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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ALBERT W. CHAU,  
BENJAMIN JOHN MEDEIROS, and CRAIG CASWELL

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Appeal 2019-002503  
Application 13/946,611  
Technology Center 2600

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Before JOHN D. HAMANN, MATTHEW J. McNEILL, and  
MICHAEL T. CYGAN, *Administrative Patent Judges*.

HAMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1, 2, and 6–12. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.<sup>2</sup>

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<sup>1</sup> 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 Merlin Technology, Inc. Appeal Br. 3.

<sup>2</sup> Our Decision relies upon Appellant's Appeal Brief (“Appeal Br.,” filed May 29, 2018) and Specification (“Spec.,” filed July 19, 2013), as well as the Examiner's Answer (“Ans.,” mailed Dec. 4, 2018) and the Final Office Action (“Final Act.,” mailed Aug. 30, 2017).

### CLAIMED SUBJECT MATTER

Appellant's claimed invention relates to performing inground operations, including systems and methods which initiate a response to detection of an adverse operational condition involving a system including a drill rig and an inground tool. Spec. ¶ 2, code (57). Claim 1 is representative of the subject matter on appeal and is reproduced below.

1. In a system for performing an inground operation at least which utilizes a drill string extending from a drill rig to an inground tool and a walkover locator at least for receiving a locating signal that is transmitted from the inground tool, a communication system comprising:

an uphole transceiver located proximate to the drill rig;

a portable transceiver forming part of the walkover locator and configured for receiving said locating signal to at least periodically update a depth reading of the inground tool;

a telemetry link at least for unidirectional communication from the portable transceiver of the walkover detector to the uphole transceiver via a walkover locator telemetry signal for periodically transmitting at least said depth reading to the uphole transceiver; and

a processor configured for monitoring the telemetry link to detect signal degradation of said walkover locator telemetry signal and, responsive to detecting such signal degradation, for switching the periodic transmission of the depth reading to a different communication path for reception by the uphole transceiver.

### REJECTIONS<sup>3</sup>

(1) The Examiner rejected claims 1, 2, and 12 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Alft (US 2002/0020561 A1, published Feb. 21, 2002) and Gee (US 2013/0138508 A1, published May 30, 2013).

(2) The Examiner rejected claims 6–11 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Alft, Gee, and Brand (US 6,408,952 B1, issued June 25, 2002).

### OPINION

We have reviewed the Examiner’s rejections in light of Appellant’s arguments that the Examiner errs. We address as necessary the Examiner’s findings and Appellant’s arguments below.

#### *A. Alft Combined With Gee — Claims 1, 2, and 12*

Appellant argues that the combination of Alft and Gee fails to teach or suggest “switching the periodic transmission of the depth reading to a different communication path for reception by the uphole transceiver,” as recited in independent claims 1 and 12. Appeal Br. 7–12.

First, Appellant argues that “one of ordinary skill in the art would have no reason to look to Gee to cure a problem that is neither recognized nor suggested by Alft.” Appeal Br. 10. Appellant argues that there is no “suggestion in Gee that would lead one of ordinary skill in the art to conclude that his teachings reasonably could even be applied to a

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<sup>3</sup> The Examiner withdrew the rejection of claims 3–5 and stated that “[c]laims 3–[5] are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.” Ans. 2.

communication system in an overall system for performing an inground operation in the manner recited by” the claims. *Id.*

Second, Appellant argues that “Gee is in the area of network media communications in its use of cellular, WAN and WiFi data.” *Id.* at 11. Appellant argues that Alft does not teach “that network communications such as cellular data can serve as a substitute for telemetry data,” as used by Alft “in its normal sense to refer to the transfer of measurements collected at a remote or inaccessible point for transfer to dedicated receiving equipment for monitoring.” *Id.* Appellant argues that “Gee is not ‘in the area of telemetry’ but is instead in a different field of endeavor that is, therefore, non-analogous art.” *Id.* Moreover, Appellant argues that its invention “relates to reliable transfer of the depth reading in the region of the inground operation by providing redundant communication paths when a telemetry signal fails.” *Id.* According to Appellant, “[g]iven the criticality of the depth readings, . . . one of ordinary skill in the art would dismiss as completely unworkable any suggestion to use the network data of Gee as a substitute for the telemetry of Alft at least for the reason that inground operations could only be performed in the service area of a provider of network communications.”

The Examiner finds that the combination of Alft and Gee teaches the disputed limitation. Ans. 4–6; Final Act. 9–10. The Examiner finds that Alft teaches “a direct wireless communication link f[ro]m the tracker unit to the uphole controller.” Ans. 5 (citing Alft, Fig. 2, ¶ 81); *see also* Alft ¶ 81 (“[T]racker unit 28 transmits an information signal along a second loop segment, LB\_2, which is received by the central processor 25.”). The Examiner also finds that this this transmission link provides the depth

reading from the tracker unit to the central processor. Ans. 5 (citing Alft ¶ 115). As to Gee, the Examiner finds that Gee teaches “monitoring a telemetry link to detect signal degradation for switching the periodic transmission to a different communication path.” *Id.* at 4 (citing Gee ¶ 29). The Examiner finds that “[t]he communications devices can be programmed to automatically switch to another communications network as necessary due to signal degradation or signal loss to permit the continuous monitoring.” *Id.* The Examiner finds that one of ordinary skill in the art would have found it obvious “to implement Alft with the known technique of monitoring the telemetry link to detect signal degradation for switching to a different communication path, as taught by Gee, since it is known technique for permitting continuous monitoring in telemetry systems.” *Id.*

We agree with the Examiner that the combination of Alft and Gee teaches this limitation. *See* Alft, Fig. 2, ¶¶ 81, 115; Gee ¶ 29. We also agree with the Examiner and find that one of ordinary skill in the art would have found it obvious to combine Alft’s and Gee’s relevant teachings. Ans. 4–6. Alft teaches having a direct wireless communication link from the tracker unit to the uphole controller. Alft, Fig. 2, ¶ 81. Gee teaches that its portable displays monitor a link to detect signal degradation for switching to a different communication path. Gee ¶ 29. We find that one of ordinary skill in the art would have found it obvious to combine these teachings to provide a redundant link for Alft’s communications path. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious . . .”).

We also find that Gee is analogous prior art because it is “reasonably pertinent to the particular problem with which the inventor is involved.” *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (quoting *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004)). To determine what is “analogous prior art” for the purpose of analyzing the obviousness of the subject matter at issue, “any need or problem known in the field of endeavor at the time of the invention and addressed by the . . . [application] at issue can provide a reason for combining the elements in the manner claimed.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007). We agree with the Examiner that a problem Appellant faced in claims 1 and 12 concerns switching to a different communication path when detecting signal degradation in the current path. *See* Appeal Br. 20, 22 (claims 1 and 12); Spec. ¶ 13. Gee is reasonably pertinent to this problem. *See* Gee ¶ 29.

Accordingly, we sustain the Examiner’s § 103(a) rejection of independent claims 1 and 12. We also sustain the Examiner’s rejection of dependent 2 as Appellant fails to provide separate arguments for its patentability in the Appeal Brief. *See Hyatt v. Dudas*, 551 F.3d 1307, 1313–14 (Fed. Cir. 2008) (finding that the Board may treat arguments the appellant fails to make for a given ground of rejection as waived).

### *B. Alft Combined With Gee and Brand*

#### *1. Claim 6–9*

Appellant argues that the combination of Alft, Gee, and Brand fails to teach or suggest “wherein the processor is further configured for at least periodically generating a confirmation responsive to receiving data from the walkover locator on the telemetry link and for sending the confirmation for reception by the walkover locator,” as recited in dependent claim 6. Appeal

Br. 16–17. More specifically, Appellant argues, for example, that Brand instead teaches “a verification that the drill rig has entered a remote lock-out state, which disables certain functionality of the drill rig.” *Id.* (citing Brand, Fig. 5, 14:41–52). Appellant argues that “[t]his verification is not a periodic confirmation that telemetry is receivable at the drill rig,” as claimed. *Id.* at 17 (emphasis omitted).

