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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH W. DENDEL, ROGER TYRIA, DERIC HAUSMANN,
and JOHANNES GERARDUS MARIA VERWATER

Appeal 2019-003370
Application 14/604,184
Technology Center 1700

Before KAREN M. HASTINGS, JEFFREY W. ABRAHAM, and
LILAN REN, *Administrative Patent Judges*.

ABRAHAM, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the
Examiner's decision to reject claims 1–26. 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(a). Appellant identifies the real party in interest as Prime Solution, Inc. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims relate to an apparatus and method for feeding, compressing, liquid extracting, washing, and chemical treating of sludge, slurries, or other wet materials. Spec. ¶ 4. Claims 1 and 11, reproduced below from the Claims Appendix, are illustrative of the claimed subject matter:

1. An inline thickener comprising:

a cylinder;

a wiper inside the cylinder and rotating relative thereto for cleaning an interior surface of the cylinder;

an outer housing;

a sludge inlet for inserting sludge under pressure into a first end of the cylinder;

a sludge outlet at a second end of the cylinder; and a filtrate outlet for allowing a portion of liquid removed from the sludge to exit the inline thickener;

the pressure of the sludge inlet, the sludge outlet and the filtrate outlet being measured and controlled to remove a selected percentage of the liquid in the sludge entering the inline thickener from the sludge;

wherein the sludge is not mechanically compacted within the inline thickener.

11. A method of removing a selected percentage of liquid from sludge while maintaining a path for the selected percentage of the liquid removed therefrom free of blockage, the method comprising:

providing an outer housing;

providing a cylinder within the outer housing;

positioning a wiper inside the cylinder;

rotating the wiper relative to the cylinder thereby cleaning an interior surface of the cylinder;

inserting the sludge under pressure into a first end of the cylinder through a sludge inlet;

forcing the sludge through an interior of the cylinder;

removing the selected percentage of the liquid from the sludge passing through the cylinder;

outletting the sludge with the selected percentage of the liquid removed therefrom at a second end of the cylinder through a sludge outlet;

outletting the selected percentage of the liquid removed from the sludge through a filtrate outlet; and

measuring and controlling the pressure of the sludge inlet, the sludge outlet and the filtrate outlet to control the selected percentage of the liquid in the sludge removed from the sludge;

wherein the sludge is not mechanically compacted within the cylinder.

REJECTIONS ON APPEAL

On appeal, the Examiner maintains the following rejections

- A. Claims 1–10 and 20–26 under 35 U.S.C. § 112(b);²
- B. Claims 1, 2, 8–12, and 18–26 under 35 U.S.C. § 103 as unpatentable over Geisbauer³ in view of Fongen;⁴
- C. Claims 3 and 13 under 35 U.S.C. § 103 as unpatentable over Geisbauer in view of Fongen, and further in view of Sasaki;⁵ and

² The Examiner withdrew the separate rejection of claims 3–7 under 35 U.S.C. § 112(b). Ans. 3.

³ Geisbauer, US 2010/0084324 A1, published Apr. 8, 2010.

⁴ Fongen, CA 2,031,947, published June 12, 1992.

⁵ Sasaki, US 5,380,436, issued Jan. 10, 1995.

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D. Claims 4–7 and 14–17 under 35 U.S.C. § 103 as unpatentable over Geisbauer in view of Fongen and Sasaki, and further in view of Jonsson.⁶

Ans. 3; Non-Final Act. 4–9.

OPINION

Rejections under 35 U.S.C. § 112(b)

The Examiner rejects claims 1–10 and 20–26 under 35 U.S.C. § 112(b) as being indefinite for failing to particularly point out or distinctly claim the subject matter which the inventor regards as the invention. Non-Final Act. 2.

Independent claim 1 recites “the pressure of the sludge inlet, the sludge outlet and the filtrate outlet being measured and controlled to remove a selected percentage of the liquid in the sludge entering the inline thickener from the sludge.” The Examiner takes the position that this limitation is unclear because it states a function “without providing any indication about how the function is performed.” Non-Final Act. 2. The Examiner finds “[t]he recited function does not follow from the structure recited in the claim . . . so it is unclear whether the function requires some other structure or is simply a result of operating the inline thickener in a certain manner.” *Id.*; *see also* Ans. 4 (the Examiner stating that “[d]ue to the lack of corresponding structure provided in the claims drawn to performing the ‘measuring and controlling’ function, it is unclear whether such structure is necessary, optional, or part of the inline thickener”).

Appellant asserts that the Examiner is confusing indefiniteness with claim breadth. Appeal Br. 4–5. According to Appellant, although the

⁶ Jonsson et al., US 2013/0008848 A1, published Jan. 10, 2013.

