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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BERNARD DEDIEU

Appeal 2014-004408
Application 12/297,903
Technology Center 3700

Before NEAL E. ABRAMS, JILL D. HILL, and GORDON D. KINDER,
Administrative Patent Judges.

KINDER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF CASE

Appellant appeals under 35 U.S.C. § 134 from the Examiner's rejection of claims 1–22. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

The claims are directed to a method of drying sludge and devices for implementing the method. Claim 1, the only independent claim, reproduced below, is illustrative of the claimed subject matter:

1. A method for the drying of sludges such as sewage sludges, liquid manure, or the output from septic tanks, by irradiation with microwaves, wherein the sludge drying method includes:

 a stage for the raising of a sealed enclosure to a set pressure, at least by the injection of saturating water vapour [sic], and for holding this pressure for a given length of time;

 a stage for loading the sludges into a tank that is distanced from the walls of the enclosure, with loading means that guarantee maintenance of the pressure;

 a stage for the injection of superheated steam into the sludge by means of a mixer in action close to the wall of the tank that is most distant in relation to the source of the microwaves, including injection means;

 a stage for heating to the centre [sic] of the sludge by the emission of microwaves at frequencies of between 400 and 2450 MHz in the direction of the tank, this stage being executed while mixing the sludge;

 a stage for removal of the water collected by condensation and run-off on the walls of the enclosure toward the bottom of the enclosure, by means of a valve leading to the outside.

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REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Theliander	US 4,760,650	Aug. 2, 1988
Tomizawa	US 5,335,425	Aug. 9, 1994
Bielfeldt	US 5,887,514	Mar. 30, 1999
Dedieu	US 6,675,495 B2	Jan. 13, 2004
Gutwirth	EP 0 606 810 A1	Jan. 14, 1993
Egner	EP 1 477 461 A1	May 14, 2003

REJECTIONS

The Examiner made the following rejections:

Claims 10–22 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 10–22 stand rejected under 35 U.S.C. § 112 second paragraph as being indefinite.

Claims 1–4 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egner, Dedieu, Theliander, and Gutwirth.

Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egner, Dedieu, Theliander, Gutwirth, and Bielfeldt.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egner and Dedieu.

Claims 10–21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Egner, Dedieu, Theliander, Gutwirth, and Tomizawa.

OPINION

Rejection under § 101.

The Examiner finds that claim 10 is a hybrid claim because it is directed to an apparatus and also includes all of the limitations of a method claim (claim 1). Because claim 10 includes limitations both to a process and to a machine, it is directed to more than one statutory category of invention, and therefore is forbidden by 35 U.S.C. § 101.

The Appellant does not present argument concerning this rejection, and it is therefore summarily affirmed.

Rejection under 35 U.S.C. § 112.

The Examiner also rejects claims 10–22 under 35 U.S.C. § 112, second paragraph, because they encompass two statutory categories of invention, namely a process and a machine. Appellant does not present argument concerning this rejection, and we therefore affirm it. In doing so, we note that hybrid claims, i.e., claims drawn to both a device and a method for using that device, are indefinite under 35 U.S.C. § 112, second paragraph. *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (a claim to “both a system and the method for using that system ... does not apprise a person of ordinary skill in the art of its scope, and it is invalid” under 35 U.S.C. § 112, second paragraph); *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1318 (Fed. Cir. 2011) (Claims “directed both to systems and to actions performed” by users of such systems “fall squarely within the rationale of *IPXL* and are indefinite.”) Because each of claims 10–22 is a hybrid claim drawn to a

machine, as well as a method of using such machine, these claims are indefinite under 35 U.S.C. § 112, second paragraph.

Rejection under 35 U.S.C. § 103.

Appellant argues claims 1–22 as a group. Appeal Br. 6–9. We select claim 1 as the representative claim, and claims 2–22 will stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

As an initial matter, we note that Appellant uses the term “*saturating*” water vapor as well as the term “*saturated*” water vapor. Indeed, Appellant appears to use the two terms, “*saturating*” and “*saturated*”, interchangeably. *See*, Appeal Br., paragraph bridging pages 6 and 7. We use the term “saturated.” In addition, it is our understanding that “saturated water vapor” is the same as “saturated steam,” since this refers to the state where water vapor and liquid water are at equilibrium.¹

Appellant makes four arguments in connection with the rejections of claim 1.

Argument 1

Appellant quotes the first step of the claimed method and argues that Egner, Dedieu, Theliander, and Gutwirth do not suggest that step. Appellant summarizes the method disclosed in Egner, noting that Egner dries using super-heated steam at ambient pressure and then heats with microwaves in a separate step, the heating occurring in an oxygen-free atmosphere. Appeal

¹ Definition of saturated steam: 1: water vapor in equilibrium with liquid water at or above the normal boiling point. Available at [http://www.merriam-webster.com/dictionary/saturated%20steam_\(last viewed July 9, 2016\)](http://www.merriam-webster.com/dictionary/saturated%20steam_(last%20viewed%20July%209%2C%202016)).

Br. 6. The zones where these steps occur are separated by a trap filled with an inert gas. *Id.*

The Examiner's rejection of claim 1 was based on a combination of Egner and Dedieu, with Dedieu relied on for its teaching of using steam under pressure, a valve for draining condensate, and microwaves between 400 and 2450 MHz for heating the treated sludge. Final Act. 8–10. In addressing Dedieu, Appellant argues only that “Dedieu injects saturated steam, and does not inject saturated water vapor.” Appeal Br. 7. In particular, Dedieu discloses a wood drying process that includes “a pressurizing step, to place at least one sealed chamber 1 under a determined pressure by injecting or creating saturating steam, and maintaining this pressure for a determined time interval while insuring forced circulation of air and saturating steam within the chamber.” Dedieu 2:20–24.

The Examiner's Answer notes that water vapor and steam are chemically identical, and might differ only in temperature. Ans. 7–8. The Examiner concludes that because claim 1 is silent concerning the temperature of “saturating water vapor,” the disclosure in Dedieu fully meets the claim limitation. *Id.* Because, to our understanding, “saturated steam” and “saturated water vapor” are the same, Appellant's argument does not persuade us the Examiner has erred.

Argument 2

Appellant argues that Egner, Dedieu, Theliander and Gutwirth fail to disclose the step of “loading the sludges into a tank that is distanced from the walls of the enclosure, with loading means that guarantee maintenance of the pressure.” Appeal Br. 7. The Final Action relied on Theliander, column

3, lines 10–19, for this feature in combination with Egner and Dedieu. Final Act. 8–9. Appellant argues that because Theliander discloses a range of pressures from below to above atmospheric, it does not *necessarily* involve an infeed that maintains pressure. App. Br. 7–8 (emphasis in original).

The Examiner responds that Theliander uses above atmospheric pressure (1:31–35) and is a continuous process (2:11–13), and therefore “must be continually [sic] maintained above atmospheric pressure at all times of operation.” Ans. 8. From our perspective, it would be impossible to operate Theliander across the range of pressures disclosed without a pressure sealing infeed mechanism, such a mechanism is necessarily present and inherent in the Theliander disclosure. While it is true that operating Theliander exactly at atmospheric pressure would not require a pressure sealing infeed mechanism, operating Theliander at any other pressure, either above or below atmospheric, both of which are disclosed (Theliander 3:31–34), on a continuous basis (*id.* 2:11–13), would require such an infeed. Therefore the step of loading sludge into a tank that is distanced from the walls of the enclosure, with the loading means guaranteeing maintenance of pressure, is necessarily part of Theliander. For this reason, we agree with the Examiner and are not persuaded of error.

Argument 3

Appellant argues that neither Egner nor any of the other references discloses a step “for the injection of superheated steam into the sludge by means of a mixer in action close to the wall of the tank that is most distant in relation to the source of the microwaves, including injection means.”

Appeal Br. 8. Specifically, Appellant argues that a screw conveyor 61 (Egner Fig. 2) does not mix, but only transports, the sludge pellets. *Id.*

Appellant argues that, for a screw conveyor to mix, it must be associated with an enclosure or tank. According to Appellant, “[o]ne skilled in the art would know that a conveying screw, or endless screw, may provide efficient mixing of a material only if such a screw is associated with an enclosure or a tank, in order to gather the material.” *Id.* Appellant argues that its mixer is different from Egner’s screw conveyor, pointing to the Applicant’s Specification, paragraphs 67 and 69. *Id.*

In Egner, in the thermolysis stage 21, screw conveyor 61 advances the pellets past microwave source 19. Egner’s Figure 2 shows that the screw of screw conveyor 61 fits closely within its cylinder in the upstream portion (to the left in Figure 2), and then the space expands, opening upwardly, exactly below the region of the microwave source 19.² Thus, even under the requirements for mixing proposed by Appellant (with which we need neither agree nor disagree), the screw conveyor 61 is associated with an enclosure or tank, and the added room under the microwave source 19 allows for mixing. For the forgoing reasons, we agree with the Examiner that Egner mixes the pellets, including while being conveyed by screw conveyer 61.

Moreover, Appellant’s argument concerning the design of its mixer is not persuasive because it is not directed to language found in claim 1. As a general rule, the Examiner applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account

² We assume that the dashed line intersecting the top edge of the screw conveyor 61 represents the level of the pellets. We do not rely on this unlabeled line, but if our assumption is correct, it supports our conclusion.

whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification. *In re Morris*, 127 F.3d 1048, 1054–55 (Fed. Cir. 1997). Reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim, to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim. *In re Prater*, 415 F.2d 1393, 1404–05 (CCPA 1969). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). Here, the claim is limited simply to “a mixer,” rather than to a mixer of any particular size, shape, or efficiency.

Argument 4

For a final argument, Appellant repeats the fourth step of the claimed method and asserts that it is not disclosed by the combination of references relied upon by the Examiner. Applicant argues that:

Egner fails to disclose or suggest heating the cent[e]r of the sludge by the emission of microwaves while mixing the sludge. Applicant [sic] notes that contrary to the Examiner's arguments, using four different screws and dropping through two downcomers prior to passing the microwave source to sufficiently mix the sludge is equivalent to mixing while the sludge is heated by emission of microwaves.

Appeal Br. 8–9.

In response, the Examiner states that while Egner may not disclose the use of steam under pressure or the particular frequencies of microwaves, Dedieu was relied upon for those features. Ans. 8–9 (citing Dedieu col.

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2:20–28.) Nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). By not addressing the cited combination, but rather addressing Egner alone, Appellant’s argument fails to apprise us of error.

DECISION

For the above reasons, the Examiner’s rejection of claims 1–22 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)(1)(iv).

AFFIRMED