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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL GEORGE PURKIS

Appeal 2018-008532
Application 14/431,497
Technology Center 3600

Before MICHAEL C. ASTORINO, BRUCE T. WIEDER, and
AMEE A. SHAH, *Administrative Patent Judges*.

WIEDER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ seeks review under 35 U.S.C. § 134 from the Examiner's rejection of claims 1, 4, 6, 12, 15, 18, 20, 28, 29, 40, 41, 55, 56, 61, 66, 68, 71, 73, 74, and 82. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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 Weatherford Technology Holdings, LLC. (Appeal Br. 3.)

CLAIMED SUBJECT MATTER

Appellant's invention "relates to well isolation. More particularly, but not exclusively, embodiments of the invention relate to methods and systems for well isolation and/or for communicating the integrity of a well isolation to a remote location." (Spec. 1, ll. 4–6.)

Claims 1 and 71 are the independent claims on appeal. Claim 1 is illustrative. It recites:

1. A system for isolating a wellbore having a fluid flow passage extending from surface to a subterranean location, the system comprising:

a first, downhole, valve member configured for location in the wellbore at a first subterranean location and moveable between a first configuration which permits access through the flow passage and a second configuration which isolates the flow passage below the valve member;

a second, uphole, valve member configured for location in the wellbore at a second subterranean location spaced from the first valve member and moveable between a first configuration which permits access through the second valve member and a second configuration which provides an isolated volume between the first and second valve members;

a monitoring arrangement for obtaining information relating to a condition in the isolated volume; and

a communication arrangement for communicating the information relating to the condition in the isolated volume to a remote location,

wherein the communication arrangement is configured to transmit or otherwise relay the information relating to the condition in the isolated volume to the remote location via at least one intermediate location.

REJECTIONS

Claims 71 and 73 are rejected under 35 U.S.C. § 102(b) as anticipated by Marsh (US 2006/0272810 A1, pub. Dec. 7, 2006).

Claims 1, 4, 6, 12, 15, 18, 28, 29, 40, 41,² 55, 56, 61, 66, 68, and 82 are rejected under 35 U.S.C. § 103(a) as unpatentable over Marsh and Han (US 2011/0073368 A1, pub. Mar. 31, 2011).

Claim 20 is rejected under 35 U.S.C. § 103(a) as unpatentable over Marsh, Han, and Beck (US 6,199,628 B1, iss. Mar. 13, 2001).

Claim 74 is rejected under 35 U.S.C. § 103(a) as unpatentable over Marsh.

ANALYSIS

The § 102(b) rejection of claims 71 and 73

Claim 71 is a method claim that recites subject matter similar to that recited in claim 1. In relevant part, claim 71 recites:

obtaining information relating to a condition in the isolated volume; and

² The Examiner indicates that dependent claim 41 is rejected. (Final Action 1.) The Examiner does not otherwise address claim 41 in the Final Action or Answer. Appellant's briefs do not address this omission. However, in the Non-Final Action mailed May 3, 2017, claim 41 was rejected under § 103(a) in view of Marsh and Han. (*See* Non-Final Action mailed May 3, 2017, at 12.) Except for changing the dependency of claim 40 from now-cancelled claim 27 to claim 1, Appellant did not subsequently amend claim 41. Nor did Appellant present additional arguments unique to claim 41. The Examiner did not state that the rejection of claim 41 had been withdrawn. Under these particular circumstances, we treat the omission of a discussion of the rejection of claim 41 in the Final Action as a minor oversight.

communicating the information relating to the condition in the isolated volume to a remote location via at least one intermediate location.

The Examiner finds that paragraph 21 of Marsh discloses that “the pressure probe 32 takes pressure readings within the containment zone 28” (Answer 12), and that “[i]n order to receive the pressure calculations, the pressure probe extracts the data and communicates it to the surface to the operator, as disclosed in paragraph 0021” (*id.* at 13). The Examiner further finds that “[t]he fact that operation personnel are able to view the measurement data from the pressure test teaches that the data retrieved from the pressure probe 32 is communicated to remote location at the surface via at least one intermediate location.” (*Id.* at 12.) Additionally, the Examiner finds:

Regarding the communication “via at least one intermediate location”, the broadness of the term “intermediate” lends the location to be any location between the apparatus and surface where the operation personnel is able to view the measured data. In other words, the intermediate location could be various points within the tubular or downhole system that is between the pressure probe and the operator (intermediate points), or it can be interpreted as the medium in which the operator can utilize to gather the information (i.e. display, computer, etc.). In either scenario, the broadest reasonable interpretation of the term “intermediate” is presented in the prior art.

(*Id.* at 13.)

Appellant argues that Marsh discloses that “a pressure probe 32 or a gauge at surface (not shown) measures the pressure within the containment zone 28.” (Reply Br. 9; *see also* Marsh ¶ 21.) Appellant also argues that “[t]he probe 32 is connected to a line 33 depicted in the drawings of

Fig[s]. 2-3, but unmentioned in the written description.” (Reply Br. 9.) Appellant further argues that “the rejection’s interpretation that the claimed limitation calling for communicating information to a remote location via at least one intermediate location broadly encompasses how Marsh communicates with the probe 32 is not reasonable because it speculates about features not actually disclosed in Marsh.” (*Id.*)

“[A]n invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). “Anticipation can occur when a claimed limitation is ‘inherent’ or otherwise implicit in the relevant reference.” *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1369 (Fed. Cir. 1991).

Before we address the question of anticipation, we must, in this case, determine whether the Examiner has applied the broadest reasonable interpretation to the claim term “intermediate location.” “[I]n proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983) (internal citation omitted).

Appellant’s Specification discloses:

The system 10 may be configured to transmit the pressure information obtained by the sensor 26 directly to the surface ship 30. However, in the illustrated embodiment the pressure information is transmitted via a number of intermediate receiver/transmitters (two intermediate receiver/transmitters 36, 38 are shown in Figure 1), which are described further below.

A first intermediate receiver/transmitter 36 is suspended in the flow passage 18 of the wellbore 12 by an electric line 40. . . . [T]he second receiver/transmitter 38 is located on the seabed 14 and the distance between the first intermediate receiver/transmitter 36 and the second receiver/transmitter 38 may be about 1000 metres.

(Spec. 11, l. 29–12, l. 9.) In short, Appellant’s Specification distinguishes transmitting information directly to a remote location, from transmitting information to an intermediate location to relay the information to a remote location. Appellant’s Specification does not suggest that the term “intermediate location” is being used other than in accordance with its plain meaning, i.e., a location between two points. (*See* dictionary.com/browse/intermediate, def. 1 (last visited December 16, 2019).)

While we generally agree with the Examiner that “the intermediate location could be [positioned at] various points within the tubular or downhole system that is between the pressure probe and the operator” (Answer 13), the Examiner does not direct us to any portions of Marsh disclosing such points, i.e., disclosing an intermediate location to relay the information to the remote location/operator. We note that Marsh discloses a “pressure probe 32 or a gauge at surface (not shown)” (Marsh ¶ 21), however, we do not see, and the Examiner does not direct us to, a disclosure in Marsh of a location intermediate to the probe and gauge locations to relay information, as opposed to transmitting the information directly.

With regard to the Examiner’s alternate interpretation, i.e., that the term intermediate location “can be interpreted as the medium . . . the operator can utilize to gather the information” (Answer 13), we disagree that this is a broadest reasonable interpretation. “[C]laims are interpreted with an

eye toward giving effect to all terms in the claim.” *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006). Claim 71 recites 1) “communicating the information relating to the condition in the isolated volume to a remote location” *and* 2) that this is done “via at least one intermediate location.” If we were to adopt the Examiner’s view that the medium itself is an intermediate location, in view of 1), we would render 2) effectively meaningless. *See, e.g., Becton, Dickinson & Co. v. Tyco Healthcare Grp.*, 616 F.3d 1249, 1257 (Fed. Cir. 2010).

In view of the above, the Examiner has not directed us to a disclosure in Marsh, either literal or inherent, of “communicating the information relating to the condition in the isolated volume to a remote location *via at least one intermediate location*” as recited in claim 71 (emphasis added). Therefore, we will not sustain the rejection of claim 71 and dependent claim 73 under § 102(b).

The § 103(a) rejection of claims 1, 4, 6, 12, 15, 18, 20, 28, 29, 40, 41, 55, 56, 61, 66, 68, 74, and 82

As noted above, claim 1 recites, in relevant part (emphasis added):

a communication arrangement for communicating the information relating to the condition in the isolated volume to a remote location,

wherein the communication arrangement is configured to transmit or otherwise relay the information relating to the condition in the isolated volume to the remote location via at least one intermediate location.

We begin with claim construction. A claim term that does not use “means” triggers a rebuttable presumption that the term should not be

construed under § 112(f).³ *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015). But this presumption may be overcome if “the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* at 1371–72 (citing *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349–50 (Fed. Cir. 2015)).

Here, the claim limitation reciting “a communication arrangement” does not recite structure for performing the function of “communicating the information relating to the condition in the isolated volume to a remote location.” As in *Williamson*, “the word ‘[arrangement]’ does not provide any indication of structure because it sets forth the same black box recitation of structure for providing the same specified function as if the term ‘means’ had been used.” *Williamson*, 792 F.3d at 1350; *see also IPCom GmbH & Co. v. HTC Corp.*, 861 F.3d 1362, 1369–70 (Fed. Cir. 2017).

Once it is concluded, as it is here, “that a claim limitation is a means-plus-function limitation, two steps of claim construction remain: 1) [we] must first identify the function of the limitation; and 2) [we] must then look to the specification and identify the corresponding structure for that function.” *Biomedino, LLC. v. Waters Techs. Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007).

³ “An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112(f). (We note that the filing date of Appellant’s application was after September 16, 2012. Thus, we refer to 35 U.S.C. § 112, as revised by the America Invents Act.)

In this case, the function of the limitation is to communicate the information relating to the condition in the isolated volume to a remote location. Claim 1 further recites that the communication arrangement is configured to transmit/relay the information via at least one intermediate location. The Specification discloses an embodiment in which “the communication arrangement comprises an acoustic transmitter 32 disposed within the isolated volume 24 and which is operatively coupled to the pressure sensor 26.” (Spec. 11, ll. 13–15.) The Specification discloses that “the acoustic transmitter is configured to transmit the pressure information . . . over a relatively short distance,” i.e., “over a range of about 20 metres.” (*Id.* at 11, ll. 15–19.) The Specification discloses that “the pressure information is transmitted via a number of intermediate receiver/transmitters (two intermediate receiver/transmitters 36, 38 are shown in Figure 1).” (*Id.* at 11, ll. 31–33.) The Specification also discloses that the second receiver/transmitter 38 transmits the pressure information received from receiver/transmitter 36 to a surface ship, i.e., a remote location. (*Id.* at 12, ll. 9–11; *see also id.* at 6, ll. 18–21.)

Applying a broadest reasonable interpretation, the term “communication arrangement” includes an acoustic transmitter disposed within the isolated volume and which is operatively coupled to the pressure sensor to transmit the pressure information over a relatively short distance to at least one intermediate receiver/transmitter for relay to a remote location and equivalents thereof.

With regard to the rejection of claim 1 under § 103(a), the Examiner finds that “Marsh by itself teaches” “a communication arrangement for communicating information relating to a condition in an isolated volume to a

remote location,” and that “the communication arrangement is configured to transmit or otherwise relay the information relating to the condition in the isolated volume to the remote location via at least one intermediate location.” (Answer 13–14 (emphasis omitted).) For the reasons discussed above regarding the rejection of claim 71 under § 102(b), we do not agree that Marsh discloses a communication arrangement “configured to transmit or otherwise relay the information relating to the condition in the isolated volume to the remote location via at least one intermediate location,” as recited in claim 1.

With regard to Han, the Examiner finds:

Han discloses wherein the communication arrangement is configured to transmit or otherwise relay the information relating to the condition in the isolated volume to the remote location via at least one intermediate location (Fig. 3b – the first intermediate location is the upper portion of the downhole tool, 100. pp0016 – At least one transmitter and receiver exists on the downhole tool, in which the receiver is acoustically isolated from the borehole. The transmitter transmits acoustic waves into the subterranean and the receiver receives the wave forms.).^[4]

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the isolation system of Marsh with the transmitter and receiver of Han in order to relay the measured data to a remote location for personnel to view and take appropriate action during operation.

⁴ Paragraph 16 of Han teaches that the acoustic transmitter and receivers generate the desired downhole information. The Examiner finds that “[a]t least one [acoustic] transmitter and receiver exists on the downhole tool.” (Final Action 8 (citing Han ¶ 16).) But the Examiner does not sufficiently explain why the upper portion of the downhole tool is an *intermediate location*, i.e., why the communication arrangement is configured to relay the information to the remote location *via the upper portion of the downhole tool*. (See *id.*)

(Final Action 8.) The Examiner also finds that

[b]oth Marsh and Han teach obtaining data via sensors and the transmission of the obtained data. Furthermore, both Marsh and Han discuss telemetry systems (pp[0019] of Marsh and pp[0053] of Han) which involves the transfer and receiving of data to operate various structures of the systems of Marsh and Han. Therefore, it would be obvious to combine the teachings of Marsh and Han to arrive at the present invention.

(*Id.* at 15.)

Appellant disagrees and argues that “the mere presence of a transmitter and a receiver does not teach or suggest a communication arrangement for communicating information relating to a condition in an isolated volume between a first valve member and a second valve member to a remote location.” (Appeal Br. 12.) Appellant further argues that

Han does not even teach or suggest communicating information to a remote location via at least one intermediate location. At best, Han simply teaches using a telemetry system to communicate with the surface. *Id.* at [0053]. This form of communication in Han is really no different than how Marsh teaches communicating its probe directly with the surface via a line.

(Reply Br. 13–14.)

As noted above, the Examiner finds that “Marsh and Han discuss telemetry systems . . . which involves the transfer and receiving of data to operate various structures of the systems of Marsh and Han.” (Answer 15.) However, the Examiner makes no finding supported by substantial evidence as to whether Han’s transmission of data is not merely to a remote location, but to a remote location via at least one intermediate location. Therefore, we will not sustain the rejection of claims 4, 6, 12, 15, 18, 28, 29, 40, 41, 55, 56, 61, 66, 68, and 82 under § 103(a).

Claim 20 is rejected over Marsh, Han, and Beck. The addition of Beck, however, does not cure the deficiency discussed above. Therefore, we will not sustain the rejection of claim 20 under § 103(a).

Claim 74, which depends from claim 71, is rejected over Marsh. In rejecting claim 74, the Examiner does not address the deficiency discussed above with regard to the rejection under § 102(b). Therefore, we will not sustain the rejection of claim 74 under § 103(a).

CONCLUSION

The Examiner’s rejection of claims 71 and 73 under 35 U.S.C. § 102(b) as anticipated by Marsh is reversed.

The Examiner’s rejection of claims 1, 4, 6, 12, 15, 18, 28, 29, 40, 41, 55, 56, 61, 66, 68, and 82 under 35 U.S.C. § 103(a) as unpatentable over Marsh and Han is reversed.

The Examiner’s rejection of claim 20 under 35 U.S.C. § 103(a) as unpatentable over Marsh, Han, and Beck is reversed.

The Examiner’s rejection of claim 74 under 35 U.S.C. § 103(a) as unpatentable over Marsh is reversed.

Specifically:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
71, 73	102(b)	Marsh		71,73
1, 4, 6, 12, 15, 18, 28, 29, 40, 41, 55, 56, 61, 66, 68, 82	103(a)	Marsh, Han		1, 4, 6, 12, 15, 18, 28, 29, 40, 41, 55, 56, 61, 66, 68, 82
20	103(a)	Marsh, Han, Beck		20

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Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
74	103(a)	Marsh		74
Overall Outcome				1, 4, 6, 12, 15, 18, 20, 28, 29, 40, 41, 55, 56, 61, 66, 68, 71, 73, 74, 82

REVERSED

Notice of References Cited	Application/Control No.	Applicant(s)/Patent Under Patent Appeal No.	
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intermediate¹

[in-ter-mee-dee-it] [SHOW IPA](#) 

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adjective

- 1 being, situated, or acting between two points, stages, things, persons, etc.:
the intermediate steps in a procedure.
- 2 of or relating to an [intermediate school](#).
- 3 *Automotive.* [mid-size](#).

noun

- 4 a person who acts between others; intermediary; mediator.
- 5 something intermediate, as a form or class.
- 6 *Chemistry.* a derivative of the initial material formed before the desired product of a chemical process.