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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROAR FURUHAUG and
JON THOMAS KRINGLEBOTN

Appeal 2019-003356
Application 14/402,876
Technology Center 3600

BEFORE MICHAEL L. HOELTER, ANNETTE R. REIMERS, and
LISA M. GUIJT, *Administrative Patent Judges*.

REIMERS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 15–40. Claims 1–14 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as OPTOPLAN AS. Appeal Brief (“Br.”) 3, filed Dec. 7, 2018.

CLAIMED SUBJECT MATTER

The claimed subject matter “relates to a housing for a hydrophone sensing element, in particular for a hydrophone sensing element to be buried in sediment.” Spec. 1:4–5, Figs. 2–9. Claims 15, 23, 31, and 36 are independent.

Claims 15 and 23 are illustrative of the claimed subject matter and recite:

15. A hydrophone housing configured to house a hydrophone sensing element, the hydrophone housing comprising:

a casing with an exterior shape having a deflectable wall part;

incompressible solid material partly filling an interior of the casing to define:

an outer chamber adjacent to the deflectable wall part; and

a cavity configured to hold a hydrophone sensing element, the cavity defining an inner chamber to immediately surround the hydrophone sensing element, wherein the hydrophone sensing element is configured to sense a pressure variation between an internal volume and an external volume, the internal volume being internal to the hydrophone sensing element and the external volume being the volume of the inner chamber; and

a first duct configured to establish a liquid connection between the outer chamber and the cavity;

wherein a wall of the outer chamber provided by the deflectable wall part has a total area, A_1 , larger than a total area, A_2 , of a wall of the inner chamber; and

wherein in a closed situation of the casing, the outer chamber, the cavity, and the first duct are configured to hold a liquid in the casing and the solid material is impermeable to the liquid.

23. A hydrophone housing configured to house a hydrophone sensing element, the hydrophone housing comprising:

a casing with an exterior shape having a deflectable wall part;

incompressible solid material partly filling an interior of the casing to define:

an outer chamber adjacent to the deflectable wall part;

a cavity configured to hold a hydrophone sensing element, the cavity defining an inner chamber to immediately surround at least a sensitive part of the hydrophone sensing element, wherein the hydrophone sensing element is configured to sense a pressure variation between an internal volume and an external volume, the internal volume being internal to the hydrophone sensing element and the external volume being the volume of the inner chamber;

a first duct configured to establish a liquid connection between the outer chamber and the internal volume;

wherein a wall of the outer chamber provided by the deflectable wall part has a total area, A_1 , larger than a total area, A_2 , of a wall of the inner chamber; and

wherein in a closed situation of the casing, the outer chamber, the cavity, and the first duct are configured to hold a liquid in the casing and the solid material is impermeable to the liquid.

THE REJECTIONS

- I. Claims 15, 20, 21, 23, 28, 29, 31, 32, 36, and 37 stand rejected under 35 U.S.C. § 102(b) as anticipated by Layton (US 5,363,342, issued Nov. 8, 1994) or, in the alternative, as unpatentable over Layton.
- II. Claims 16, 17, 24, 25, 33–35, and 38–40 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Layton and Berg '401 (US 2004/0202401 A1, published Oct. 14, 2004).
- III. Claims 18, 19, 22, 26, 27, and 30 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Layton and Berg '330 (US 2007/0258330 A1, published Nov. 8, 2007).

ANALYSIS

Rejection I – Anticipation by Layton

Claims 15, 20, 21, 31, and 32

Appellant does not offer arguments in favor of claims 20, 21, 31, and 32 separate from those presented for independent claim 15. Br. 13–15. We select claim 15 as the representative claim, and claims 20, 21, 31, and 32 stand or fall with claim 15. 37 C.F.R. § 41.37(c)(1)(iv). We address claims 23, 28, 29, 36, and 37 separately below.

The Examiner finds that Layton discloses a hydrophone housing having all the limitations of claim 15, including a cavity defining an inner chamber (air gap 46A, 46B, 46') to immediately surround a hydrophone sensing element (reference mandrel 36', 36"). Non-Final Act. 2–3 (citing Layton Figs. 10, 18).

Appellant contends that “the cited portions of Layton fail to teach or suggest the feature of ‘the cavity defining an inner chamber to immediately

surround the hydrophone sensing element . . .’ as recited in Appellant’s claim 15.” Br. 13. In support, Appellant argues that Appellant’s Figures 3 and 5 “depict the inner chamber 15 enclosing the hydrophone sensing element 1, around the hydrophone sensing element 1, on all sides,” “the first definition of the word ‘surround’ in the Merriam Webster Online Dictionary is ‘to enclose on all sides,’” and “the first definition of the word ‘surround’ in the Cambridge English Online Dictionary is ‘to be around something on all sides.’” *Id.* Appellant further contends that because in Layton’s Figure 10, “open space 46A/B, rather than surrounding the reference mandrel 36[’], ends where the reference mandrel 36[’] connects to the support mandrel 34[’]” and thus, “open space 46A/B does not surround the reference mandrel 36[’], but, rather, encloses only a portion of the reference mandrel 36[’].” *Id.* at 14. Appellant argues that Layton’s Figure 18 is deficient in a similar manner. *Id.*

Appellant’s Specification does not define the term “surround.” Spec., *passim*. The Examiner explains that the term “surround” is also defined as “to extend around the margin or edge,” with a synonym of “encircle.” Ans. 3² (citing Merriam-Webster dictionary). The Examiner also notes that another portion of the definition for the term “surround,” found from within the same Merriam-Webster dictionary’s definition that Appellant refers to, includes an example of the term in the phrase “[a] crowd surrounded her.” *Id.* The Examiner concludes that based on this example, because above the woman is air and below the woman is the ground, the term “surround” can

² Examiner’s Answer (“Ans.”), dated Jan. 18, 2019.

ordinarily mean enclosing two-dimensionally—rather than enclosing three-dimensionally— that is, rather than enclosing on all sides. *Id.*³

Thus, at best, the inner chamber 15, as depicted in Appellant’s Figures 3 and 5, extends around hydrophone sensing element 1, and the term “surround” may be interpreted more broadly than “to enclose on *all* sides” or “to be around something on *all* sides.” *See In re Morris*, 127 F.3d 1048, 1054–56 (Fed. Cir. 1997) (“Absent an express definition in their specification, the fact that appellants can point to definitions or usages that conform to their interpretation does not make the PTO’s definition unreasonable when the PTO can point to other sources that support its interpretation.”) (emphasis added).

Therefore, the broadest reasonable interpretation of the term “surround,” in light of the absence of any limiting definition in the Specification and the multiple dictionary definitions, is a requirement for something “to extend around the margin or edge.” Ans. 3. As such, we do not find error in the Examiner’s finding that Layton discloses a cavity defining an inner chamber to immediately “surround [a] hydrophone sensing element” as claimed, because air gap 46A, 46B, or 46’ extends around the margin or edge, with no object or space intervening, of reference mandrel 36’ or 36”.⁴

³ As Appellant has not filed a Reply Brief, Appellant has waived any arguments against the Examiner’s findings. *See Ex parte Borden*, 93 USPQ2d 1473, 1474 (BPAI 2010) (“Informative”) (“[A]rguments that could be made in the reply brief, but are not, are waived.”).

⁴ We note that the claims recite “immediately surround.” Br. 19, 20, 22, 24 (Claims App.). The term “immediately” is defined as “with no object or space intervening.” *See* <https://www.thefreedictionary.com/immediately>

In summary, and based on the record presented, we are not persuaded the Examiner erred in rejecting independent claim 15 as anticipated by or obvious in view of Layton. Accordingly, we sustain the Examiner's rejection of claim 15. We further sustain the rejection of claims 20, 21, 31, and 32, which fall with claim 15.

Claims 23, 28, 29, 36, and 37

Independent claims 23 and 36 recite similar limitations as that of independent claim 15 discussed *supra*, but are different in that they recite “a first duct configured to establish a liquid connection between the outer chamber and the internal volume” in which “the internal volume [is] internal to the hydrophone sensing element.” Br. 19, 20–21, 23–24 (Claims App.).

The Examiner finds that Layton's hole 96, hole 97, or channel 98 corresponds to the claimed first duct. Non-Final Act. 3 (citing Layton Fig. 10); *see also* Ans. 4. The Examiner appears to find that epoxy 47' corresponds to the claimed internal volume of the hydrophone sensing element and air gap 45A and 45B correspond to the claimed outer chamber. Non-Final Act. 3.

Appellant contends that although “claim 15 recites ‘a first duct configured to establish a liquid connection between the outer chamber and the cavity,’” claim 23 is different in that it recites ‘a first duct configured to establish a liquid connection between the outer chamber and the internal

(last accessed Oct. 24, 2019). Thus, we construe the term “immediately surround” as “to extend around the margin or edge with no object or space intervening.”

volume,” and “[t]he Examiner fails to account for this distinction in the rejection of Appellants’ claim 23.” Br. 15.⁵

Appellant’s contention is persuasive. Figure of 10 of Layton shows that hole 96, hole 97, and channel 98 establish liquid connection between air gap 45B (i.e., the claimed outer chamber) and air gap 46B or 46A (i.e., the claimed inner chamber) rather than epoxy 47’ (i.e., the claimed internal volume of the hydrophone sensing element).

Accordingly, the Examiner fails to establish that Layton anticipates or renders obvious claims 23 and 36. As such, we do not sustain the Examiner’s rejection of claims 23 and 36, and claims 28, 29, and 37 depending therefrom, as being anticipated by or obvious in view of Layton.

Rejections II and III – Obviousness over Layton and Berg ’401 or Layton and Berg ’330

Claims 16–19, 22, and 33–35

Claims 16–19, 22, and 33–35 depend either directly or indirectly from claim 15 or claim 31. Br. 19–20, 23 (Claims App.). Appellant relies on the arguments presented for claims 15 and 31. *See id.* at 16–17. Accordingly, for similar reasons as discussed above, we sustain the Examiner’s rejection of claims 16–19, 22, and 33–35 as unpatentable over Layton and Berg ’401 or Layton and Berg ’330.

⁵ Although Appellant does not explicitly point this out, independent claim 36 also recites the same limitation discussed above for claim 23. *See* Br. 24 (Claims App.).

Claims 24–27, 30, and 38–40

Claims 24–27, 30, and 38–40 depend either directly or indirectly from claim 23 or claim 36. Br. 21–22, 24–25 (Claims App.). The Examiner’s rejection of these claims relies on the same unsupported findings discussed above for claims 23 and 36. Non-Final Act. 4–7. The Examiner relies on Berg ’401 or Berg ’330 for disclosing various limitations other than those discussed above and thus, does not rely on Berg ’401 or Berg ’330 to cure the deficiencies of Layton for claims 23 and 36. *Id.* Accordingly, for similar reasons as discussed above, we do not sustain the Examiner’s rejection of claims 24–27, 30, and 38–40 as unpatentable over Layton and Berg ’401 or Layton and Berg ’330.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
15, 20, 21, 23, 28, 29, 31, 32, 36, 37	102(b) or 103(a)	Layton	15, 20, 21, 31, 32	23, 28, 29, 36, 37
16, 17, 24, 25, 33–35, 38–40	103(a)	Layton and Berg ’401	16, 17, 33–35	24, 25, 38–40
18, 19, 22, 26, 27, 30	103(a)	Layton and Berg ’330	18, 19, 22	26, 27, 30
Overall Outcome			15–22, 31–35	23–30, 36–40

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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

Notice of References Cited	Application/Control No. 14/402,876	Applicant(s)/Patent Under Reexamination	
	Examiner	Art Unit	Page 1 of 1

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im·me·di·ate·ly (ī-mē'dē-īt-lē)

- adv.
- Without delay.
 - Without an intermediary; directly: *the parties immediately involved in the suit.*
- conj. Chiefly British
- As soon as; directly: *They phoned immediately they reached home.*

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immediately (ɪ'miːdiətli)

- adv
- without delay or intervention; at once; instantly: *it happened immediately.*
 - very closely or directly: *this immediately concerns you.*
 - near or close by: *he's somewhere immediately in this area.*

conj (subordinating) chiefly Brit at the same time as; as soon as: *immediately he opened the door, there was a gust of wind.*

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