicted in Figure 14). *Id.* The Examiner reasons that it would have been obvious “to modify the gasket in Routh to include an opening as taught by Housas in order to facilitate insertion of the reinforcing ring into the gasket.” *Id.*

First, Appellant argues that “Routh fails to teach an opening,” as recited in claim 1. App. Br. 10, *see also* Reply Br. 4–7. In particular, Appellant submits that “Routh teaches that the reinforcing rings are to be **surrounded** by a resilient

member, instead of having an opening as claimed.” App. Br. 10.³ The Examiner responds that “[a]n absence of gasket material is required in order for the reinforcing rings to be located within the gasket,” as opposed to the gasket being a solid piece of material, and that the claim term “opening” includes “a ‘passage’ or a path, channel or duct through which something may pass,” which is a definition consistent with the Figures of Appellant’s Specification. Ans. 14–15 (referencing Spec., Figs. 3D, 3E). Appellant replies that “[i]n Routh, the reinforcing rings do not extend **from a surface of the gasket**, but instead are embedded in it.” Reply Br. 5.

As stated *supra*, the Examiner relies on Routh for teaching “[a] ring body having at least one opening *therein*,” as claimed (emphasis added). We are not persuaded of error in the Examiner’s finding that each of Routh’s metallic reinforcing rings 12, although surrounded by resilient portion 14, resides within an opening that is *in* gasket 10. *See* Routh 2:37–40 (“metallic re-inforcing rings **12** [are] surrounded by a resilient portion **14**, preferably of rubber material or the like”). Appellant’s Specification states that “*openings . . . extend[] interiorly from an exterior of the ring 140 . . . to an interior space which contains an energizing member*” (Spec. 8:18–21, emphasis added), however, claim 1 makes no distinction between an interior space and openings, reciting only that “each of the at least one *energizing members [are] positionable within one of the at least one openings.*” Therefore, the Examiner’s finding that the interior spaces within Routh’s gasket 10 are at least the portion of an opening within the ring body that contains a ring (or wherein a ring is positionable) is reasonable. Further, as stated *supra*, the

³ Appellant’s bare contention that Housas “is very different from” the claimed ring, does not apprise us of error in the Examiner’s findings or reasoning. App. Br. 10–11.

Examiner relies on Housas, not Routh, for disclosing that the opening “extend[s] into the ring body through at least one surface thereof,” as claimed, and Appellant does not argue that Housas fails to disclose an opening extending through a surface of, and into, the ring body.

Notwithstanding whether Routh discloses an opening, the Examiner’s proposed modification of Routh’s gasket to include an opening as taught by Housas, as depicted in Housas’s Figures 9 and 13, would result in the claimed opening. *See* Housas 5:1–4 (“The reinforcing ring **100** is inserted into the base **26** through gap **102** formed in the recess or relieved area **52**”), Fig. 9 (depicting gasket 10 with an opening therein extending into the ring body through at least one surface thereof). In other words, modifying Routh’s ring body such that Routh’s ring 12 resides within an opening as depicted in Housas’s Figure 9, such that Routh’s ring 12 may be inserted into the ring body via the opening, results in “the ring body having at least one opening therein extending into the ring body through at least one surface thereof,” as claimed.

Second, Appellant argues that the Examiner’s conclusion of obviousness “fails to properly set forth the level of ordinary skill in the art,” and thus, “the Examiner has failed to present a prima facie case of obviousness.” App. Br. 11. Appellant submits that the level of ordinary skill in the art is “an individual (e.g., engineer, technician or worker) who purchases or uses tubulars for fluid and gas transport and is familiar with applications involving the use of such tubulars.” *Id.* (citing the Declaration of Thomas Kilpatrick McLaughlin (“the McLaughlin Declaration”)). The Examiner agrees with Appellant’s characterization of a person of ordinary skill in the art, “but further contends that an engineer, technician or worker who is familiar with tubulars would possess the requisite skill to understand what is presented in the prior art references and be capable of fitting

together such teachings.” Ans. 16. We determine that the level of skill in the art was determined and taken into account in the prior art rejections, as informed by the prior art references, and that the Examiner relied upon supported facts in those rejections to state a prima facie case of obviousness. *See In re GPAC, Inc.* 57 F.3d 1573 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey–Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)) (holding that the Board did not err in failing to make a specific finding as to the level of skill in the art and relying instead on the references of record to inform it as to the level of skill in the art).

