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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SASCHA BERBERICH, SEBASTIAN FREY, and
MICHAEL SAUER

Appeal 2017-009423
Application 11/971,536
Technology Center 3700

Before EDWARD A. BROWN, NATHAN A. ENGELS, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

ENGELS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from a final rejection of claims 1–4, 9, 10, and 12–15. This Appeal was argued in a hearing on June 13, 2019. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ We use “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Karl Storz GmbH & Co. KG as the real party in interest. Appeal Br. 2.

ILLUSTRATIVE CLAIM

Claims 1 and 15 are the only independent claims at issue and are reproduced below.

1. A surgical instrument system comprising a hollow shaft with an open distal end as well as a medical shaft-type instrument that is insertable into the hollow shaft and withdrawable completely out of the hollow shaft via an open proximal end of the hollow shaft, whereby the hollow shaft is configured as a hollow cylindrical tube which coaxially surrounds the shaft-type instrument about a whole circumference and whereby on an interior surface of the hollow shaft several projections are configured that reduce an interior diameter of the hollow shaft,

characterized in that the projections are configured as discrete point-shaped protrusions, each point-shaped protrusion is aligned with a cross-section of the hollow shaft that is perpendicular to a longitudinal axis of the hollow shaft in such a way that each point-shaped protrusion forms a point-shaped contact point with an outer surface of the shaft-type instrument when inserted into the hollow shaft, and each point-shaped protrusion reduces the interior diameter of the hollow shaft in such a way that a rinsing area is configured between the interior surface of the hollow shaft and the outer surface of the shaft-type instrument, and

characterized in that several grooves running in a longitudinal direction of a shaft of the shaft-type instrument are configured in the shaft of the shaft-type instrument, wherein said grooves correspond with the point-shaped protrusions of the hollow shaft, wherein the depth of the grooves in the shaft of the shaft-type instrument is less than the height of the point-shaped protrusions, so that the rinsing area is configured between the interior surface of the hollow shaft and the outer surface of the shaft-type instrument, and wherein the axial length of the grooves corresponds to the position of the corresponding point-shaped protrusions on the interior surface of the hollow shaft.

15. A surgical instrument system comprising:

a hollow shaft with an open distal end and an open proximal end;

a first shaft-type instrument and a second shaft-type instrument, the first and second shaft-type instruments are configured to be separately inserted into and withdrawn out of the hollow shaft via the proximal end of the hollow shaft;

the hollow shaft being configured to coaxially surround one at a time one of the first shaft-type instrument or the second shaft-type instrument, the hollow shaft having a plurality of discrete point-shaped protrusions extending inwardly from an inner surface of the hollow shaft, each point-shaped protrusion being aligned with a cross-section of the hollow shaft that is perpendicular to a longitudinal axis of the hollow shaft,

the first shaft-type instrument having a first shaft with a plurality of grooves that are disposed in an outer surface of the first shaft and that extend in a longitudinal direction of the first shaft, wherein said grooves are configured to engage the point-shaped protrusions of the hollow shaft to occlude the hollow shaft when the first shaft-type instrument is inserted into the hollow shaft;

the second shaft-type instrument having a second shaft with an outer surface, a perimeter of the second shaft being configured so that the outer surface of the second shaft contacts an apex of each point-shaped protrusion and so that a rinsing area is provided between the inner surface of the hollow shaft and the outer surface of the second shaft when the second shaft-type instrument is inserted into the hollow shaft.

THE REJECTIONS

Claims 1–4 and 12–14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Michelson (US 4,973,321; Nov. 27, 1990) and Seddiqui et al. (US 2006/0149127 A1; July 6, 2006).

Claims 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Michelson, Seddiqui, and Takahashi et al. (US 4,991,565; Feb. 12, 1991).

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Michelson and Gillis et al. (US 2007/0043264 A1; Feb. 22, 2007).

ANALYSIS

Claims 1, 2–4, 9, 10, and 12–14

The Examiner finds that Michelson discloses most of independent claim 1, including the claimed hollow shaft, shaft-type instrument, and rinsing area configured between the interior of the hollow shaft and the outer surface of the shaft-type instrument. Final Act. 2–3. The Examiner states that Michelson does not disclose grooves running in a longitudinal direction of the shaft, but the Examiner cites Seddiqui for its disclosures of a surgical instrument system having protrusions on a hollow shaft and grooves running in a longitudinal direction in the shaft of the shaft-type instrument. Final Act. 3–4. According to the Examiner, Michelson would have been modified in view of Seddiqui to provide grooves on the outer surface of the shaft-type instrument in cooperation with protrusions “in order to prevent unwanted rotation of the shaft-type instrument,” which “may be accomplished using grooves of a variety of different depths so long as the protrusion is engaged with the groove.” Ans. 8.

Appellant argues the combination of Michelson and Seddiqui fails to teach “the depth of the grooves in the shaft of the shaft-type instrument is less than the height of the point-shaped protrusions, so that the rinsing area

is configured between the interior surface of the hollow shaft and the outer surface of the shaft-type instrument,” as recited in claim 1. Appeal Br. 6. According to Appellant, combining Michelson with Seddiqui would not satisfy the limitation at least because neither reference addresses the depth of grooves or the height of protrusions, as claimed. Appeal Br. 6–9; Reply Br. 2–4.

The Examiner responds that “[t]he depth of the grooves in modified Michelson would have to be less than the height of the point-shaped protrusions (80) in order to maintain the rinsing areas in the device of Michelson, which are necessary for proper inflow and outflow of fluids during a surgical procedure.” Ans. 8 (citing Michelson 1:17–21, 1:54–2:2). We agree with Appellant, however, that the evidence of record does not support the Examiner’s conclusion that it would have been obvious to a person of ordinary skill to combine Michelson and Seddiqui to arrive at the invention of claim 1.

Michelson does not disclose grooves, nor does Michelson disclose any dimensions for its protrusions. Likewise, Seddiqui does not describe the depth or height of its channels or rails, nor does Seddiqui state that its figures are drawn to scale. *See* Appeal Br. 8 (“Seddiqui does not describe explicitly or inherently that the channels 44 have a depth that is less than the height of the rails 46.”).

Based on the record, we agree with Appellant that the evidence does not support the Examiner’s conclusion that it would have been obvious to combine Michelson and Seddiqui to arrive at the invention of claim 1. Accordingly, we do not sustain the Examiner’s rejection of claim 1, nor the

rejections of claims 2–4, 9, 10, 12–14 which ultimately depend from claim 1 and include the same error.

Claim 15

In relevant part, claim 15 recites a surgical instrument system that includes a first shaft-type instrument and a second shaft-type instrument. Claim 15 requires that when the first shaft-type instrument is inserted into the system's hollow shaft, grooves engage point-shaped protrusions to occlude the hollow shaft. With the second shaft-type instrument inserted, a rinsing area is provided between the inner surface of the hollow shaft and an outer surface of a second shaft.

Similar to claim 1, the Examiner cites Michelson for most of the limitations of claim 15, including the first shaft-type instrument (obturator 36) and the second shaft-type instrument (arthroscope 38). Final Act. 7–8. The Examiner additionally cites Gillis as disclosing an obturator 5 having a plurality of grooves 51 configured to engage a hollow shaft to occlude the hollow shaft. Final Act. 8.

Appellant argues the combination of Michelson and Gillis fails to teach or suggest “said grooves are configured to engage the point-shaped protrusions of the hollow shaft to occlude the hollow shaft when the first shaft type instrument is inserted into the hollow shaft,” as recited in claim 15. Appellant again notes that Michelson does not disclose the recited grooves, and Appellant argues that Gillis's grooves are configured to provide an opening and space to allow light to pass through the grooves, not to occlude the hollow shaft then Gillis's obturator (the first shaft-type

instrument) is inserted into the hollow shaft. Appeal Br. 13–14 (citing Gillis ¶ 33).

The Examiner responds that both Michelson and Gillis disclose an obturator, and the Examiner states that “[i]t is generally known in the art that an obturator, by definition, is a structure which closes up or stops up an opening such as an internal lumen or a hollow shaft.” Ans. 11 (citing Shutt (US 4,951,977; Aug. 28, 1990) 1:43–59 (describing a sharp obturator inserted into a tubular arthroscope sheath to effectively fill up the entire inside of the sheath to form a solid rod with a sharp, pointed end that extends beyond the sheath)); *accord* Final Act. 8. Further, the Examiner characterizes Gillis as teaching that its grooves are configured to engage protrusions on a hollow shaft when the obturator is inserted into the shaft in order to position the obturator to occlude the insertion portion and prevent entrance of tissue or fluids into the device. Ans. 11.

Although the Examiner may be correct that an obturator is generally known as a structure that occludes an opening, it does not necessarily follow that the combination of Michelson’s and Gillis’s teachings regarding obturators would arrive at the claimed invention. Specifically, Gillis describes its obturator as having concave grooves 51 that “may provide a space in the passageway 11 to allow light from the illumination portion 3 to pass toward the distal end of the passageway 11.” Gillis ¶ 33. Although Gillis also describes grooves 51 as configured to position obturator 5 with respect to opening 12 (Gillis ¶ 43), the obturators described in Gillis and Michelson are significantly different in shape and function, including differences in the grooves and protrusions/rails. *Compare* Gillis ¶¶ 33, 43, Figs. 1, 3, *with* Michelson Figs. 1, 7, 8. We disagree with the Examiner’s

Appeal 2017-009423
Application 11/971,536

conclusion that it would have been obvious to modify Michelson to have grooves configured to engage point-shaped protrusions to occlude the hollow shaft in view of Gillis's teachings regarding grooves that provide an illumination passageway.

Accordingly, we agree with Appellant that the evidence does not support the Examiner's conclusion that it would have been obvious to combine Michelson and Gillis to arrive at the invention of claim 15, and we do not sustain the Examiner's rejection of claim 15.

DECISION

We reverse the Examiner's rejection of claims 1–4, 9, 10, and 12–15.

REVERSED