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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAMES D. VICK, JR. and JIMMIE R. WILLIAMSON

Appeal 2011-000315
Application 12/040,110
Technology Center 3600

Before EDWARD A. BROWN, MICHELLE R. OSINSKI and
RICHARD E. RICE, *Administrative Patent Judges*.

RICE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

James D. Vick, Jr. et al. (Appellants) seek our review under 35 U.S.C. § 134 of the Examiner's rejection of claims 1-20. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

The Claimed Subject Matter

The claimed subject matter relates to a control system for an annulus balanced subsurface safety valve. Spec. 1, ll. 20-21. Claims 1, 8 and 15 are independent. Claim 1, reproduced below, is illustrative of the subject matter on appeal:

1. A system for operating a safety valve in a subterranean well, the system comprising:
 - a piston of the safety valve, the piston being responsive to displace due to a pressure differential between first and second chambers exposed to the piston; and
 - a valve controller which alternately exposes the first chamber to pressure in an annulus surrounding the safety valve, and to pressure greater than that in the annulus, the valve controller being remotely positioned from the safety valve.

The Rejections

The following Examiner's rejections are before us for review:

- (1) claims 1-13,¹ 15-17, 19 and 20 under 35 U.S.C. § 102(b) as being anticipated by Gilbert (US 5,101,904; iss. Apr. 7, 1992);
- (2) claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Gilbert and Vick (US 6,998,556 B2; iss. Jan. 24, 2006); and
- (3) claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Gilbert and McCalvin (US 2006/0076149 A1; pub. Apr. 13, 2006).

¹ The Examiner's summary of this rejection does not list claim 13 among the rejected claims. Final Office Action mailed 12/10/09 (F. O.A.) at 3; Ans. 4. However, the Examiner discusses claim 13 in the body of the rejection. F.O.A. at 7; Ans. 8. Accordingly, we include claim 13 among the rejected claims. *See* App. Br. 17 (addressing the Examiner's rejection of claim 13).

OPINION

Rejection (1) – Anticipation – Gilbert

Claims 1 and 8

Independent claim 1 recites a system for operating a safety valve including a valve controller “remotely positioned” from the safety valve, and independent claim 8 recites a method of operating a safety valve that utilizes a valve controller “remotely positioned” from the safety valve. As to these claim limitations, the Examiner finds that Gilbert discloses an embodiment in which a valve controller (control valve 125) is remotely positioned from a safety valve (which the Examiner describes as “actuated by prong 89” and “spaced below 89 and a certain distance away from the controller”). Ans. 4 (citing Gilbert, fig. 6B). The Examiner contends, *inter alia*, that “no safety valve is shown in either figures 6A or B,” that “[o]perating prong 89 could be 1 foot long or it could be 200 feet long,” that “the safety valve is not included in the drawings and is at another (or remote) location,” and that “[i]f [actuator housing 85] (and the actuator in it) is separated from [safety valve body] 87 by a distance, it can be said to be ‘remotely positioned from the safety valve’ as ‘remote’ only requires some amount of relative distance.” Ans. 14.

We cannot find by a preponderance of the evidence that control valve 125 is remotely positioned from the safety valve in Gilbert’s embodiment depicted in Figures 6A and 6B. While we appreciate that Gilbert’s Figures 6A and 6B do not show the entirety of the safety valve, they do show the portions of the safety valve, *i.e.*, the upper end of valve operating prong 89 and the upper end of valve body 87 (*see* fig. 6B), that cooperate with the actuator. Actuator housing 85, which houses control

valve 125 (*see* fig. 6A), “secures to the upper end of the valve body 87,” which “is part of the safety valve and has a valve opening prong 89.” *Id.* at col. 6, ll. 39-42, fig. 6B; *see* App. Br. 14 (“The actuator housing 85 is threaded directly onto the safety valve body 87.”).² Thus, the actuator housing 85 and the safety valve body 87, as disclosed in Gilbert, are not separated by any distance at all. Rather, they are secured together. As such, the Examiner does not have a sound basis for finding that control valve 125, which is located within the actuator housing 85, is positioned remotely from the safety valve.

Accordingly, we do not sustain the rejection of claims 1 and 8, and claims 2-7 and 9-13 dependent therefrom, under 35 U.S.C. § 102(b) as being anticipated by Gilbert.

Claim 15

Claim 15 calls for a system for operating a safety valve in a wellbore of a subterranean well, including a valve controller that is: (1) located outside of the wellbore; (2) connected to the well pressure and to a pressurized fluid source; and (3) capable of alternately connecting the well pressure and the pressurized fluid source to a chamber of the safety valve, thereby alternately opening and closing the safety valve. The Examiner finds that these requirements are satisfied by “the element which controls pressure in line 105 located at the surface.” Ans. 19 (citing Gilbert, col. 6, ll. 56-59). The Examiner acknowledges that the required valve controller is not

² In operation, an actuating pressure 103 (*see* fig. 6A) forces control valve 125 to the open position, which in turn forces actuator piston 97 and actuating element 101 (*see* fig. 6B) downward to engage the valve opening prong 89 of the safety valve and thereby open the safety valve. Col. 7, ll. 26-32; *see also* col. 6, ll. 52-54.

expressly disclosed in Gilbert, but contends that “it still must inherently be present; something must control the pressure in line 105 at the surface.”

Ans. 19.

We disagree with the Examiner’s finding that Gilbert inherently discloses the valve controller of claim 15. Gilbert discloses applying a pressure above the annulus pressure to open the safety valve. Gilbert, col. 7, ll. 12-33. Gilbert also discloses that “[i]f the pressure in the control line 105 drops to hydrostatic due to damage from a storm or otherwise,” then the control valve 125 and the vent valve 111 of the actuator in the well will operate to vent the pressure in the actuating pressure section 95A to the annulus, “permitting the safety valve return spring 96 to withdraw the prong 89, thus closing the valve to shut-in the well.” *Id.* at col. 7, ll. 37-43. The Examiner’s rejection does not explain why a valve controller located outside of the wellbore, at the surface, is necessary in Gilbert’s embodiment to perform these functions.³

Accordingly, we do not sustain the rejection of claim 15, and claims 16, 17, 19 and 20 dependent therefrom, under 35 U.S.C. § 102(b) as being anticipated by Gilbert.

Rejections (2) and (3) – Obviousness – Gilbert and Vick or McCalvin

Claim 14 depends from claim 8, and claim 18 depends from claim 15. The Examiner does not rely on Vick or McCalvin to cure the deficiencies in Gilbert as discussed *supra* in connection with claims 8 and 15. Accordingly,

³ See *Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 639 (Fed. Cir. 2011) (“Inherency can be established when ‘prior art necessarily functions in accordance with, or includes, the claimed limitations.’”) (quoting *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002)).

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for the reasons discussed *supra* in connection with claims 8 and 15, we do not sustain the rejections of claims 14 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Gilbert and either Vick or McCalvin.

DECISION

We reverse the rejection of claims 1-13, 15-17, 19 and 20 under 35 U.S.C. § 102(b) as being anticipated by Gilbert.

We reverse the rejections of claims 14 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Gilbert and either Vick or McCalvin.

REVERSED

msc