

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

MAGSEIS FF LLC,
Appellant

v.

SEABED GEOSOLUTIONS (US) INC.,
Appellee

**ANDREW HIRSHFELD, PERFORMING THE
FUNCTIONS AND DUTIES OF THE UNDER
SECRETARY OF COMMERCE FOR
INTELLECTUAL PROPERTY AND DIRECTOR OF
THE UNITED STATES PATENT AND TRADEMARK
OFFICE,**
Intervenor

2020-1346, 2020-1348

Appeals from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in Nos. IPR2018-
00961, IPR2018-00962.

Decided: July 29, 2021

JEFFREY COSTAKOS, Foley & Lardner LLP, Milwaukee,
WI, for appellant. Also represented by RUBEN JOSE

RODRIGUES, Boston, MA.

JOHN R. LANE, Fish & Richardson P.C., Houston, TX, for appellee. Also represented by DANIELLE J. HEALEY, BRIAN GREGORY STRAND.

ROBERT MCBRIDE, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor. Also represented by THOMAS W. KRAUSE, WILLIAM LAMARCA, FARHEENA YASMEEN RASHEED.

Before MOORE, *Chief Judge*, LINN and CHEN, *Circuit Judges*.

MOORE, *Chief Judge*.

Magseis FF LLC appeals two final written decisions of the Patent Trial and Appeal Board holding that certain claims of U.S. Patent Nos. 8,228,761 and 8,879,362 would have been obvious. *Seabed Geosolutions (US), Inc. v. Magseis FF LLC*, No. IPR2018-00961, 2019 WL 5777754 (P.T.A.B. Nov. 5, 2019) (*Board Decision*); *Seabed Geosolutions (US), Inc. v. Magseis FF LLC*, No. IPR2018-00962, 2019 WL 5802500 (P.T.A.B. Nov. 6, 2019). Because substantial evidence supports the Board's fact findings, we affirm.

BACKGROUND

The '761 and '362 patents are directed to an ocean bottom seismometer (OBS) for use in seismic exploration. '761 patent at Abstract.¹ Seismic exploration generally involves sending an acoustic signal into the earth and using seismic receivers called geophones to detect "seismic reflections" from subsurface structures. *Id.* at 1:12–23, 32–37. The

¹ The '761 and '362 patents share the same specification.

patents describe an OBS that is “self[-]contained such that all of the electronics are disposed within the case, including a multi-directional geophone package, a seismic data recording device, a power source and a clock.” *Id.* at 10:35–38. The patents further describe the case as “disk-shaped,” i.e., “symmetrical about the [vertical] axis” and having “a very low height profile.” *Id.* at 10:4–9. Figures 1 and 2 below illustrate this shape:

