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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROLAND FOSER

Appeal 2018-007718
Application 14/442,895
Technology Center 3700

Before DANIEL S. SONG, GEORGE R. HOSKINS, and ALYSSA A. FINAMORE, *Administrative Patent Judges*.

HOSKINS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 9–19 in this application. Claims 1–8 are canceled. *See* Appeal Br. 2. The Board has jurisdiction over the appeal under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies Hilti Aktiengesellschaft as the real party in interest. Appeal Br. 2. The Appeal Brief does not provide page numbering beyond the cover page, which is numbered "1" at the bottom. Our citations to the Appeal Brief start with the cover page as page 1, and carry that forward through the thirteen pages of the Appeal Brief, including Appendices A–C. All future submissions by the attorney of record should include proper page numbering.

CLAIMED SUBJECT MATTER

Claim 9 is the sole independent claim on appeal, and it recites, with our emphasis added:

> 9. A setting tool comprising:
> a first part for driving a drop-in anchor; and
> a second part placeable on the first part along an axis for drilling a borehole for the drop-in anchor,
> the first part having a shank for a percussive portable power tool, a plunger including an impact surface, and a rotary coupling part, and
> the second part having a slip-on sleeve, the slip-on sleeve surrounding the plunger coaxially and contacting the impact surface of the plunger, a counterpart to the rotary coupling part and *a drill bit permanently connected to the slip-on sleeve*.

Appeal Br. 10 (Claims App.) (emphasis added).

REJECTIONS ON APPEAL

Claims 9, 12–15, and 19 are rejected under 35 U.S.C. § 102(b) as anticipated by Chiang (US 2008/0023924 A1, pub. Jan. 31, 2008).

Claim 16 is rejected under 35 U.S.C. § 103(a) as unpatentable over Chiang.

Claims 9–11, 17, and 18 are rejected under 35 U.S.C. § 103(a) as unpatentable over Bland (US 2012/0017421 A1, pub. Jan. 26, 2012) and Chiang.

OPINION

A. Anticipation by Chiang (Claims 9, 12–15, and 19)

The Examiner finds, in part, that Chiang discloses a drill bit (i.e., tool element 83, as shown in Figure 6) *permanently connected to* a slip-on sleeve

(i.e., outer housing 10), as required by claim 9. Final Act. 3–4. In support, the Examiner finds drill bit 83 is "permanently connected to the slip-on sleeve *until it is forcibly pulled out*." *Id.* at 4 (emphasis added). In the Examiner's view, this is similar to drill bit 23 illustrated in Figure 1 of Appellant's Specification, which the Examiner finds "can also be forced out of [slip-on sleeve 20] with some degree of force." *Id.* at 4, 11. In particular, the Examiner determines Chiang's drill bit 83 is *permanently form fitted* within sleeve 10, in the same fashion that Appellant's Specification describes spiral 25 of drill bit 23 being *permanently form fitted* within sleeve 20. *Id.* at 11 (citing Spec. ¶ 27).

Appellant responds that Chiang's drill bit 83 is not permanently connected to sleeve 10. Appeal Br. 5–6. This is so, in Appellant's view, because Chiang's drill bit 83 and sleeve 10 "are connected in a movable manner and are intentionally designed not to have a permanent connection." *Id.* (citing Chiang ¶ 43). Appellant asserts the Examiner's contrary determination reads the term "permanently" out of claim 9, and "makes no sense" because if a drill bit can be forcibly pulled out of a sleeve, then a person of ordinary skill in the art would understand that the two components are not permanently connected. *Id.* at 6 (emphasis omitted). Appellant argues paragraph 27 of Appellant's Specification is not to the contrary, because "not all form fitting connections are the same: some are permanent and some are not." *Id.*; Reply Br. 2.[2]

[2] The Reply Brief does not provide page numbering. Our citations to the Reply Brief start with the cover page as page 1, and carry that forward through the four pages of the Reply Brief.

The Examiner's Answer maintains the positions taken in the Final Office Action, and additionally cites a dictionary definition of the term "permanent" as meaning "continuing or enduring without fundamental or marked change: stable." Ans. 12.

Upon review of the foregoing, we conclude a preponderance of the evidence does not support the Examiner's finding that Chiang's drill bit 83 is permanently connected to sleeve 10. As described in Chiang, detent ball 17 is held within orifice 16 of sleeve 10 by spring member 18 "for engaging with" an annular recess of drill bit 83, and thereby "anchoring or retaining" drill bit 83 within hole 11 of sleeve 10. Chiang, Figs. 1 & 6, ¶¶ 30, 43. However, drill bit 83 may be removed from sleeve 10 by pulling it out with a sufficient force to overcome the bias of spring member 18 tending to hold detent ball 17 within the annular recess of drill bit 83. *Id.* ¶¶ 33, 37 (Fig. 5 shows "the tool member 8 [or drill bit 83] may be moved relative to the housing 10 against the spring-biased bit detent ball 17."), 41 (Fig. 4 shows "the tool member 8 [or drill bit 83] may be selectively moved out of the housing 10."), 43. Such removal achieves the design goal of Chiang, which is to provide "a tool retaining device changeably coupling or retaining *different tool members or tool bits*." *Id.* ¶¶ 2 (emphasis added), 43–44; *see also id.* ¶ 3 (disclosing tool members such as drill bit 83 "may be *selectively moved*" into and out of housing 10 (emphasis added)).

In short, Chiang's drill bit 83 is insertable into and removable from Chiang's sleeve 10, to allow various tool members to be used at the user's selection. This is the antithesis of the two members being permanently connected, as is required by claim 9. The Examiner's contrary claim construction is unreasonably broad. *See In re Am. Acad. of Sci. Tech Ctr.*,

367 F.3d 1359, 1364 (Fed. Cir. 2004) (holding that, during examination of a patent application, pending claims are given their broadest reasonable construction consistent with the Specification); *see also Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (holding the broadest reasonable construction "must be consistent with the one that those skilled in the art would reach") (quoting *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999)).

The Examiner correctly points out that Appellant's Specification indicates, in some circumstances, a "form-fitting" connection may be a "permanent connect[ion]." Spec. ¶ 27. However, we agree with Appellant's argument that some form-fitting connections are permanent, and others are not. At the very least, it is clear that some "tighter" form-fitting connections will require more force to separate the connected components than other "looser" form-fitting connections. Viewed in that light, the issue presented here is whether the force required to separate Chiang's drill bit 83 from sleeve 10 is so large that a person of ordinary skill in the art would consider the two components to have a "permanent" connection.

The Examiner suggests a "permanent" connection occurs when the connection is "continuing or enduring without fundamental or marked change; stable," applying a definition of "permanent" from the "Merriam-Webster dictionary." Ans. 12. That is the first of two entries in the Merriam-Webster dictionary. The second entry defines "permanent" as "not easily removed." *See* https://www.merriam-webster.com/dictionary/permanent (last accessed Jan. 22, 2020). Viewing this evidence together as a whole, we conclude the force required to separate Chiang's drill bit 83 from sleeve 10 is *not* so large so that the connection would be deemed

"permanent," because Chiang intends for the two components to be easily separated to allow various tool members to be used at the user's selection, and such separation and selection is an important feature of the device.

Thus, we do not sustain the rejection of claim 9, and of claims 12–15 and 19 which depend from claim 9, as anticipated by Chiang.

B. Obviousness over Chiang (Claim 16)

The Examiner's consideration of claim 16, and of Chiang in relation to claim 16, does not address the deficiency of Chiang in relation to the parent claim 9 discussed above. *See* Final Act. 7. Therefore, we do not sustain the rejection of claim 16 as having been obvious over Chiang.

C. Obviousness over Bland and Chiang (Claims 9–11, 17, and 18)

Claims 9, 17, and 18

Appellant argues for the patentability of claims 9, 17, and 18 as a group over Bland and Chiang, without arguing for any of the claims in this group separately from the other claims. *See* Appeal Br. 6–8 (arguing only claims 10 and 11 separately from claim 9). We therefore select claim 9 to decide the appeal of the rejection of claims 9, 17, and 18 based on obviousness over Bland and Chiang. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2017).

The Examiner finds Bland's Figures 6 and 8 illustrate the invention of claim 9, except Bland's *first* part (drill bit 56) is for *drilling a borehole*, and Bland's *second* part (sleeve 70 and setting tool tip 80)[3] is for *driving a*

[3] The Examiner refers to "second part (54)" (Final Act. 8), but Bland's numeral 54 identifies the entire "installation tool" assembly shown in Figures 6 and 8 (Bland ¶¶ 28–29). In context, it is clear the Examiner relies only on sleeve 70 and tip 80 as corresponding to the recited "second part" of claim 9.

drop-in anchor. Final Act. 8–9. Claim 9, by comparison, requires that the *first* part is for *driving a drop-in anchor*, and the *second* part is for *drilling a borehole*. Appeal Br. 10 (Claims App.). The Examiner determines it would have been obvious "to reverse the first and second parts of Bland as taught by Chiang and easily remove the drilling part after drilling action and then driving the drop-in anchor, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art." Final Act. 9 (citing *In re Einstein*, 46 F.2d 373 (CCPA 1931)).

Appellant's first argument is the rejection fails to "cite the claim language which is not found in Bland and ascertain the differences, or explain in any detail how to modify Bland with Chiang." Appeal Br. 7; Reply Br. 3. We disagree, and determine that the rejection is sufficiently clear in explaining the factual and legal bases for the rejection that Appellant is able to respond. *See* Final Act. 8–9; *In re Jung*, 637 F.3d 1356, 1361–62 (Fed. Cir. 2011) (discussing the Examiner's *prima facie* burden). Our conclusion is bolstered by Appellant's demonstrated ability to respond. *See* Appeal Br. 7–8; Reply Br. 3.

Appellant's second argument is "there is no reason to modify . . . Bland to provide the asserted first part 56 to be for driving a drop in anchor." Appeal Br. 7; Reply Br. 3. We disagree. In this regard the Examiner cites *In re Einstein*, 46 F.2d 373 (CCPA 1931), which sustained the Office's determination of obviousness on the basis that "a mere reversal of the essential working parts of a previously patented device did not constitute invention." *Id.* at 374. Appellant does not identify any reason why this obviousness rationale may be deficient, or cite to any evidence in rebuttal of the Examiner's reason for modifying Bland. Appeal Br. 7; Reply Br. 3. For

example, Appellant does not cite any subject matter in claim 9 or any disclosure in Appellant's Specification that demonstrates a criticality to the first part being configured for driving a drop-in anchor and the second part being configured for drilling a borehole as claimed, versus the opposite configuration.

Appellant's third argument is that, even if Bland were modified as proposed by the Examiner, Bland's first part would not have "a shank," "a plunger," or "an impact surface" as required by claim 9. Appeal Br. 7; Reply Br. 3. We disagree. The Examiner proposes to modify Bland's drill bit 56 to be configured to drive a drop-in anchor, by removing Bland's drill end 62, leaving Bland's collar 68 to act as a setting tool. Final Act. 8–9; Bland ¶¶ 28–29. As so modified, the first part of Bland would have a shank (i.e., shaft 58) for a percussive portable power tool, a plunger (i.e., collar 68) including an impact surface (i.e., the distal end of collar 68) for driving a drop-in anchor, and a rotary coupling part (i.e., slots 72 of collar 68). Final Act. 8–9; Bland ¶¶ 28–29.

Appellant's fourth argument is that the combination of Bland and Chiang fails to disclose a second part having "a counterpart to the rotary coupling part and a drill bit permanently connected to the slip on sleeve," as required by claim 9. Appeal Br. 7. We disagree. The Examiner proposes to modify Bland's sleeve 70 to carry a drill structure such as drill end 62, instead of setting tool tip 80. Final Act. 8–9; Bland ¶¶ 28–29. As so modified, the second part of Bland would have a slip-on sleeve (i.e., sleeve 70) placeable over the first part (i.e., collar 68) for drilling a borehole, with a counterpart to the rotary coupling part (i.e., protrusions 74 within sleeve 70 are received in slots 72 of collar 68). Final Act. 8–9; Bland

¶¶ 28–29. The second part of Bland, further, would contact the impact surface of the plunger (i.e., collar 68) when sleeve 70 is installed on collar 68. Final Act. 8–9; Bland, Fig. 8 (showing sleeve flange 100 in contact with the distal end of collar 68 when sleeve 70 is placed on collar 68); *id.* ¶ 31 ("In some embodiments, when the protrusions 74 are engaged in the slots 72, the bit collar 68 seats on a tool sleeve flange 100."). Concerning the requisite permanent connection between the drill bit and the sleeve, the Examiner finds "Bland teaches . . . a tool tip 80 permanently connected to the slip-on sleeve [70]." Ans. 13 (citing Bland, Figs. 6 & 8). Appellant does not cite any evidence tending to suggest this finding to be in error. Further, permanently connecting a drill bit to Bland's slip-on sleeve 70 would have advantageously provided a drill bit that is less prone to failure than a non-permanent connection when performing drilling operations.

For the foregoing reasons, we sustain the rejection of claims 9, 17, and 18 as having been obvious over Bland and Chiang.

Claim 10

Claim 10 depends from claim 9, and adds "wherein the first part and the second part come into contact along the axis [for drilling a borehole] only at the impact surface of the plunger." Appeal Br. 10 (Claims App.); *id.* (parent claim 9 recites "an axis for drilling a borehole"). The Examiner finds Bland teaches this limitation, where the impact surface is the distal end of collar 68, which contacts flange 100 of sleeve 70 along the drilling axis. Final Act. 10; *id.* at 8–9.

Appellant responds that "Bland does not show this feature" of claim 10. Appeal Br. 8. We agree. As discussed above, the Examiner's

modification of Bland would retain slot 72 of collar 68 receiving protrusions 74 of sleeve 70, in a rotary coupling. *See* Bland, Figs. 6 & 8. This interaction involves protrusions 74 contacting the walls defining slot 72. *See, e.g.*, Bland ¶ 29 ("To *secure* the tool sleeve 70 to the drill bit 56 . . . one or more slots 72 . . . are *engageable with* one or more protrusions 74 . . . ." (emphases added)). This contact is along the drilling axis, as recited in claim 10, so the contact between the distal end of collar 68 and flange 100 of sleeve 70 is not the "only" such contact, as is required by claim 10. Thus, we do not sustain the rejection of claim 10 as having been obvious over Bland and Chiang.

Claim 11

Claim 11 depends from claim 9, and adds "wherein . . . surfaces of the first part situated radially outside of the impact surface are separated from the second part by a gap along the axis." Appeal Br. 10 (Claims App.). The Examiner finds Brand discloses "surfaces of the first part situated radially outside of the impact surface are separated from the second part by a gap along the axis." Final Act. 10. In support, the Examiner annotates Bland's Figure 8, identifying the space around the pointed tip of drill end 62 as the "gap." *Id.* at 9; Ans. 13 ("[T]here is a gap between the first part and the second part outside of the plunger.").

Appellant responds that the gap identified by the Examiner "addresses surfaces *radially inside* the asserted impact surface," so the requirement of claim 11 that "surfaces of the first part situated *radially outside* of the impact surface are separated from the second part by a gap" is not met. Appeal Br. 8 (emphases modified). We agree. As discussed above, the Examiner's modification of the first part of Bland would remove drill end 62, leaving

Bland's collar 68 to act as a setting tool with the distal end of collar 68 forming the impact surface. The only surface of the as-modified first part that would be "radially outside of the impact surface" as recited in claim 11 is the round side surface of collar 68, forming slots 72 to receive protrusions 74 of sleeve 70. *See* Bland, Fig. 8. Figure 8 tends to suggest that the round side surface of collar 68 contacts the interior wall of sleeve 70, rather than there being a "gap" there as required by claim 11. *See id.* Moreover, the "gap" identified by the Examiner is radially inside of the impact surface. *See, e.g.*, Final Act. 9 (Examiner's annotations to Bland's Fig. 8 identifying the "impact surface" and the "gap"). Thus, we do not sustain the rejection of claim 11 as having been obvious over Bland and Chiang.

CONCLUSION

In summary:

Claim(s) Rejected	**35 U.S.C. §**	**References**	**Affirmed**	**Reversed**
9, 12–15, 19	102(b)	Chiang		9, 12–15, 19
16	103(a)	Chiang		16
9–11, 17, 18	103(a)	Bland and Chiang	9, 17, 18	10, 11
Overall Outcome			9, 17, 18	10–16, 19

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 IN PART