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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JEROME K. GRUDEM JR. and
JAY G. JOHNSON

Appeal 2018-001928
Application 14/176,256
Technology Center 3700

Before JILL D. HILL, JEREMY M. PLENZLER, and
ARTHUR M. PESLAK, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134(a) of the Examiner's Decision rejecting claims 1 and 3–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

CLAIMED SUBJECT MATTER

Claims 1, 7, and 12 are independent. Claims 3–6, 8–11, and 13–20 depend from claim 1. Claim 1 is reproduced below:

1. A cytology tool comprising:
 - a flexible shaft defining a longitudinal axis and having proximal and distal ends;
 - a brush coupled to the distal end of the flexible shaft, the brush having a plurality of brush shafts, each of the plurality of brush shafts having bristles along a portion of a length thereof, the bristles coupled to and radially extending away from an outer surface of each of the plurality of brush shafts, the plurality of brush shafts being flexible and self-biased away from the longitudinal axis of the flexible shaft such that a distal end of each of the plurality of brush shafts is biased away from the distal end of each of the other brush shafts; and
 - a position sensor configured to provide an indication of the location of the position sensor within a luminal structure.

REJECTIONS

1. Claims 1, 3–6, and 12–20 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.
2. Claims 1, 3–6, and 12–20 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite.
3. Claims 1 and 3–11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang (US 4,966,162, issued Oct. 30, 1990) and Soper (US 2005/0182295 A1, published Aug. 18, 2005).
4. Claims 1 and 3–11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang, Ayre (US 2,847,990, issued Aug. 19, 1958), and Soper.
5. Claims 12–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Soper and Wang.

6. Claims 12–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Soper, Wang, and Ayre.

OPINION

Written Description

Claim 1 recites “the . . . brush shafts being flexible and self-biased away from the longitudinal axis of the flexible shaft such that a distal end of each of the plurality of brush shafts is biased away from the distal end of each of the other brush shafts,” and claim 12 recites a similar limitation.

The Examiner rejects claims 1 and 12, as well as claims 3–6 and 13–20 depending therefrom, under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner explains that the term “self-biased” is “differ[ent] in scope from the previously recited ‘biased’ and does not appear to have support in the original disclosure.” Final Act. 2. The Examiner asserts that “[t]here is no disclosure of the features [or] structure of each brush shaft that causes the plurality of shafts to be ‘self-biased’ away from the longitudinal axis of the flexible shaft” and “the original disclosure contains no description of what it means to be ‘self-biased’ or how this differs from being ‘biased.’” *Id.*

Appellant responds that “self-biased” requires that “the distal ends 46b of the brush shafts 46 are spread-apart from one another without the presence of additional structure.” Appeal Br. 8 (citing Figure 3). Appellant alleges, without additional evidence, that “[a] person skilled in the art of surgical instruments would understand from paragraphs [0035]–[0036] that the biasing of brush shafts 46 without additional structure as shown in FIGS. 1 and 3 is ‘self-biasing’ as recited in claims 1 and 12.” *Id.*

There is no dispute that Appellant's Figures depict the ends of brush shafts 46 being spread out from one another. Those Figures, however, do not depict whether or not any additional structure is present that may cause the ends of the brush shafts to be spread out from one another. Those Figures do not show, for example, what is inside flexible shaft 42. That is, we simply do not know, based on the Figures alone, whether brush shafts 46 are self-biased. The cited portions of Appellant's Specification also fail to sufficiently support those brush shafts being "self-biased." Paragraph 35 simply states that "[t]he brush shaft 46 is flexible and biased away from a longitudinal axis defined by the flexible shaft 42," without explaining what causes the biasing. Paragraph 36, too, simply states that "[i]n the deployed configuration, the distal ends 46b of the brush shafts 46 are spaced-apart from one another in cooperation with the biasing of the brush shafts 46 as shown in FIG. 2," without explaining what causes the biasing.

"The test for the sufficiency of the written description 'is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.'" *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 682 (Fed. Cir. 2015) (quoting *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc)). The Examiner has the initial burden of presenting evidence of reasons why persons skilled in the art would not recognize, in the disclosure, a description of the invention defined by the claims and that burden is met when the Examiner points out that the claim reads on embodiments outside the scope of the original written description. *In re Wertheim*, 541 F.2d 257, 263 (CCPA 1976). The Examiner has met that burden by pointing out that there is no explanation in

the Specification of the additional requirements of “self-biased,” as compared to simply being “biased.” *See* Final Act. 2. As explained above, Appellant has failed to persuasively identify error in the rejection. Appellant’s general allegation regarding the understanding of one skilled in the art noted above, without additional evidence, does not persuade us otherwise.