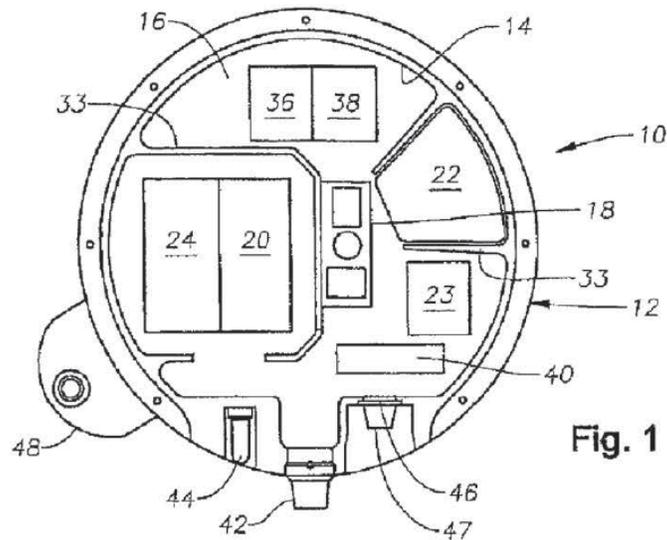


Fig. 1

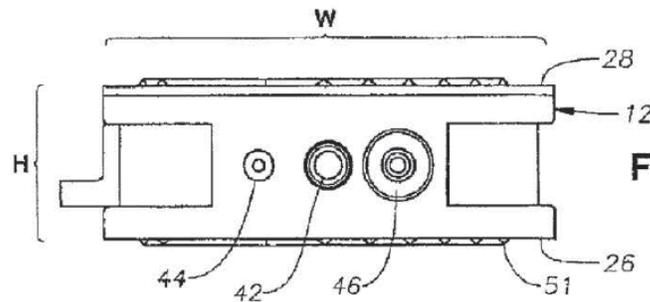


Fig. 2

Each independent claim of the '761 and '362 patents requires a “disk-shaped case” containing all components of an OBS. Claim 1 of the '761 patent, for example, recites:

1. An ocean bottom seismic data collection system comprising:

- a. a disk-shaped case;
- b. at least one geophone disposed within said case;
- c. a clock disposed within said case;
- d. a power source disposed within said case;
- and
- e. a seismic data recorder disposed within said case.

Magseis' predecessor² sued Seabed Geosolutions (US) Inc. for patent infringement in the United States District Court for the Southern District of Texas. Seabed petitioned for *inter partes* review of claims 1–24 of the '761 patent and claims 1–17 of the '362 patent. The Board instituted review and held that all challenged claims, except claim 8 of the '761 patent, would have been obvious. Magseis appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board's ultimate obviousness determination de novo and its subsidiary factual findings for substantial evidence. *PersonalWeb Techs., LLC v. Apple, Inc.*, 917 F.3d 1376, 1381 (Fed. Cir. 2019). Relevant here, factual findings underlying an obviousness determination include: (1) whether a skilled artisan would have been motivated to modify the teachings of a reference, and (2) whether there is a nexus between secondary considerations

² Fairfield Industries Inc. transferred all relevant assets to Fairfield Seismic LLC, which changed its name to Magseis FF LLC. Appellant's Br. 1 n.1.

of nonobviousness and the claimed invention. *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327, 1332 (Fed. Cir. 2016).

I.

The Board held that claim 1 of the '761 patent would have been obvious over Mattaboni³ in combination with Sutton,⁴ Schmalfeldt,⁵ and Jones.⁶ *Board Decision*, 2019 WL 5777754, at *10.⁷ Magseis argues that a skilled artisan would not have been motivated to modify Mattaboni in view of Sutton, Schmalfeldt, and Jones. Substantial evidence supports the Board's contrary finding.

The Board found, and Magseis does not challenge, that Mattaboni discloses each claim limitation except "a disk-shaped case." Mattaboni instead discloses a tall cylindrical case. Mattaboni at 2–3, 8. Mattaboni's Figure 1, which labels the cylindrical case as a pressure case, is shown below:

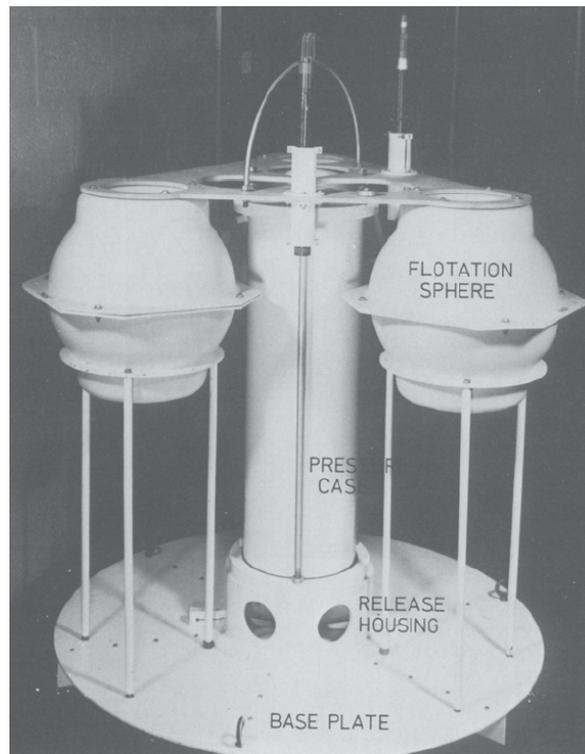
³ Mattaboni, Paul J., *MITOBS: A Seismometer System for Ocean-Bottom Earthquake Studies*, MARINE GEOPHYSICAL RESEARCHES 3 (1977) 87–102.

⁴ Sutton, George H., *Optimum Design of Ocean Bottom Seismometers*, MARINE GEOPHYSICAL RESEARCHES 9 (1987) 47–65.

⁵ Schmalfeldt, Bernd, *Explosion-Generated Seismic Interface Waves in Shallow Water*, SACLANTCEN Report SR-71, July 1, 1983.

⁶ U.S. Patent No. 6,951,138.

⁷ We cite only the '961 IPR decision because the '962 IPR decision is substantively identical regarding the issues Magseis raises.



Substantial evidence supports the Board’s finding that a skilled artisan would have been motivated to modify Mat-taboni to use a disk-shaped case. As the Board found, Sutton discloses the desirability of a disk-shaped OBS case. *See* Sutton at 16–17 (“[A]n ocean bottom seismometer should be designed with . . . low height-to-base area ratio . . . and maximum symmetry about the vertical axis.”); *see also id.* at Abstract (stating that an OBS design should have “a low profile and . . . maximum symmetry about the vertical axis”). Sutton explains that low profile and symmetry about the vertical axis decrease signal distortion from “cross coupling.” *Id.* at 17–18. Further, as the Board found, Schmalfeldt and Jones disclose disk-shaped OBS cases. *See, e.g.,* Schmalfeldt at 7, Fig. 3; Jones at Abstract, Figs. 1–2. Magseis argues that Jones’ external fins and deployment system yield “an implausible system that no [skilled artisan] would seriously consider.” Appellant’s Br.

40–41. However, the Board did not rely on Jones’ fins or deployment system, and obviousness does not require incorporating all teachings of one reference into another. *Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1381 (Fed. Cir. 2016). The Board’s finding that Sutton, Schmalfeldt, and Jones would have motivated a skilled artisan to modify Mattaboni to incorporate a disk-shaped case is thus supported by substantial evidence.

Substantial evidence also supports the Board’s finding that Sutton does not teach away from combination with Mattaboni. Although Sutton states that “geophones must be separated” from an OBS’s other components, it also discloses that separating the geophone “may add some complexity, and possibly result in lower reliability than when everything is in one package.” Sutton at 18. Sutton elaborates that separating the geophone requires external cabling, which can cause several “problems.” *Id.* For example, cabling can “get caught under the OBS ballast and thus prevent the instrument’s return.” *Id.* Sutton therefore provides compelling reasons for combining OBS components in the same housing.

There is evidence, moreover, that Sutton’s rationale for separating the geophone (i.e., to avoid distortion from the “necessarily massive package that contains power, electronics, recording, and recovery equipment,” *id.*) was obsolete at the time of the invention. Seabed’s expert testified that, by 2003, “solid-state memory was available, battery technology had improved significantly (allowing for the use of smaller, more energy dense batteries), and smaller versions of the types of electronic components contained in OBS[s]. . . were available.” J.A. 1816 ¶ 69. Seabed’s expert further testified that, because of these improvements, “it was technically feasible to create OBS[s] with the types of components included in Mattaboni’s OBS, but in a low[-]profile, symmetrical form factor” in accordance with Sutton. *Id.* Magseis does not dispute that, in 2003, it was

feasible to fit all OBS components in the same housing, as Mattaboni teaches, and still comply with Sutton's design parameters. *See* Appellant's Br. 36–37; Appellant's Reply Br. 8–9. Accordingly, substantial evidence supports the Board's finding that Sutton does not teach away from combination with Mattaboni.

We do not agree with Magseis that the Board applied the wrong legal standard in finding that Sutton does not teach away. Magseis cites the Board's statement that "Sutton cannot be read as stating that under no circumstances should other components be combined with the geophones." *Board Decision*, 2019 WL 5777754, at *20. That statement, however, was in response to Magseis' argument that Sutton "forbids" such combination. *Id.* The Board was not suggesting that, to teach away, a reference must state the claimed invention should never be attempted.

In sum, substantial evidence supports the Board's finding that a skilled artisan would have been motivated to modify Mattaboni to use a disk-shaped case, as Sutton, Schmalfeldt, and Jones teach. Substantial evidence further supports the Board's finding that Sutton does not teach away from combination with Mattaboni.

II.

The Board found that Magseis failed to show a nexus between its evidence of secondary considerations and the claimed invention. Because substantial evidence supports that finding, the Board correctly rejected the evidence of secondary considerations.

Evidence of secondary considerations must have a nexus to the claims. *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019). We presume a nexus when the evidence is tied to a specific product that is "co-extensive" with the claimed invention, for example, because "the unclaimed features amount to nothing more than additional insignificant features." *Id.* at 1373–74.

Without the presumption, a patentee may establish nexus by showing the secondary considerations evidence is the “direct result of the unique characteristics of the claimed invention,” *id.* (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)), rather than a feature that was “known in the prior art,” *Ormco Corp. v. Align Technology, Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006). Whether there exists a presumption of nexus or a nexus in fact are factual questions. *Fox Factory*, 944 F.3d at 1373; *WBIP*, 829 F.3d at 1331–32.

Substantial evidence supports the Board’s finding that the presumption of nexus does not arise here.⁸ The Board found that the relevant products “comprise many more components than simply the [claimed] nodes.” *Board Decision*, 2019 WL 5777754, at *27. For example, the Z700 system includes “a specialized ship with a node handler system,” and the Z3000 and ZXPLR systems include remotely operated vehicles. *Id.* Magseis concedes that “the conduct of seismic acquisition surveys necessarily involves the use of vessels and remotely operated vehicles.” Appellant’s Br. 45. Magseis does not argue that those unclaimed components are insignificant. Accordingly, a reasonable trier of fact could find that the presumption of nexus does not apply in this case.

Substantial evidence also supports the Board’s finding of no nexus in fact because the evidence of secondary considerations is not tied to the claimed invention’s unique characteristics. *See Board Decision*, 2019 WL 5777754, at *28–31. Regarding skepticism, Magseis concedes that the evidence of this secondary consideration is tied to

⁸ Though not completely clear, we understand the Board to have found that the presumption does not arise because it found that Magseis’ products were not coextensive with the claims. *See Board Decision*, 2019 WL 5777754, at *27–28.

“utiliz[ing] an internal geophone within the same case as the other components.” Appellant’s Br. 42–43; *see also* J.A. 4293 ¶ 175 (Magseis’ expert testifying that “skepticism arose from . . . including the sensor package in the same case as all the other components”). Magseis likewise concedes that its evidence of commercial success is due to “the manner in which [the invention] incorporates a geophone sensor into the same case as all other components of the system.” Appellant’s Reply Br. 21–22 (quoting J.A. 4383–84 ¶ 143). Because Mattaboni discloses that feature, the alleged skepticism and commercial success are irrelevant. *Ormco*, 463 F.3d at 1312 (“[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent.”). Magseis fails to argue or demonstrate that its other evidence of secondary considerations is linked to a unique characteristic of the claimed invention, as opposed to known features. *See* Appellant’s Br. 47–48 (vaguely arguing secondary considerations were tied to “the claimed inventions”). Accordingly, the Board’s fact finding of no nexus is supported by substantial evidence.

CONCLUSION

Substantial evidence supports the fact findings underlying the Board’s holding that claims 1–7 and 9–24 of the ’761 patent and claims 1–17 of the ’362 patent would have been obvious. We therefore affirm the Board’s final written decisions.

AFFIRMED