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claims use broad language, the meaning of the language is easily understood. *Id.* at 5. Specifically, Appellant contends “[i]t is clear that the pressure is measured and controlled at the claimed locations. How the pressure is measured and controlled is not specified by Claim 1 as such language is broad to cover many manners of measuring and controlling.” *Id.*

Despite its breadth, Appellant argues that the scope of the claim is clearly defined such that a person of ordinary skill in the art could interpret the metes and bounds of the claim so as to understand how to avoid infringement. *Id.* For example, Appellant argues that a person of ordinary skill in the art would undoubtedly know whether or not the pressure of the sludge inlet, sludge outlet, and filtrate outlet is being measured and controlled. Reply 1–2.

We are not persuaded by Appellant’s arguments. Claim 1 is directed to an inline thickener comprising certain structural features, including a sludge inlet, a sludge outlet, and a filtrate outlet. The claim also requires the pressure of these three components “being measured and controlled.” This particular limitation does not impose any structural limitations on the claimed inline thickener, since, as admitted by Appellant, the claim is intended to include “many manners of measuring and controlling.” Appeal Br. 5. As such, it is unclear whether an inline thickener having all of the recited structural features of the claim falls within the scope of the claim. Instead, the scope of the apparatus claim is delineated by whether or not a certain action is taken, regardless of who or what carries out that action, or how or when it is carried out. Our reviewing court has determined that these type of hybrid claims, directed to both systems and actions, are indefinite. *See IPXL Holdings LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005); *In re Katz Interactive Call Processing Patent*, 639 F.3d 1303,

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1318 (Fed. Cir. 2011); *see also* M.P.E.P. § 2173.05(p)(II) (9th ed. rev. 07.2015 Nov. 2015) (“A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph.”) (citing *Katz*, 639 F.3d. at 1318).

Furthermore, we disagree with Appellant’s argument that the scope of the claim is clearly defined such that “a person of ordinary skill in the art could interpret the metes and bounds of the claim so as to understand how to avoid infringement.” Appeal Br. 5–6. For example, a person of ordinary skill in the art assessing an inline thickener having the structural features recited in claim 1 would not know whether infringement of the apparatus claim occurs when one creates an apparatus that allows a user to measure and control the pressure of the apparatus at the claimed locations, or whether infringement occurs only when the user actually measures and controls the apparatus at the claimed locations. *See Katz*, 639 F.3d. at 1318.

For all of the foregoing reasons, we affirm the Examiner’s rejection of independent claim 1, and claims 2–10 and 20–23, which depend therefrom, under 35 U.S.C. § 112(b).

The Examiner also separately rejects claim 23 as being indefinite because it recites “the pressure of the sludge inlet, the sludge outlet and the filtrate outlet are selectively adjustable.” Non-Final Act. 3. Thus, in view of its dependency from claim 1, claim 23 requires that the pressure at certain locations in the claimed inlet thickener is not only measured and controlled, but also is “selectively adjustable.” As with claim 1, the Examiner states “[t]his limitation is unclear because it merely states a function (adjustable pressure) without providing any indication about how the function is performed.” *Id.* Appellant argues that the language in claim 23, like the

language in claim 1, is broad, but definite. Appeal Br. 7. Appellant's argument, however, is no more persuasive here than it was when considered in response to the rejection of claim 1. For the reasons discussed above in connection with claim 1, we sustain the Examiner's rejection of claim 23.

Claims 24–26 are method claims that depend from claim 11, not claim 1. As such, these claims are not apparatus claims that include the language “the pressure of the sludge inlet, the sludge outlet and the filtrate outlet being measured and controlled to remove a selected percentage of the liquid in the sludge entering the inline thickener from the sludge,” which forms the basis for the Examiner's rejections under 35 U.S.C. § 112(b). Claim 11 is directed to a method of removing liquid from sludge, and includes the step of measuring and controlling the pressure of the sludge inlet, sludge outlet, and filtrate outlet. Notably, the Examiner does not reject claim 11 under 35 U.S.C. § 112(b) as indefinite, and does not articulate any separate reason for rejecting claims 24–26. Accordingly, we reverse the Examiner's rejection of claims 24–26 under 35 U.S.C. § 112(b) as indefinite.

Rejections under 35 U.S.C. § 103

1. Claims 1–10 and 20–23

The Examiner rejects independent claim 1, and claims 2–10 and 20–23, which depend from claim 1, under 35 U.S.C. § 103 as obvious in view of the combined teachings of Geisbauer and one or more of Fongen, Sasaki, and Jonsson. Non-Final Act. 4–9. In view of our determination above that these claims are indefinite, we decline to address the Examiner's rejections of these claims under 35 U.S.C. § 103.

2. Claims 11–19 and 24–26

The Examiner finds that Geisbauer discloses all of the limitations of claim 11 except for measuring and controlling the pressure of the sludge

inlet, sludge outlet, and filtrate outlet to control separation. Non-Final Act. 4–6 (referring to the analysis of claim 1 when discussing claim 11). The Examiner finds that Fongen discloses a separation method using a cylindrical dewatering apparatus “where the pressure is measured and controlled throughout the system to effect a desired separation efficiency.” *Id.* at 5–6 (citing Fongen, 15:14–15, 18:14–23). The Examiner further finds that a person of ordinary skill in the art would have modified the method of Geisbauer to include the monitoring and control features of Fongen “in order to control back pressure within the separation device, minimize pressure drop across the filtration member, and modulate the degree of dewatering during use.” *Id.* (citing Fongen, 18:14–23).

Appellant argues that the combined teachings of Geisbauer and Fongen fail to teach or suggest all of the limitations of the claims. Appeal Br. 11–13. In particular, Appellant argues that the references fail to disclose “rotating the wiper relative to the cylinder thereby cleaning an interior surface of the cylinder,” as claim 11 requires. *Id.* According to Appellant, the Examiner relies on Figure 8 of Geisbauer as disclosing this feature, but Geisbauer expressly states that for the embodiment shown in Geisbauer Figure 8 there is no relative movement between the features corresponding to the wiper and cylinder in claim 11. *Id.* at 9 (arguing that paragraph 46 of Geisbauer clearly states “there is no relative movement between the screw 47 and the inside shaft 48” for the embodiment of Figure 8), 13.

We are not persuaded by Appellant’s arguments. In determining that the dewatering apparatus of Geisbauer discloses a wiper inside a cylinder capable of rotating and cleaning the cylinder, the Examiner cited paragraphs 46 and 52 of Geisbauer. Non-Final Act. 4, 6 (referring back to the analysis of claim 1 when addressing claim 11). Although paragraph 46 of Geisbauer

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refers to the embodiment shown in Figure 8, and indeed includes the quote referenced by Appellant regarding relative movement, paragraph 52 of Geisbauer refers to the alternative embodiment shown in Figure 11, and expressly discloses that the embodiment allows for relative movement between the screw (i.e., the wiper) and the inside wall 48 (i.e., the cylinder). Geisbauer ¶ 52.

Appellant does not specifically address the fact that the Examiner relies on paragraph 52 of Geisbauer in rejecting the claims in its Appeal Brief or Reply Brief. In its Reply Brief, Appellant contends that even if alternative embodiments in Geisbauer do disclose the relative movement between the screw and filter body, the alternative embodiments shown in Figures 10–14 “clearly do not include the other elements of the claims.” Appellant, however, fails to specify which elements are allegedly missing from these embodiments and fails to explain sufficiently the basis for its conclusion that any elements are missing. These types of conclusory statements, lacking evidence or explanation, are unpersuasive. *See Ex parte Belinne*, No. 2009-004693, 2009 WL 2477843 at *3–4 (BPAI Aug. 10, 2009) (informative) (finding Appellant did not show error in the Examiner’s rejection where the Examiner made extensive specific fact finding with respect to each of the argued claims and, in response, Appellants restated elements of the claim language and simply argued that the elements are missing from the reference); *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (holding that Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984) (“[M]ere argument and conclusory statements . . . cannot establish patentability.”) (citing *In re Lindner*, 457 F.2d 506, 508 (CCPA 1972); *In re Wood*, 582 F.2d 638, 642 (CCPA 1978)).

Appellant likewise argues that the combined teachings of Geisbauer and Fongen would not include the “measuring and controlling” step of claim 11. *Id.* at 12–13. It is undisputed that Geisbauer does not teach both measuring and controlling. *See, e.g.*, Ans. 6. The Examiner, however, directs us to portions of Fongen that, at the very least, suggest measuring and controlling the pressure throughout the entire dewatering system to control separation efficiency. *Id.*; Non-Final Act. 5. Appellant’s only response to the Examiner’s determination regarding Fongen is that “Fongen does not disclose both measuring and controlling pressure at the three noted areas (the sludge inlet, the sludge outlet, and the filtrate outlet).” Appeal Br. 12. As discussed above, Appellant’s conclusory statements are not persuasive. *See Ex parte Belinne*, 2009 WL 2477843 at *3–4.

Appellant also disputes the Examiner’s reasons for combining the teachings of Geisbauer and Fongen. Appeal Br. 11–12. Appellant first argues that controlling backpressure, minimizing pressure drop, and modulating the degree of dewatering are not reasons for making a combination, but would be the result of making the combination. *Id.* This argument is unavailing, as the beneficial properties that *result* from the combination are in fact the reasons why a person of ordinary skill in the art would make the combination. And here, Appellant does not dispute that combining the teachings of Geisbauer and Fongen would result in a system that allows for controlling backpressure, minimizing pressure drop, and modulating the degree of dewatering.

Appellant next argues that Geisbauer’s system is directed to removing all contaminants from a liquid cooling fluid, and that modifying Geisbauer in view of Fongen would make Geisbauer’s system less efficient because Fongen teaches “modulating the degree” of dewatering in its system, which

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would result in removing less than all solids from the liquid in Geisbauer's system. Appeal Br. 11–12. Fongen, however, suggests measuring and controlling pressure throughout its system to “provide for control . . . of the amount of liquid pressed out of the pulp slurry.” Fongen, 18:20–22. Appellant fails to direct us to any evidence suggesting that this, or any other language in Fongen, limits Fongen to removing less than the all solids from the liquid. Absent any such limitation, the teaching in Fongen of controlling the amount of liquid pressed out of the pulp slurry reasonably includes pressing all of the liquid out of the slurry. Fongen's own disclosure thus undermines Appellant's inefficiency argument.

Additionally, Appellant argues that it would not have been obvious to use Fongen's devices in Geisbauer's system because the devices in Fongen are made for a system with multiple steps, whereas Geisbauer's system does not have multiple steps. Appeal Br. 12. Appellant's arguments here, however, are directed towards incorporating Fongen's devices into Geisbauer's system. But “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

For all of the foregoing reasons, we are not persuaded of any reversible error in the Examiner's rejection of claim 11 under 35 U.S.C. § 103. Appellant does not separately argue claims 12, 13, 14, 16, 18, 19, and 24–26, which depend from claim 11. We therefore affirm the Examiner's rejection of these claims for the same reason.

Claims 15 and 17 ultimately depend from claim 11, and require wiggle plates comprising a disc having radially extending slots that “taper and have a smaller cross-sectional area at an inner entrance and a larger

cross-sectional area at an outer exit.” The Examiner finds that Jonsson discloses a disc filtration apparatus, wherein the individual disc filters have slots with a smaller cross-sectional area at an entrance of the disc and a larger cross sectional area at an exit end of the disc. Non-Final Act. 8–9 (citing Jonsson, Abstract, Figs. 5–6). The Examiner determines it would have been obvious to modify Geisbauer in view of Sasaki to include filter discs, and include tapered slots in the discs as described in Jonsson to “minimize pressure drop over the filter and minimize filtration area over said filter.” *Id.* (citing Jonsson ¶ 17).

Appellant argues that Jonsson “does not disclose slots that taper as claimed. Any slots noted by the Examiner (e.g., slots 30A and 30B) do not taper.” Ans. 17. Once again, Appellant offers little more than a conclusory statement that the prior art does not disclose a recited claim element. As noted above, such statements, absent evidence or explanation, are not persuasive. *See Ex parte Belinne*, 2009 WL 2477843 at *3–4. Nevertheless, we agree with the Examiner’s determination that the figures in Jonsson show slots that taper, having a larger cross-section at the outer rim of the disk, and a smaller cross-section at the inner end of the disk. *See, e.g.*, Jonsson, Abstract, Figs. 2 and 5. Accordingly, we affirm the Examiner’s rejection of claims 15 and 17.

CONCLUSION

The Examiner’s rejection of claims 1–10 and 20–23 under 35 U.S.C. § 112(b) is affirmed, the rejection of claims 24–26 under 35 U.S.C. § 112(b) is reversed, and the rejection of claims 11–19 and 24–26 under 35 U.S.C. § 103 is affirmed. We decline to address the Examiner’s rejection of claims 1–10 and 20–23 under 35 U.S.C. § 103.

DECISION SUMMARY

In summary:

| Claim(s) Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------------|------------------------|---------------------------|-----------------------|-----------------|
| 1-10, 20-26 | 112(b) | Indefiniteness | 1-10, 20-23 | 24-26 |
| 1, 2, 8-12, 18-26 | 103 | Geisbauer, Fongen | 11, 12, 18, 19, 24-26 | |
| 3, 13 | 103 | Geisbauer, Fongen, Sasaki | 13 | |
| 4-7, 14-17 | 103 | Jonsson | 14-17 | |
| Overall Outcome | | | 1-26 | |

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