Accordingly, we sustain the Examiner’s decision to reject claims 1, 3–6, and 12–20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Indefiniteness

The Examiner additionally rejects claims 1, 3–6, and 12–20 under 35 U.S.C. § 112, second paragraph, as indefinite. This rejection is also based on the term “self-biased,” discussed above with respect to the written description rejection. Appellant contends that the term “self-biased” in claim 1 (and self-biasing in claim 12) means “to bias without additional structure.” Appeal Br. 9. As noted above, this term does not have written description support. Nevertheless, the Examiner has failed to establish sufficiently that this term is indefinite.

The Examiner asserts that “[i]t is unclear what ‘self-biased’ amounts to in terms of a positively recited structural element or relationship between elements.” Final Act. 3. We are persuaded that the plain meaning of the term is consistent with Appellant’s construction. That is, the term “self-biased” (or “self-biasing”) simply means biased by its own structure (i.e., by itself).

Accordingly, we do not sustain the Examiner's decision to reject claims 1, 3–6, and 12–20 under 35 U.S.C. § 112, second paragraph, as indefinite.

Obviousness

Claims 1 and 7 each specifically recite that the “brush shafts” are “flexible” and claims 1, 7, and 12 each require that the distal end of each “brush shaft” is biased in some manner (whether biased or self-biased) away from distal ends of the other “brush shafts.”¹ The Examiner cites Wang as teaching a flexible brush shaft. Final Act. 4, 6, 8 (citing brush 176 on the distal end of stylet 140); Ans. 3–4. The Examiner explains that “Wang clearly states that the brush 176 is made from wire (column 6, lines 3–14)” and “[w]ire, by definition (as evidenced by the attached Merriam-Webster Dictionary entry) is flexible.” Ans. 4. The Examiner concludes that “[a] person skilled in the art at the time of invention would be well aware of the general material properties of wire and as such would understand the brush 176 of Wang to be flexible.” *Id.*

For each rejection, the Examiner proposes, in some form, “modifying the cytology tool of Wang by increasing the number of brush shafts” and reasons that in such an arrangement, the brush shafts would be biased away from one another because “the bristles of each would push the other brush shafts away.” Final Act. 5; *see also id.* at 6–7, 12. In the rejection including Ayre, the Examiner additionally finds that “Ayre . . . teaches a cytology tool comprising a flexible shaft having a brush . . . comprising a plurality of brush shafts” with “the plurality of brush shafts being self-biased away from

¹ Although claim 12 does not recite that the “brush shafts” are “flexible,” the biasing recited in the claim implies some degree of flexibility.

the longitudinal axis of the flexible shaft such that a distal end of each of the plurality of brush shafts is biased away from the distal end of each of the other brush shafts.” Final Act. 10. That rejection, however, proposes “increas[ing] the number of [Wang’s] brush shafts and arrang[ing] them as taught by Ayre,” rather than modifying Wang’s apparatus to have brush shafts like those in Ayre. *Id.*

Appellant disputes (1) that Wang teaches a flexible brush shaft and (2) the Examiner’s reasoning that

attaching a proximal end [of] multiple brushes 176 to a distal end of the stylet 140 would self-bias [or even simply bias] tips 174 of the brushes “away from the longitudinal axis of the flexible shaft such that a distal end of each of the plurality of brush shafts is biased away from the distal ends of each of the other brush shafts.”

Appeal Br. 13; *see also id.* at 14–17 (reiterating with respect to other claims and rejections).

Wang explains that “[s]tylet 140 can be comprised of a solid flexible steel wire, a wound cable or any other similar material that can be used to apply axial force to the distal end of the stylet.” Wang, 6:9–12. However, “[t]he distal end of stylet 140 includes a wound wire member 170 connected to stylet 140 by means of a crimped, cylindrical connector 172, and a brush generally shown at 176.” *Id.* at 6:3–6. That is, although Wang states that stylet 140, itself, may be flexible, the distal end of stylet 140, having wound wire 140 and brush 176, is not necessarily flexible.

Even if the distal end of Wang’s stylet 140 has some degree of flexibility, there is still no reason to believe that, if the number of Wang’s brush shafts was increased, the brush shafts would be biased away from one another due to the bristles of each pushing the other brush shafts away, as

the Examiner asserts. Whether or not the distal ends of stylets 140 in the Examiner's proposed modification would be biased outward depends on their stiffness. Wang's disclosure is silent on this issue, and the Examiner does not propose any modification to the flexibility of the distal end of Wang's stylet 140. *See* Ans. 3 ("no modification was made to Wang with respect to the flexibility of the brushes.").

For at least these reasons, the Examiner has not established sufficiently that Wang teaches a flexible brush shaft. Accordingly, we do not sustain the Examiner's decision to reject claims 1 and 3–20 under 35 U.S.C. § 103(a).

DECISION

We AFFIRM the Examiner's decision to reject to reject claims 1, 3–6, and 12–20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

We REVERSE the Examiner's decision to reject claims 1, 3–6, and 12–20 under 35 U.S.C. § 112, second paragraph, as indefinite.

We REVERSE the Examiner's decision to reject claims 1 and 3–20 as unpatentable under 35 U.S.C. § 103(a).

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-IN-PART