The Examiner finds that the combination of Alft, Gee, and Brand teaches the disputed limitation. Ans. 8–9. More specifically, the Examiner finds that Brand teaches “periodically generating a confirmation that telemetry is receivable at the drill rig.” *Id.* at 8 (citing Brand, 17:10–20). The Examiner finds, for example, Brand teaches that “[v]arious . . . signaling schemes known in the art may be employed to detect the occurrence of a loss of communication condition arising between the remote unit and the [horizontal directional drilling (HDD)] machine” (e.g., “a handshaking or polling signaling scheme may be employed by which signals are transmitted between the remote unit and the HDD” machine). *Id.* (quoting Brand, 17:10–16).

We find that the Examiner errs. The cited portion of Brand teaches detecting a loss of communication based on known techniques, such as handshaking. Brand, 17:10–20. Brand’s focus is on the integrity of the link, e.g., by analyzing the strength or quality of the signal between remote unit 100 and drilling machine controller 50, rather than receiving data. *Id.* at 14:2–15, 17:10–20. However, the Examiner’s reliance on Brand’s verification signal (Final Act. 16) is not “confirmation that telemetry is receivable” as claimed, but instead, a verification of a successful “LOCK-OUT” sequence at the drilling machine. Appeal Br. 16–17. Claim 6

requires a periodically generated confirmation that telemetry is receivable, not, as the Examiner finds, an occurrence of a loss of communication. Ans. 8. Likewise, Brand fails to teach that a confirmation “responsive to receiving data” is sent, as a handshake (or the like) relates to the link’s existence and not in response to receiving telemetry data. *Id.* Accordingly, we do not sustain the Examiner’s rejection of claim 6, as well as claims 7–9, which depend (directly or indirectly) therefrom.

## 2. Claims 10 and 11

Appellant argues that the combination of Alft, Gee, and Brand fails to teach or suggest “wherein said processor is configured for monitoring at least one characteristic of the walkover telemetry signal for detecting the signal degradation,” as recited in dependent claim 10. Appeal Br. 18–19. More specifically, Appellant argues that Brand’s teaching “involves the remote unit detecting the signal strength from the drill rig, which corresponds to an opposite direction” of what is claimed. *Id.* at 18. (citing Brand 13:65–14:15). Appellant further argues that the cited “passage does not appear to offer any reason to monitor communication in the opposite direction or some manner in which this could reasonably be accomplished.” *Id.*

The Examiner finds that Brand teaches this limitation. Ans. 9–10. More specifically, the Examiner finds “that Brand disclose[s] monitoring for both directions of the communications signal between the remote unit and the HDD.” *Id.* at 9 (citing Brand, 17:10–30). The Examiner finds that Brand teaches that “[v]arious . . . signaling schemes known in the art may be employed to detect the occurrence of a loss of communication condition arising between the remote unit and the HDD machine.” *Id.* (quoting Brand,

17:10–13). Moreover, the Examiner finds that Brand also teaches that “[i]f a loss of communication connectivity between the remote unit and HDD machine is detected 320, the HDDM controller initiates 322 the LOCK-OUT sequence to transition the HDD machine to a LOCK-OUT mode of operation,” and “[t]he HDDM controller initiates 324 an audible and/or visual warning indicative of the loss of communication condition.” *Id.* (quoting Brand, 17:20–26).

We find that the Examiner errs. The cited portion of Brand teaches that “the remote unit may evaluate the SNR of a polling signal transmitted by the HDD machine and determine if the SNR of the received signal is adequate.” Brand, 17:17–19. There is no teaching that a processor at the HDD machine monitors or detects signal degradation. *See* Brand, 17:10–30. Nor does Brand’s teachings that the HDD machine takes certain actions based on signal loss demonstrate that it was a processor at the HDD machine that detected a loss of communication based on known techniques. Brand, 17:10–20. As we discuss above, Brand’s focus is on the integrity of the link, rather than receiving telemetry data. *Id.* Likewise, Brand fails to teach that a confirmation “responsive to receiving data” is sent, as a handshake (or the like) relates to the link’s existence and not in response to received telemetry data. *Id.*

Accordingly, we do not sustain the Examiner’s rejection of claim 10, as well as claim 11, which depends therefrom.

#### DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 2, 12	103(a)	Alft, Gee	1, 2, 12	

Appeal 2019-002503  
Application 13/946,611

6-11	103(a)	Alft, Gee, Brand		6-11
<b>Overall Outcome</b>			1, 2, 12	6-11

TIME PERIOD FOR RESPONSE

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