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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTIAN LEUCHTENBERG[1]

Appeal 2017-010525
Application 14/384,619
Technology Center 3600

Before WILLIAM V. SAINDON, JAMES P. CALVE, and ERIC C. JESCHKE, *Administrative Patent Judges*.

CALVE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Office Action finally rejecting claims 41–46 and 48–57. Appeal Br. 3. Claims 1–40 and 47 are cancelled. *Id.* at 3, 22. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] Managed Pressure Operations Pte. Ltd. is identified as the real party in interest (Appeal Br. 2) and also is the applicant pursuant to 37 C.F.R. § 1.46.

CLAIMED SUBJECT MATTER

Claims 41, 49, and 57 are independent with illustrative claim 41 reproduced below.

> 41. A method of drilling a subterranean well bore comprising, monitoring the well bore for influx of formation fluid into the well bore, and, on detection of an influx:
>
> a) stopping any pump pumping fluid into the well bore;
>
> b) operating a first blow out preventer so that it closes within a first period of time;
>
> c) operating a second blow out preventer so that it closes within a second period of time, the second blow out preventer being located below the first blow out preventer, the second period of time being longer than the first period of time; and
>
> d) circulating the influx out of the well bore via a flow line extending from below the second blow out preventer.

Appeal Br. 22 (Claims App.).

REJECTIONS

Claims 41, 42, and 57 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hannegan (US 8,347,982 B2, iss. Jan. 8, 2013) and Hollister (US 6,655,405 B2, iss. Dec. 2, 2003).

Claims 43 and 44 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hannegan, Hollister, and Roche (US 4,832,126, iss. May 23, 1989).

Claims 45 and 46 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hannegan, Hollister, Roche, and Bourgoyne (US 6,913,092 B2, iss. July 5, 2005).

Claims 48–56 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hannegan and Roche.

ANALYSIS

Claims 41, 42, and 57 Unpatentable Over Hannegan and Hollister

The Examiner finds that Hannegan discloses a method of drilling a subterranean well bore as recited in independent claims 41 and 57 by closing a first blow out preventer (BOP) (annular BOP 64) in a first period of time and closing a second BOP (ram BOP 70) located below first BOP 64 in a second period of time that is longer than the first period of time to circulate out a kick. Final Act. 2–4 (citing Hannegan, Fig. 2). The Examiner finds that Hannegan uses a first annular BOP to circulate out a wellbore and also allows for the sealing of a ram-type BOP located below the annular BOP to circulate out a kick. *Id.* at 12 (citing Hannegan, 5:41–59); Ans. 4 (same). The Examiner cites Hollister for a teaching to stop pumping fluid into the well bore. Final Act. 3. The Examiner cites Schubert as evidence that it was known in the art to circulate out a well kick using one or more BOPs, which may include both annular and ram-type BOPs that are closed to circulate out a kick. Ans. 4 (citing Schubert, US 6,474,422 B2, 3:36–41).

Appellant argues that Hannegan teaches another embodiment that closes annular BOP seal 66 to circulate out a kick, but the lower ram-type BOP seals 70, 74 remain open. Appeal Br. 11 (citing Hannegan, 15:19–25). Therefore, Appellant argues that Hannegan does not teach this embodiment as closing a second BOP within a second period of time after the first BOP is closed as recited in independent claims 41 and 57. *Id.* at 9, 11. Appellant argues that column 5, lines 41–59 of Hannegan does not disclose this feature either but instead "contains a standard teaching of closing a single annular BOP or a ram type BOP to circulate out a kick." *Id.* at 11–12. Appellant also argues that Schubert lacks this feature. Reply Br. 4–5.

We agree with the Examiner that Schubert teaches that, "[o]nce a kick is detected," "a well is typically shut in by closing one or more BOPs (**42**, **44**, and/or **46**)" and that "[t]he fluid influx is then circulated out through the adjustable choke **50** and the choke/kill line **48**." Schubert, 3:36–41, Fig. 1. However, this disclosure does not describe multiple BOPs closing in two different time periods such that a second BOP closes within a second period of time that is longer than a first time period during which a first BOP closes, as recited in independent claims 41 and 57.[2] *See* Reply Br. 4–5.

The Examiner also reasons that Hannegan engages an annular BOP before heave compensation stops, when ram-type BOPs cannot be closed (because of the danger of excessive seal wear), so an annular BOP can be closed first when a kick is detected but before heave detection stops, and a second ram-type BOP can be closed after heave compensation of the drill string stops, at a second, longer period of time. Ans. 4. This reasoning is not supported by Hannegan, which instead teaches that drilling ceases when an annular/ram BOP is sealed/closed against a drill string. Hannegan, 5:41–50. The drill string is lifted off the bottom when the annular BOP is closed. *Id.* at 5:41–44. We find no teaching regarding a ram BOP remaining open and sealing within a second period of time after an annular BOP closes.

Thus, we do not sustain the rejection of independent claims 41 and 57 or the rejection of claim 42, which depends from claim 41.

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[2] We understand the Examiner to cite Schubert as evidence of the prior art understanding that more than one BOP can be closed to circulate out a well kick as a basis for understanding Hannegan's disclosure at column 5, lines 41–59. Ans. 4. Even if the Examiner relies on Schubert as prior art for the rejection, Appellant's decision to file a Reply Brief, instead of a petition under 37 C.F.R. § 1.181, waives any objection to this issue. *See* 37 C.F.R. § 41.40(a).

Claims 43 and 44
Unpatentable Over Hannegan, Hollister, and Roche

The Examiner relies on Roche to teach a pressure relief line and a pressure relief valve as recited in claim 43, which depends from claim 41. Final Act. 6. Appellant argues that Roche's teachings do not cure the failure of Hannegan and Hollister to teach a second BOP that closes within a second period of time that is longer than a first period of time as recited in claim 41. Appeal Br. 13. We agree. Thus, we do not sustain the rejection of claim 43 or claim 44, which depends from claim 43.

Claims 45 and 46
Unpatentable over Hannegan, Hollister, Roche, and Bourgoyne

The Examiner relies on Bourgoyne to teach a pressure relief line that extends from a flow spool to a mud gas separator as recited in dependent claim 45 and to an overboard diversion point as recited in dependent claim 46. Appellant argues that Bourgoyne's teachings do not cure the failure of Hannegan and Hollister to teach a second BOP that closes within a second period of time that is longer than the first period of time as recited in claim 41 from which claims 45 and 46 depend. Appeal Br. 14–15. We agree. Thus, we do not sustain the rejection of claims 45 and 46.

Claims 48–56 Unpatentable over Hannegan and Roche

Independent claim 49 recites an apparatus for drilling a subterranean well bore comprising first and second BOPs where the second BOP closes within a second period of time that is longer than the first period of time it takes to close the first BOP. The Examiner relies on Hannegan to teach this feature as for independent claims 41 and 57. Final Act. 8. The Examiner again relies on Roche to teach a pressure relief line and valve. *Id.*

We agree with Appellant that Hannegan does not teach or suggest a second BOP that closes within a second period of time that is longer than a first period of time it takes a first BOP to close for the reasons discussed above for the rejection of claims 41 and 57. Appeal Br. 17–18. We also agree that Roche does not cure this deficiency of Hannegan. *Id.* at 18. Thus, we do not sustain the rejection of claim 49 or claims 48 and 50–56, which depend therefrom.

DECISION

We reverse the rejections of claims 41–46 and 48–57.

REVERSED