NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

LONE STAR SCM SYSTEMS, LTD.,
Appellant

v.

ZEBRA TECHNOLOGIES CORPORATION,
Appellee

2024-1731, 2024-1732, 2024-1733, 2024-1734

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2022-01374, IPR2022-01375, IPR2022-01376, IPR2022-01377.

Decided: December 12, 2025

STEVEN NELSON WILLIAMS, Munsch Hardt Kopf and Harr PC, Dallas, TX, argued for appellant. Also represented by RANDALL MILLER; WINSTON OLIVER HUFF, Griffith Barbee PLLC, Dallas, TX.

JULIE S. GOLDEMBERG, Morgan, Lewis & Bockius LLP, Philadelphia, PA, argued for appellee. Also represented by DION MICHAEL BREGMAN, JASON EVAN GETTLEMAN,

Palo Alto, CA; BRENT A. HAWKINS, San Francisco, CA JAMES JOHN KRITSAS, Chicago, IL.

Before PROST, TARANTO, and HUGHES, *Circuit Judges*.

PROST, *Circuit Judge*.

Lone Star SCM Systems, Ltd. ("Lone Star") appeals from final written decisions of the Patent Trial and Appeal Board ("Board") in inter partes reviews ("IPR") of U.S. Patent Nos. 7,557,711 ("the '711 patent"), 9,646,182 ("the '182 patent"), 9,996,717 ("the '717 patent"), and 10,482,293 ("the '293 patent") (collectively, "the challenged patents"). The Board concluded that all challenged claims are unpatentable. For the reasons below, we affirm.

BACKGROUND

The challenged patents are in the same family and share the same specification. They generally relate to interrogation systems to identify and track items "used in a surgical procedure or in other environments that may benefit from asset tracking." '711 patent col. 3 ll. 58–61. Claim 1 of the '711 patent recites:

> 1. An interrogation system, comprising:
>
> a sensing subsystem configured to provide a signal having a signature representing a presence of a radio frequency identification (RFID) object;
>
> a control and processing subsystem configured to discern a presence of said RFID object from said signal; and
>
> a single position sensor configured to provide a location of said RFID object in accordance with a movement of said position sensor with respect to said RFID object.

Id. at claim 1.

Zebra Technologies Corporation ("Zebra") filed four petitions for IPR of the challenged patents: IPR2022-01374, IPR2022-01375, IPR2022-01376, and IPR2022-01377. The Board determined all the challenged claims unpatentable.

Lone Star timely appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

"We review de novo the Board's ultimate claim constructions and any supporting determinations based on intrinsic evidence. . . . We review any subsidiary factual findings involving extrinsic evidence for substantial evidence." *Personalized Media Commc'ns, LLC v. Apple Inc.*, 952 F.3d 1336, 1339 (Fed. Cir. 2020). Obviousness is a question of law based on underlying findings of fact. *Novartis AG v. Torrent Pharms. Ltd.*, 853 F.3d 1316, 1327 (Fed. Cir. 2017). "What a reference teaches and the differences between the claimed invention and the prior art are questions of fact which we review for substantial evidence." *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1280 (Fed. Cir. 2015).

On appeal, Lone Star raises five main arguments challenging the Board's determination that the challenged claims are unpatentable. We address each argument in turn.

First, Lone Star argues the Board failed to properly construe the term "multiscan, coherent signal processing" by improperly relying on new arguments raised for the first time in Zebra's IPR reply brief regarding "coherent." This argument is both unpersuasive and irrelevant. It is unpersuasive because (1) Lone Star was given the opportunity to file sur-replies responding to those arguments, and (2) moreover, in the sur-replies it filed, it never objected to those arguments as untimely. Lone Star's

argument is irrelevant because the Board found that U.S. Patent No. 7,151,979 ("Andersen") "teaches multiscan, coherent signal processing under either party's definition of the term." J.A. 15. That finding is supported by substantial evidence: the Board relied on Andersen's disclosures, credited the testimony of Zebra's expert, and rejected Lone Star's arguments. *See, e.g.*, J.A. 39–42.

Second, Lone Star argues that the Board construed the term "sensing subsystem configured to" for the '711 patent but declined to construe the term for the '717 and '182 patents. Lone Star, however, fails to show how further construction of the term would affect the Board's obviousness decision. For the '717 patent, the Board determined that "[it does] not adopt either part[y's] proposed construction . . . [and it] need go no further here to resolve any disputed issues in this IPR regarding a 'sensing subsystem.'" J.A. 176. The Board then concluded that the prior-art reference U.S. Patent No. 6,232,870 ("Garber") discloses the term. J.A. 200. The Board made a similar determination for the '182 patent. *See* J.A. 81, 102. Lone Star does not argue or show that any further construction of the term would have resulted in a different outcome regarding the prior art's disclosure.

Third, Lone Star argues that the Board improperly construed the term "in close unobstructed proximity." We disagree. The Board construed "unobstructed" as "that there is no structure located between the objects that blocks signals from an object to the extent that the object cannot be detected by the antenna of the interrogation system." J.A. 77. Lone Star contends that "unobstructed" should instead mean "there is nothing between [the objects] except for air." Appellant's Br. 31. We agree with the Board's construction. Figure 4 of the shared specification illustrates that the interrogation systems can detect objects in a patient's body that are separated by tissues and organs, not only air. *See* '711 patent Fig. 4.

Fourth, Lone Star argues that the Board failed to provide sufficient reasoning that claim 3 of the '182 patent and claim 3 of the '717 patent are unpatentable for obviousness. We disagree. For the '182 patent, the Board explained that "[it does] not adopt [Zebra's] proposed construction requiring the 'sensing subsystem' to include both RFID and metal sensing subsystems. . . . Therefore, [it does] not agree with [Lone Star's] position that Garber fails to disclose the limitations of claim 3 because it lacks a system with separate RFID and metal sensing subsystems." J.A. 101–02. The Board provided similar reasoning for the '717 patent. *See* J.A. 199–200. Lone Star's argument, therefore, fails.

Lastly, Lone Star argues that contrary to the Board's findings, the prior-art reference International Publication No. WO 01/06401 ("Werb") does not disclose a "single position sensor" as recited in claims 1 and 16 of the '711 patent. Specifically, Lone Star argues that Werb discloses multiple position sensors and not a single sensor. We disagree with Lone Star. The Board first credited Zebra's expert that inertial position sensors were well known. J.A. 25. The Board also recognized, based on the specification, that such sensors were known and available at the time of the invention. J.A. 26 n.5. The Board next found that Werb discloses "various off-the-shelf technologies, such as . . . inertial motion sensors, may be used by the tag reader 3 . . . to estimate the position of the tag reader 3." J.A. 27 (quoting J.A. 1606 at 13:29–31). The Board concluded that Werb discloses a single position sensor. J.A. 27. Substantial evidence, thus, supports the Board's finding.

Accordingly, we reject Lone Star's challenge to the Board's determination that all the challenged claims are unpatentable.

CONCLUSION

We have considered Lone Star's remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm.

AFFIRMED