Third, Appellant argues that the Examiner erred by “giv[ing] no weight to the [Declarations],” which “establish evidence of commercial success and recognition in the industry.” App. Br. 12 (referencing the Evidence App.). Appellant submits that “[g]iven that the sales of the claimed invention are for a new product line not previously sold by [Appellant], and that the product sold is the invention as claimed,” then “there is clearly an established nexus between the commercial success and the claimed invention.” *Id.* The Examiner responds that “Appellant bears the burden of proof for establishing a nexus between the claimed invention and evidence of commercial success,” and Appellant’s statement that “sales of the ‘TK Ring’ are in excess of \$7.25 million,” is insufficient proof. Ans. 17 (citing MPEP § 716.03(b) IV (“A mere statement of generalized gross sales alone does not establish commercial success.”)). The Examiner determines that “it is unclear whether the product being sold is actually the claimed invention” and concludes that “the totality of the rebuttal evidence of non[-]obviousness fails to outweigh the evidence of obviousness.” *Id.* at 17–18.

Factual inquiries for an obviousness determination include secondary considerations based on evaluation and crediting of objective evidence of non-obviousness. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18

(1966). Notwithstanding what the teachings of the prior art would have suggested to one of ordinary skill in the art at the time of the invention, the totality of evidence submitted, including objective evidence of non-obviousness, may lead to a conclusion that the challenged claims would not have been obvious to one of ordinary skill in the art. *See In re Piasecki*, 745 F.2d 1468, 1471–75 (Fed. Cir. 1984). To be accorded substantial weight, there must be a nexus between the merits of the claimed invention and the evidence of secondary considerations. *In re GPAC*, 57 F.3d at 1580. In particular, an applicant who is asserting commercial success to support a contention of non-obviousness bears the burden of proof of establishing a nexus between the claimed invention and evidence of commercial success. *In re Huang*, 100 F.3d 135, 139–40 (Fed. Cir. 1996).

The McLaughlin Declaration states that

[m]y invention has been developed into a product referred to as the “TK Ring.” The TK Ring has been commercially successful. NOV [(National Oilwell Varco, L.P.)] has generated sales in excess of \$7.25 million that may be attributed to the TK Ring. These sales are for a tubing / casing assembly including tubulars and a coupling with a TK Ring incorporated therein, as well as individual sales of the TK Ring. While a portion of the sales may be attributed to the tubulars and coupling, such sales would not have been made but for the TK Ring. Therefore, it is my understanding that the \$7.25 million in sales is directly tied to the TK Ring as claimed.

McLaughlin Declaration ¶ 9. These statements by the inventor are conclusory without adequate supporting evidence, and thus, Appellant has not carried the burden of establishing a nexus between the claimed invention and the evidence of commercial success. *See Ormco Corp. v. Aligh Tech., Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006) (the lack of nexus between the claimed subject matter and the commercial success renders the proffered objective evidence uninformative). For example, there is no objective evidence demonstrating that the TK Ring features

the claimed subject matter. In addition, the inventor's opinion as to the purchaser's reason for buying the TK Ring is insufficient to demonstrate a nexus between the sales and claimed invention. *See Huang*, 100 F.3d at 140 (noting, as an example, that an affidavit from a purchaser explaining that the product was purchased due to the claimed features could present evidence of a nexus). Moreover, as the Examiner correctly points out, gross sales figures do not show commercial success absent evidence as to market share. *See Ans. 17; see also Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 105, 1026–27 (Fed. Cir. 1985). The Declaration of Jon Knowlton Peterson (“the Peterson Declaration”) suffers from the same deficiencies. *See Peterson Declaration* ¶¶ 6, 7 (For example, the statement that “[b]ased on the commercialization of the McLaughlin technology, NOV is receiving orders” is a conclusory statement unsupported by objective evidence.). Thus, having fully considered Appellant's evidence, we conclude that the evidence of alleged commercial success does not outweigh the substantial evidence of obviousness of the claimed subject matter.

Fourth, Appellant argues that there is no motivation to combine Routh with Housas. App. Br. 13–23. For example, Appellant submits that

[g]iven that a purpose of Routh is to prevent corrosive fluids from entering into the space along the coupling between the pipes and to support the sealing member in shape during operation, there is no reason to combine Routh with Housas to include [the claimed] opening. Adding such an opening would be considered by one of skill in the art to negatively impact the solid structure or Routh's ring, and to expose the metallic rings to corrosive fluid.

In the corrosive environment, one so skilled in the art would be motivated to surround the metallic re-inforcing rings with a resilient portion and to support the gasket against the coupling as taught by Routh, rather than providing an opening as claimed.

App. Br. 14 (citing McLaughlin Declaration and Routh disclosure). The Examiner responds by pointing out that Appellant’s claimed invention “is directed to a gasket ring having openings and slits through the surface for use in a corrosive environment,” and that the Figures of Appellant’s Specification depict that “these slits are compressed closed during operation,” and by determining that “[s]imilarly, the prior art discloses structures made of compressible materials which are compressed between pipes,” such that “any small slit or opening in the surface of the gasket would be compressed closed and prevent fluid from passing.” Ans. 18–19 (citing Spec., Fig. 3D; Routh, Fig. 5; Housas, Figs. 4, 14). The Examiner further notes that Housas discloses that the gasket “flows over the top of the ring in order to ‘securely lock the ring in place.’” *Id.* at 24 (citing Housas 4:44–49).

Indeed, Routh discloses that the ring body (or “resilient gasket 10”) is preferably made from “rubber material” and is “squeezed between the adjacent ends of the pipe 20 to a compressed condition” during use. Routh 2:20–25, 28–33, 38–39, 59–61, Figs. 1, 2, 4, 5. Housas discloses that that the ring body (or gasket) is pressed and folded during use to form a seal (*see, e.g.*, Housas 3:30–36) and that “spigot 15 . . . squeezes and compresses the material of the arm [of the gasket] causing the circular lip 38 [of the gasket] to curl or kick radially inwardly . . . as the material in the bulge 54 [of the gasket] is squeezed,” such that “[b]y the time the spigot 15 is fully installed, the lip 38 is pressed very tightly against the exterior surface of the spigot” (*id.* at 3:50–56).⁴ Appellant does not address the Examiner’s

⁴ Although Appellant notes that “[t]he Examiner also argues that Housas describes ‘closure of slits during use,’ similar [to] the ones in Fig. 3D of the subject application,” Appellant does not address the correctness of the Examiner’s findings, but instead argues that “[t]his purported similarity begs the question of whether the *reinforcing ring* in Housas has the same structure or function as the *energizing member* that is claimed.” Reply Br. 12 (emphasis added). We disagree with Appellant that the Examiner’s findings as to whether the Examiner’s proposed

determination that any opening through the surface of Routh's gasket 10 would be closed to form a seal during operation because of the material of Routh's gasket and the disclosed compression of the gasket during operation. *See* Reply Br. 4–7. We determine that a preponderance of the evidence supports that one skilled in the art would understand from the teachings of Routh and Housas that the Examiner's proposed modification would result in the closing of modified opening in Routh's gasket during use. A reference "may be used as evidence of obviousness under [35 U.S.C.] § 103 for all it fairly suggests to one of ordinary skill in the art." *In re Wiggins*, 488 F.2d 538, 543 (CCPA 1973).

Fifth, Appellant argues that Routh teaches away from the Examiner's proposed modified opening in Routh's gasket, because "Routh clearly states that '[t]he gasket 10 comprises a plurality of metallic re-inforcing rings 12 . . . **surrounded** by a resilient portion 14, preferably of rubber material or the like,'" such that "Routh teaches away from an opening by teaching a pipe gasket 10 with reinforcing rings 12 embedded therein." App. Br. 17 (citing Routh 2:36–40, Figs. 4, 5). Appellant concludes that "these teachings of Routh not only demonstrate the Routh **fails to teach an opening** in a ring body, but also provides a clear disclosure that would **discourage** one of skill in the art from providing such an opening in Routh." *Id.* In further support, and with reference to the McLaughlin Declaration, Appellant submits that

[o]ne of skill in the art reading Routh would be discouraged from adding an opening and be encouraged to surround the reinforcing rings with the resilient portion to protect the rings from corrosion. . . . [A] slit in the surface of Routh is counterintuitive in that it may be perceived as negatively affecting sealing performance and negatively

modified opening in Routh's gasket would close during use presents a new issue as to whether Housas's reinforcing ring 181 has the same function as the claimed energizing members.

impacting the mechanical integrity of the gasket and, therefore, discourage one of skill in the art from providing such a slit.

App. Br. 17 (discussing McLaughlin Declaration ¶ 8).

The Examiner correctly responds that Routh's description of a gasket that surrounds the rings "does not constitute criticizing, discrediting, or discouraging an opening or slit in the gasket," and that Routh's disclosure does not "preclude[] the addition of a slit in the [gasket] which would facilitate insertion of the rings." Ans. 22. As described *supra*, Housas teaches alternative methods of either inserting a ring in a recess of the gasket or co-extruding the gasket on the ring. *See, e.g.*, Housas 6:31–66. For example, Housas teaches that "ring **100** is inserted into the base **26** through a gap **102** formed in the recess or relieved area **52**" (Housas 5:1–3; *see also id.* at 6:38–40), as an alternative to "co-extrud[ing] [the gasket] on the strand forming the ring" (Housas 6:51–52). Our reviewing court has recognized that a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate any or all reasons to combine teachings. *See Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed. Cir. 2000) ("The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another."). Here, Appellant has not demonstrated that Routh teaches away from employing Housas's alternate method of installing Routh's ring via an opening through the surface of the gasket by suggesting the extrusion method, or that appreciating the benefits gained or lost from employing either method (i.e., ease of insertion of the rings, exposure of the rings to corrosive fluid, mechanical compromise) would be beyond the knowledge of one of ordinary skill in the art.

Sixth, Appellant submits that “[t]he reinforcing rings of Housas are pressed into position under the arm and between two concentric pipes,” and that “[o]ne skilled in the art would assume that such a mechanism would be needed to retain the reinforcing rings in position within the gasket.” App. Br. 18 (citing Housas 4:16–18, Figs. 4, 5). Appellant continues that

if one were to substitute Housas into Routh, one would be encouraged to provide an arm to retain the reinforcing ring and prevent it from dislodging, but there would be no concentric inner pipe to press against the arm to prevent it from extending in the internal diameter of the pipe, thereby conflicting with the requirement of Routh for unrestricted flow through the pipe.

Id. at 20 (citations omitted). The Examiner responds that “Housas discloses in [F]igure 6 . . . that the compression of the gasket material around the ring, rather than the arm, is what encloses and retains the ring in position.” Ans. 24.

Appellant has not provided sufficient evidence from Housas that an arm is necessary to retain the ring within the base of Housas’s gasket, such that the Examiner’s proposed modification would fail absent an arm; rather, the preponderance of the evidence supports the Examiner’s finding that compression of the modified gasket of Routh would hold the ring in place, in view of the teachings of Housas. *See* Housas 4:46–49 (“as the fulcrum **52** is compressed, it tends to flow over the top of the ring **80** . . . securely locking the ring in place”). Moreover, the relevant inquiry is whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the *combined teachings* of those references. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). “Combining the *teachings* of references does not involve an ability to combine their specific structures.” *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973).

Seventh, Appellant argues that modifying Routh’s gasket as proposed by the Examiner would render Routh’s gasket inoperable. App. Br. 21–23. In particular,

Appellant submits that “placing an opening in Routh prevents the re-inforcing rings from being surrounded, thereby destroying the function of Routh which requires that the re-inforcing rings be **surrounded.**” App. Br. 21–22 (citing Routh 2:36–40). Appellant submits that Routh specifically teaches “that a sealing gasket is necessary to effect an efficient sealing at the joint to prevent leakage, as well as to protect the pipe collar from **corrosion** due to the action of the fluid flowing therethrough.” *Id.* at 22 (quoting Routh 1:23–27). However, Appellant’s argument does not address the Examiner’s finding that Routh’s gasket would compress during operation to close the modified opening through the surface of the gasket to prevent fluid from contacting the rings, as discussed *supra*, such that Routh’s gasket, as modified, would continue to be operable as a gasket.

New arguments are presented in Appellant’s Reply Brief: (i) that “Routh’s metallic reinforcing rings cannot be compressed or change shape” and therefore, “Routh fails to teach to . . . an energizing ring that operates **under compression to push [Routh’s] gasket** against the interior wall of anything comparable to a coupling member, as claimed” (Reply Br. 8–9); (ii) that “Routh teaches away from the claimed invention [because] [o]ne skilled in the art interested in pushing a ring into engagement with an interior wall of a coupling member as claimed would not consider a device with embedded metallic reinforcing rings of the type disclosed in Routh” (*id.* at 9–10); (iii) that “there is no teaching in Housas of anything comparable to an energizing member or that **the reinforcing ring in Housas functions under compression to push the ring body (e.g., the gasket)** against an interior wall” (*id.* at 9–10); and (iv) that because “neither Routh nor Housas discloses an element that is comparable to an **energizing member** [which when] **under compression it pushes the ring body** against the interior wall of a body comparable to a coupling member,” Routh and Housas “do not establish a *prima*

facie case of obviousness [when] taken together” (*id.* at 13–16). We need not consider these new arguments, which are deemed waived, and we decline to do so here. *See* 37 C.F.R. § 41.41(b)(2). These new arguments could have been presented in Appellant’s Appeal Brief to address the Examiner’s rejection, but were not. Here, the absence of any opportunity for the Examiner to respond to these untimely arguments precludes meaningful appellant review.

Accordingly, we sustain the Examiner’s rejection of independent claim 1. Appellant presents the same arguments for the patentability of independent claim 21, and therefore, we also sustain the Examiner’s rejection of independent claim 21. *See* App. Br. 6. Appellant chose not to present separate arguments for the patentability of claims 9, 10, 14, 20, 23, 26, and 28, which depend from claims 1 or 21. Therefore, we also sustain the Examiner’s rejection of claims 9, 10, 14, 20, 23, 26, and 28.

Claims 2, 3, and 5

Claims 2, 3, and 5 depend from independent claim 1 and require the opening to extend around the interior surface and/or exterior surfaces of the ring body. The Examiner finds that although Routh fails to disclose the limitations of claims 2, 3, and 5, Housas discloses both designs, and determines that locating the openings as required by claims 2, 3, or 5 “would have been an obvious matter of design choice” because Appellant’s Specification does not disclose that the location of the openings “solves any stated problem or is for any particular purpose,” and that “it appears that the invention would perform equally well with the openings [in either or both locations].” Final Act. 6 (citing Housas, Figs. 7–13).

Appellant submits that “a purpose of the [claimed] configuration of the openings” is disclosed in the Specification, for example: (i) “opening 44 . . . leads from an exterior or the ring 40 to the energizing member(s) 42 which allow

movement (e.g. axial movement of the ring) when compressive forces are applied to the ring without a change in volume of the ring but with **controlled change in shape of the ring**” (Spec. 8:8–12)⁵; (ii) “concave areas . . . on the ring’s exterior and/or on the ring’s interior . . . **enhance directed controlled energizing of the ring into contact with a coupling member**” (*id.* at 3:12–14)⁶; and (iii) “[p]lacement of energizing members ‘provide[s] for controlled compression of the ring and holding the ring in position with respect to the coupling’s interior wall.’” (*id.* at 3:6–9)⁷. App. Br. 24–25.

The Examiner correctly responds that Appellant’s evidence from the Specification supports purposes for including openings, energizing members, and/or concave areas on or in the ring body, but does not provide support for a purpose for locating the openings on the interior and/or exterior surfaces of the ring body. Ans. 25. Moreover, Appellant has failed to submit persuasive evidence or argument as to why one skilled in the art would not have been led to design the modified openings on Routh’s ring to extend from either the exterior or interior surfaces of Routh’s gasket, in order to facilitate insertion of the ring, as taught by Housas.

Accordingly, we sustain the Examiner’s rejection of dependent claims 2, 3, and 5.

Claims 4–8 and 22–25

Appellant argues that the Examiner’s finding that Routh fails to disclose limitations of the opening as set forth in claims 1–3 and 12–25, namely, an opening

⁵ Appellant cites to the corresponding paragraph 50 of the publication of Appellant’s Application, US 2010/0194108 A1, published August 5, 2010 (the “Published Application”).

⁶ Appellant cites to the corresponding paragraph 12 of the Published Application.

⁷ Appellant cites to the corresponding paragraph 11 of the Published Application.

extending into the ring body through an interior and/or exterior surface thereof, conflicts with the Examiner's finding that Routh teaches the limitations of dependent claims 4–8 and 22–25. App. Br. 25.

The Examiner correctly responds that “Routh discloses openings 12, 12,” for the reasons discussed *supra*, and thus, “Routh can be relied upon for the disclosed features of those openings.” Ans. 26. Housas is relied on for more narrowly teaching that the openings extend into the ring body through a surface of the ring body. Therefore, Appellant does not apprise us of error in the Examiner's finding that (i) regarding claims 4 and 22, Routh discloses of a plurality of spaced-apart openings, in view of Routh's disclosure of two openings 12, 12 (*see* Final Act. 6, 10 (citing Routh, Fig. 4)); (ii) regarding claims 6 and 23, Routh discloses that the opening is sized so that the ring body does not expand into the ring channel (*id.* at 6, 10 (citing Routh 2:61–67)); (iii) regarding claims 7 and 24, the opening is sized to accommodate manufacturing length tolerance of the tubulars (*id.* at 6–7, 10–11 (citing Routh, Fig. 2)); and (iv) regarding claims 8 and 25, the opening facilitates maintenance of a position of the ring body against the interior wall of the coupling member (*id.* at 7 (citing Routh 2:69–72)). As discussed *supra*, we are not apprised of error in the Examiner's findings with respect to claim 5, for which the Examiner relies on a combination of Routh and Housas.

Accordingly, we sustain the Examiner's rejection of dependent claims 4–8 and 22–25.

Claims 18 and 30

Regarding dependent claim 18, the Examiner finds that

[t]he combination of Routh and Housas fails to explicitly disclose the hardness of at least one of the at least two energizing members being greater than the hardness of at least one of the other of the at least two energizing members.

However, it would have been obvious to one having ordinary skill in the art . . . to adjust the hardness of one or both of the rings, since an increased hardness is well known to increase abrasion resistance and is more resistive to compressive forces . . ., and 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. 8 (citing Housas 4:3–5; *In re Leshin*, 277 F.2D 197 (CCPA 1960)). The Examiner makes the same findings with respect to dependent claim 30. *Id.* at 11–12. Appellant argues, *inter alia*, that notwithstanding that certain materials may be chosen according to hardness, “there is no suggestion nor teaching of the limitation which specifies different hardnesses for different energizing members.” App. Br. 27. The Examiner responds that “[m]anufacturing tolerances will necessarily permit at least slight deviations in the cross sectional thicknesses of each ring,” and that “[t]his variation alone would cause the two rings to have at least a slightly different hardness.” Ans. 27.

We agree with Appellant that the Examiner has failed to provide support for the finding that the prior art discloses the limitations of claims 18 and 30. The Examiner’s reliance on deviations in hardness due to the manufacture of the energizing members results in reading this limitation out of the claims. Further, we do not agree with the Examiner’s position that the limitations of claims 18 and 30 are a matter of design choice, because Appellant’s Specification discloses a criticality for such limitations: “[s]ince energizing members 231 and 233 are not as hard as the energizing member 232, the energizing members 231 and 233 move under compression before the energizing member 232, thus the ring 200 begins to move outwardly (toward the coupling member 240 as shown in Fig. 3C).” Spec. 10:4–10.

Accordingly, we do not sustain the Examiner's rejection of claims 18 and 30.

Rejections II and III

Appellant argues that neither Montgomery nor Hilton cures the deficiencies in the Examiner's findings and reasoning with respect to independent claims 1 and 21 as stated *supra*. App. Br. 28–29. Because we are not apprised of error in the Examiner's findings or reasoning with respect to the Examiner's rejection of independent claims 1 and 21, we sustain the Examiner's rejections of claims 11–13, 15–17, 19, 27, 29, and 31 for the reasons stated *supra*.

DECISION

The Examiner's decision to reject claims 1–10, 14, 20–26, and 28 under 35 U.S.C. § 103(a) is affirmed.

The Examiner's decision to reject claims 18 and 30 under 35 U.S.C. § 103(a) is reversed.

The Examiner's decision to reject claims 11–13, 15–17, 27, and 29 under 35 U.S.C. § 103(a) is affirmed.

The Examiner's decision to reject claims 19 and 31 under 35 U.S.C. § 103(a) 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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART