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HAYNES AND BOONE, LLP
IP Section
2323 Victory Avenue
Suite 700
Dallas, TX 75219

EXAMINER
TERRELL, EMILY C

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PAUL F. RODNEY and DAVID LYLE

Appeal 2019-003165
Application 14/443,940
Technology Center 2600

Before NORMAN H. BEAMER, SCOTT E. BAIN, and STEVEN M. AMUNDSON, *Administrative Patent Judges*.

BAIN, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's decision to reject claims 1–17. 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 Halliburton Energy Services, Inc. Appeal Br. 2.

BACKGROUND

The Claimed Invention

The invention relates to electromagnetic telemetry and, more specifically, to a "downhole telemetry system" in which electrically insulating material is placed around one or more portions of a well string. Spec. 1. According to the Specification, applying the insulating material will "extend the range of the telemetry system, increase the telemetry rate, and/or reduce downhole power requirements." Spec. 1.

Claims 1, 7, and 14 are independent. Claim 1 is illustrative of the invention and the subject matter in dispute, and is reproduced below:

> 1. A method for utilizing an electromagnetic telemetry system in a downhole well, the method comprising:
>
> providing a well string comprising one or more tubulars attached to a bottom hole assembly, the bottom hole assembly comprising at least one of an electrical current launching device or a receiver;
>
> applying electrically insulating material around an exterior of one or more portions of the well string, the one or more portions being above or below the at least one of the electrical current launching device or the receiver;
>
> deploying the bottom hole assembly into the well;
>
> conducting an electromagnetic telemetry operation using the bottom hole assembly; and
>
> utilizing the electrically insulating material to reduce at least one of:
>
> short circuits from the current launching device to casing; or
>
> current leakage from the well string into the casing or formation along the well.

Appeal Br. 8 (Claims Appendix).

References

The references relied upon by the Examiner are:

Name	Reference	Date
Lovell et al. ("Lovell")	US 2005/0167098 A1	Aug. 4, 2005
Homan	US 2010/0071794 A1	Mar. 25, 2010
Mazyar	US 2013/0126185 A1	May 23, 2013

The Rejections on Appeal

Claims 1, 3, 6, 7–12, 14–15, and 17 stand rejected under 35 U.S.C. § 102 as anticipated by Homan. Final Act. 2–6.

Claims 1–3 and 5–17 stand rejected under 35 U.S.C. § 102 as anticipated by Lovell. Final Act. 6–10.

Claim 4 stands rejected under 35 U.S.C. § 103 as unpatentable over Lovell and Mazyar. Final Act. 10–13.

DISCUSSION

We have reviewed the Examiner's rejections in light of Appellant's arguments presented in this appeal. Arguments that Appellant could have made but did not make in the Briefs are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). For the reasons discussed below, Appellant has not persuaded us of error. We adopt as our own the findings and reasons set forth in the rejections and in the Examiner's Answer, and we provide the following for highlighting and emphasis.

Anticipation by Homan (Claims 1, 3, 6, 7–12, 14–15, 17)

Appellant argues the Examiner erred in finding Homan discloses an "electromagnetic telemetry system" and "electrically insulating material" for the telemetry system, as recited in claim 1. Appeal Br. 4–5; Reply Br. 2. Specifically, Appellant argues that the Examiner "incorrectly equates [Homan's disclosure of] 'logging' with 'telemetry.'" Reply Br. 2. According to Appellant, one of ordinary skill would understand "logging" as being limited to "obtaining downhole formation measurements," while telemetry refers to "communication between the surface and downhole string." *Id.* We, however, are unpersuaded of error.

As the Examiner finds, Homan discloses "telemetry" for communication in a well, utilizing "electromagnetic" radiation transmitted by an "electromagnetic transmitter" and received by an "electromagnetic receiver." Homan ¶¶ 9, 21–23; Ans. 2–3. Although Homan also characterizes the invention as a "well logging instrument," in Homan that term does not exclude electromagnetic telemetry, which is described throughout the disclosure. *See, e.g.,* Homan ¶¶ 9, 21, 36–37. Similarly, Appellant's Specification defines "telemetry" broadly as "transmit[ing] and receiv[ing] electromagnetic signals for a variety of purposes." Spec. 1. Appellant has submitted no declaration or other evidence regarding a different understanding of "telemetry" by a person of ordinary skill in the art.

Accordingly, we are unpersuaded by Appellant's argument that the Examiner erred in finding Homan discloses an "electromagnetic telemetry system."

We are also unpersuaded by Appellant's argument regarding "insulating material." As the Examiner finds, Homan discloses multiple examples of applying electrically insulating material around various portions of a well string. Ans. 6–8. Paragraph 28 of Homan discloses, for example, "inner fiber layer 52 as explained will provide the tube 40 with substantial hoop strength. Various examples may include a plurality of fiber reinforced layers disposed outside the conduit 54 of alternating composition of glass fiber and other composition fiber." Paragraph 29 of Homan discloses, "[i]n other examples, individual fibers may be embedded in matrix, and wound around the exterior of the tube. In still other examples, matrix may be pre-applied to the exterior of the tube, and one or more fibers wound about the exterior of the tube." Paragraph 32 of Homan discloses, "[a]nother example of a composite tube structure is shown in FIG. 5. The tube structure 40B in FIG. 5 includes a plastic or ceramic inner concluit54 as in the previous examples. The conduit 54 may be surrounded on its exterior by one or more layers 68 of woven glass cloth or composite woven glass/carbon (or other composition) fiber cloth."

The Examiner also cites several other examples of insulating material in Homan that read on the disputed claim limitation. Ans. 6–8 (citing Homan ¶¶ 21, 27–36, Figs. 2, 3, 8).

Accordingly, we are unpersuaded of error regarding the anticipation rejection of claim 1 over Homan. For the same reasons as discussed above (including the Examiner's extensive citations to Homan's disclosures regarding insulating material), we are also unpersuaded for error regarding claims 6 and 17. Ans. 9–11.

The remaining claims are not argued separately. We, therefore, sustain the Examiner's rejection of claims 1, 3, 6, 7–12, 14–15, and 17 as anticipated by Homan.

Anticipation by Lovell (Claims 1–3, 5–17)

Appellant argues that the Examiner erred in finding Lovell discloses "electrically insulating material," as recited in claim 1. Appeal Br. 6. Specifically, Appellant argues that Lovell only uses an insulating layer for "providing a hydraulic seal" against leakage of fluid, whereas claim 1 recites using insulating material to "prevent short circuits and current leaks." *Id.* We, however, are unpersuaded of error.

As the Examiner finds, Lovell discloses using a "non-conductive" layer to "enhance the electrical connection" (i.e., prevent current leak) and extend the connection "over greater distance." Lovell ¶¶ 43–44; Ans. 11–12. One of ordinary skill in the art would understand a "non-conductive" insulating layer, as in Lovell, to prevent short circuits because, by definition, a "non-conductive" layer would interrupt electrical connection points. Ans. 11–12. The Examiner provides a detailed explanation of various embodiments of a "non-conductive layer" disclosed by Lovell, and the advantageous electrical properties of such a layer. Ans. 11–12 (citing Lovell ¶¶ 41–51, Figs. 3, 4). Appellant does not present any evidence rebutting the Examiner's findings, and we are not persuaded of error.

For the same reasons, we are not persuaded the Examiner erred in rejecting dependent claims 6 and 17. Ans. 13; Lovell ¶¶ 12–13.

The remaining claims are not argued separately. We, therefore, sustain the Examiner's rejection of claims 1–3 and 5–17 as anticipated by Lovell.

Obviousness over Lovell and Mazyar (Claim 4)

Appellant does not argue the obviousness rejection of dependent claim 4 separately from the anticipation rejection of claim 1 over Lovell, as discussed above. Accordingly, for the same reasons as discussed above, we are unpersuaded of error regarding the obviousness rejection of claim 4, and we sustain that rejection.

CONCLUSION

We affirm the Examiner's decision rejecting claims 1–17.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3, 6, 7–12, 14–15, 17	102	Homan	1, 3, 6, 7–12, 14–15, 17	
1–3, 5–17	102	Lovell	1–3, 5–17	
4	103	Lovell, Mazyar	4	
Total Outcome			1–17	

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED