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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RANDY A. MOSES and KENT W. ROBINSON

Appeal 2018-008332
Application 14/270,282
Technology Center 3700

Before JENNIFER D. BAHR, BENJAMIN D. M. WOOD, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision, set forth in the Non-Final Action dated November 1, 2017 (hereinafter "Non-Final Act."), rejecting claims 1, 2, 5, 8–10, and 19–31, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

¹ We use the word "Appellant" to refer to the "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Wayne Fueling Systems Sweden AB. Appeal Br. 1.

THE CLAIMED SUBJECT MATTER

Claim 1, reproduced below, is illustrative of the claimed subject matter.

1. An air purge and pressurization system, comprising:
 - an enclosed container located in a hazardous area, the area being hazardous due to presence of an explosive gas external to the container;
 - a controller configured to operate within the hazardous area and positioned within an explosion-proof box that is located within the enclosed container;
 - a pressure sensor located within the container and coupled to the controller; and
 - a variable-speed fan located outside the hazardous area and coupled to the controller, the fan being configured to force air from outside the hazardous area into the container;wherein the controller is configured to adjust a speed of the fan between different non-zero speeds, based upon an air pressure detected by the pressure sensor, to maintain the detected pressure above a minimum pressure.

REJECTIONS

- I. Claims 1, 5, 8–10, 19–21, 23–28, and 31 stand rejected under 35 U.S.C. § 103 as unpatentable over Albarado (US 7,518,484 B2, issued Apr. 14, 2009), Abuzeid (US 6,473,668 B2, issued Oct. 29, 2002), and Hilpert (US 2002/0196605 A1, published Dec. 26, 2002).
- II. Claims 2 and 22 stand rejected under 35 U.S.C. § 103 as unpatentable over Albarado, Abuzeid, Hilpert, and Baucom (US 5,101,710, issued Apr. 7, 1992).

- III. Claim 29 stands rejected under 35 U.S.C. § 103 as unpatentable over Albarado, Abuzeid, Hilpert, and Russell (US 6,119,715, issued Sept. 19, 2000).
- IV. Claim 30 stands rejected under 35 U.S.C. § 103 as unpatentable over Albarado, Abuzeid, Hilpert, Russell, and Emerson (US 7,405,358 B2, issued July 29, 2008).

DISCUSSION

Rejection I

Claims 1, 5, 8–10, 19, 20, and 28

Independent claim 1 recites, in pertinent part, “an enclosed container located in a hazardous area,” a controller “positioned within an explosion-proof box that is located within the enclosed container,” “a pressure sensor located within the container and coupled to the controller,” “a variable-speed fan located outside the hazardous area and coupled to the controller, . . . wherein the controller is configured to adjust a speed of the fan between different non-zero speeds, based upon an air pressure detected by the pressure sensor, to maintain the detected pressure above a minimum pressure.” Claims App. A. The Examiner reads the claimed “controller” on the combined structure of Albarado’s operator controller console 1, gas detection controller console 2, shutdown controller 3, and enclosure controller EC1. Non-Final Act. 3; *see* Albarado 8:38–40, 9:15–18, 9:64–10:58, 11:54–62.

The Examiner determines it would have been obvious to modify Albarado’s multi-part controller to be configured to adjust the speed of blower B1 between different non-zero speeds, based upon air pressure

detected inside the enclosure, according to the teachings of “Abuzeid to provide a means for maintaining the internal pressure of the container higher than the pressure outside of the container to prevent combustible gases from entering the enclosure.” Non-Final Act. 5. Specifically, the Examiner states that it would have been obvious to “modify Albarado such that the controller 3, which affects the blower controller BC1 and consequently the fan speed . . . , [receives] pressure data from the controller EC1 and adjust[s] the speed of the fan based on that pressure data, like taught by Abuzeid.” *Id.* at 13 (citing Albarado 11:54–63).

The problem with the Examiner’s rejection is that three out of the four components of Albarado on which the Examiner reads the claimed “controller” are located outside the enclosed container (enclosure E1), with only enclosure controller EC1 located within enclosure E1. *See* Albarado, Fig. 1. Significantly, Albarado’s shutdown controller 3, which in the modified apparatus is configured to adjust a speed of the fan (blower B1) between different non-zero speeds, based upon an air pressure detected by the pressure sensor (differential pressure monitor DPM), to maintain the detected pressure above a minimum pressure, is located outside enclosure E1. The Examiner does not propose, much less articulate any reason why it would have been obvious, to move shutdown controller 3 within enclosure E1.² Thus, even assuming it would have been obvious to house all controller components within explosion-proof boxes, the Examiner fails to articulate sufficient findings and reasoning to establish that it would have been obvious to position a controller as claimed (i.e., a controller “configured to adjust a speed of the fan between different non-zero speeds,

² The Examiner relies on Hilpert for fan placement. *See* Non-Final Act. 5–6.

based upon an air pressure detected by the pressure sensor, to maintain the detected pressure above a minimum pressure”) “within an explosion-proof box that is located within the enclosed container,” as required in claim 1.

The fact that a *portion* of the structure on which the Examiner reads the claimed “controller” is located within the enclosed container (enclosure E1) is insufficient to render obvious the claimed subject matter, especially where the structure (shutdown controller 3) configured to adjust the fan speed, as required in claim 1, is positioned outside the enclosed container. *See* Ans. 7, 8, 9 (relying on Albarado’s enclosure controller EC1 as the portion of the controller located in an explosion-proof box within the enclosed container). Accordingly, we do not sustain the rejection of claim 1, or claims 5, 8–10, 19, 20, and 28, which depend from claim 1, as unpatentable over Albarado, Abuzeid, and Hilpert.

Claims 21, 23–27, and 31

Appellant does not present any separate arguments for dependent claims 23–27 and 31, aside from their dependence from independent claim 21. Appeal Br. 10–11. Thus, claims 23–27 and 31 stand or fall with claim 21. *See* 37 C.F.R. § 41.37(c)(1)(iv) (permitting the Board to select a single claim to decide the appeal as to a single ground of rejection of a group of claims argued together).

Appellant argues that “Albarado, Abuzeid, and Hilpert, alone or in any combination, fail to teach or suggest ‘a fan, located outside of the hazardous area,’ as recited in independent claim 21.” Appeal Br. 10 (referring to the arguments directed to a similar limitation in claim 1).

Appellant's argument is not commensurate with the scope of claim 21, which does not positively recite a fan, much less a fan located outside of the hazardous area. *See* Claims App. B. Rather, claim 21 recites:

[a] controller being configured to: cause a speed of a fan, located outside of the hazardous area and forcing air into the container, to change up or down based on the received pressure data and thereby change a volume of the air being forced into the container by the fan per unit time.

Id.

Albarado's shutdown controller 3, as modified in view of the teachings of Abuzeid, as proposed by the Examiner, receives pressure data from enclosure controller EC1 and adjusts the speed of the fan (blower B1) based on that pressure data. *See* Non-Final Act. 13. Albarado's "shutdown controller 3 is in communication with all systems, devices[,] and equipment of the overall system," including enclosure controller EC1 (which contains differential pressure monitor DPM) and blower control device BC1 for a fan (blower B1) located at a distance from the enclosure. Albarado, Fig. 1, 8:19–23, 38–47, 9:15–18, 11:54–61; *see id.* 8:13–15 (disclosing ducting C1 for supplying air from the outlet of blower B1 to the inlet port of enclosure E1). Further, Albarado discloses wireless communication between all of the controllers in the system. *Id.* 4:48–51. Thus, Albarado's controller (shutdown controller 3), as modified in view of Abuzeid, as discussed above, is configured to adjust the speed of blower B1 based on received pressure data, whether blower B1 is located within the hazard area or outside of the hazard area. Appellant does not identify any additional structure that Albarado's controller lacks that would be required to configure it to change the speed of a fan located outside of the hazardous area as recited in claim 21.

For the above reasons, Appellant's argument regarding the location of the fan does not apprise us of error in the Examiner's conclusion that Albarado, Abuzeid, and Hilpert render obvious the subject matter of claim 21. Thus, we sustain the rejection of claim 21, as well as dependent claims 23–27 and 31, which fall with claim 21, as unpatentable over Albarado, Abuzeid, and Hilpert.

Rejection II

Claim 2

The aforementioned deficiency in the rejection of claim 1 also pervades the rejection of claim 2. *See* Non-Final Act. 8–9. The Examiner's application of Baucom does not overcome this deficiency. *See id.* Accordingly, for the reasons discussed above in connection with claim 1, we do not sustain the rejection of claim 2 as unpatentable over Albarado, Abuzeid, Hilpert, and Baucom.

Claim 22

In contesting the rejection of claim 22, Appellant argues only that Baucom fails to remedy the argued deficiencies of Albarado, Abuzeid, and Hilpert *vis-à-vis* claim 21, from which claim 22 depends. Appeal Br. 11. For the reasons discussed above, Appellant's arguments fail to apprise us of error in the Examiner's conclusion that Albarado, Abuzeid, and Hilpert render obvious the subject matter of claim 21 and, likewise, fail to apprise us of error in the conclusion that Albarado, Abuzeid, Hilpert, and Baucom render obvious the subject matter of claim 22. Accordingly, we sustain the rejection of claim 22 as unpatentable over Albarado, Abuzeid, Hilpert, and Baucom.

Rejection III

Claim 29 depends from claim 21 and further recites that “the powerline extends out of the container and into an explosion-proof box in which the controller is disposed.” Claims App. C. The Examiner initially dismisses the “explosion-proof” limitation as mere intended use or functional language, and finds that Albarado’s controller housing “is presumed to be ‘explosion proof’” because it is otherwise identical in structure to the claimed controller and, thus, inherently capable of performing “the claimed function.” Non-Final Act. 9. Appellant persuasively argues that the recitation “explosion-proof” is a structural limitation, and not mere intended use, and the Examiner does not provide a basis in fact and/or technical reasoning to reasonably support a determination that Albarado’s controller housing is inherently explosion-proof. Appeal Br. 11–12.

Our agreement with Appellant that “explosion-proof” is a structural limitation is not dispositive, however, because the Examiner also finds that Russell teaches an air purge and pressurization system for a protected enclosure, such as enclosure EC1 of Albarado, wherein the air purge and pressurization system comprises a controller contained in an explosion-proof box. Non-Final Act. 10 (citing Russell 2:64–67). The Examiner determines it would have been obvious to modify Albarado (as modified in view of Abuzeid and Hilpert as set forth in the rejection of claim 21) according to these teachings of Russell “to provide protection for the controller 3 of Albarado.” *Id.*

Appellant argues that, even if Albarado were modified to dispose shutdown controller 3 in an explosion-proof box, the invention of claim 29

would not result because “shutdown controller 3 does not ‘receive pressure data that is indicative of a sensed pressure within an enclosed container,’ as is required of the recited ‘controller’ per independent claim 21.” Appeal Br. 12. Appellant contends that shutdown controller 3 receives only “an informative signal . . . in response to the DPM [of EC1] indicating that pressure inside the enclosure E1 ‘drops to substantially the pressure outside of the enclosure.’” *Id.*; *see* Albarado 9:15–18 (disclosing that if pressure inside enclosure EC1 drops to substantially the pressure outside EC1, a signal is sent to shutdown controller 3).

Appellant’s argument is not persuasive because the “informative signal” to which Appellant alludes is indicative of a sensed pressure within EC1 even if it is not the pressure measurement signal itself. Moreover, Appellant’s argument does not take into account the Examiner’s proposed modification of Albarado “such that the controller 3, which affects the blower controller BC1 and consequently the fan speed . . . , [receives] pressure data from the controller EC1 and adjust[s] the speed of the fan based on that pressure data, like taught by Abuzeid.” *See* Non-Final Act. 13. Appellant does not specifically contest the Examiner’s findings or reasoning in support of this proposed modification.

For the above reasons, Appellant does not apprise us of error in the Examiner’s conclusion that Albarado, Abuzeid, Hilpert, and Russell render obvious the subject matter of claim 29. Accordingly, we sustain the rejection of claim 29 as unpatentable over Albarado, Abuzeid, Hilpert, and Russell.

Rejection IV

Claim 30 depends from claim 29, and further recites that “the controller is coupled to one or more incoming power lines that extend into the explosion-proof box from an underground location.” Claims App. C. In addressing this limitation, the Examiner finds that “Emerson teaches a control panel [(motor control module 110)] coupled to one or more incoming power lines [(power cable 140)] extending from an underground location.” Non-Final Act. 10 (citing Emerson, Fig. 1). The Examiner determines it would have been obvious to modify Albarado (as modified in view of Abuzeid, Hilpert, and Russell) with the underground power lines teaching of Emerson “for reasons including merely aesthetic.” *Id.*

Appellant submits that power for Albarado’s system is provided by operator controller console 1, which is located outside of enclosure E1. Appeal Br. 14 (citing Albarado 9:64–10:15). Thus, Appellant argues that, even if Albarado were modified to incorporate Emerson’s power line teachings, “Emerson’s power cable 140 would go to the operator control console 1,” and not into the explosion-proof box from an underground location, as recited in claim 30. *Id.*

Appellant’s argument is not persuasive. The passage of Albarado that Appellant cites discloses that “operator controller console 1 will contain: a) a suitable means of power, preferably a conventional AC-DC power converter (not shown).” Albarado 9:64–67 (boldface omitted). However, there is nothing in the passage of Albarado cited by Appellant that discusses how power is supplied to shutdown controller 3. Whether shutdown controller 3 receives power directly from an external power source, or through operator controller console 1, Appellant does not persuasively

explain why power could not be supplied to shutdown controller 3 by a power cable routed underground.

Appellant submits that Albarado's enclosure "is a 'temporary building' that is 'built around an object to be hot-worked,'" and contends that "[a] power cable 140 in a fixed underground location would therefore not be available for Albarado's unpredictably located temporary building like in Emerson's permanently located system." Appeal Br. 14. Appellant's contention amounts to unsupported attorney argument and, thus, is entitled to little, if any, weight. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997).

Appellant does not direct our attention to any disclosure in Emerson to support the contention that Emerson's system is permanently located. Emerson discloses providing power to electrical submersible systems within a well bore from a power source at the surface of the well. Emerson 1:6–9. In particular, Emerson transmits power from a remote power source via power supply cable 140, which extends underground for some distance, to motor control panel 110, and then to junction box 120, and then to wellhead barrier 130 of an underground well. *Id.* 2:48–54. Like Emerson's system, Albarado's system can be used at a drilling or production platform (i.e., a well bore). *See* Albarado 5:21–25. Given that both Emerson and Albarado are directed to systems at well bore facilities, it is not apparent, and Appellant does not adequately explain, why Emerson's system, and the infrastructure, such as power, supporting that system, would be considered any more permanent, or less temporary, than the infrastructure supporting Albarado's system.

For the above reasons, Appellant does not apprise us of error in the Examiner's conclusion that Albarado, Abuzeid, Hilpert, Russell, and

Emerson render obvious the subject matter of claim 30. Accordingly, we sustain the rejection of claim 30 as unpatentable over Albarado, Abuzeid, Hilpert, Russell, and Emerson.

DECISION

The Examiner's decision rejecting claims 1, 5, 8–10, 19, 20, and 28 as unpatentable over Albarado, Abuzeid, and Hilpert is REVERSED.

The Examiner's decision rejecting claims 21, 23–27, and 31 as unpatentable over Albarado, Abuzeid, and Hilpert is AFFIRMED.

The Examiner's decision rejecting claim 2 as unpatentable over Albarado, Abuzeid, Hilpert, and Baucom is REVERSED.

The Examiner's decision rejecting claim 22 as unpatentable over Albarado, Abuzeid, Hilpert, and Baucom is AFFIRMED.

The Examiner's decision rejecting claim 29 as unpatentable over Albarado, Abuzeid, Hilpert, and Russell is AFFIRMED.

The Examiner's decision rejecting claim 30 as unpatentable over Albarado, Abuzeid, Hilpert, Russell, and Emerson 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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART