NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

SIEMENS MOBILITY, INC.,
Appellant

v.

ANDREI IANCU, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2019-1732, 2019-1752

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2017-01669, IPR2017-02044.

Decided: September 8, 2020

JEFFREY D. SANOK, Crowell & Moring, LLP, Washington, DC, for appellant. Also represented by MARK MICHAEL SUPKO; SCOTT BITTMAN, New York, NY.

PETER JOHN SAWERT, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for

intervenor. Also represented by THOMAS W. KRAUSE, JOSEPH MATAL, FARHEENA YASMEEN RASHEED.

Before LOURIE, MOORE, and O'MALLEY, *Circuit Judges.*

LOURIE, *Circuit Judge*.

Siemens Mobility, Inc. ("Siemens") appeals from two final written decisions of the United States Patent and Trademark Office's ("the PTO's") Patent Trial and Appeal Board ("the Board"), holding claims 1–9 and 11–19 of U.S. Patent 6,609,049 ("the '049 patent") and claims 1–9 and 11–19 of U.S. Patent 6,824,110 ("the '110 patent") unpatentable. *Westinghouse Air Brake Techs. Corp. v. Siemens Mobility, Inc.*, No. IPR2017-01669 (P.T.A.B. Jan. 29, 2019) ("*'110 Decision*"); *Westinghouse Air Brake Techs. Corp. v. Siemens Mobility, Inc.*, No. IPR2017-02044 (P.T.A.B. Feb. 4, 2019).[1] Because we discern no error in the Board's claim construction, factual findings, and evaluation of secondary considerations, we *affirm*.

BACKGROUND

Siemens owns the '110 and '049 patents, which share a specification and are directed to methods and systems for automatically activating a train warning device, including a horn, at various locations. The system includes a control unit, GPS receiver, database of locations of grade crossings, and electrically activated horn. Figure 2 offers the specification's only description of the horn-sounding process:

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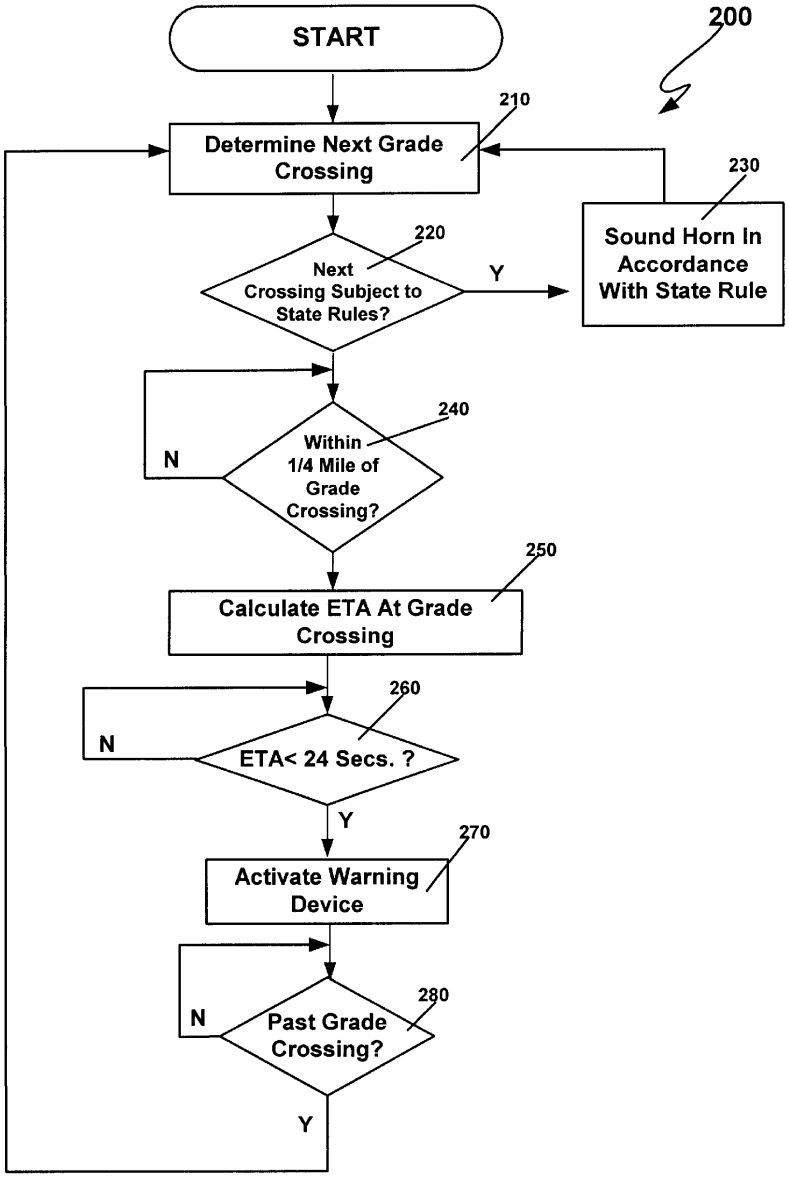
[1] Because the claims of the '110 and '049 patents and the Board decisions are substantially identical, all citations are to the *'110 Decision*.



'049 patent, Figure 2.

As indicated in Figure 2, the system relies on GPS information from the connected receiver to determine the

next grade crossing. If that crossing is subject to state regulations, the horn is activated in accordance with those regulations. If the crossing is not subject to state regulations, the system treats the grade crossing as subject to a Federal Railroad Administration regulation, 49 C.F.R. § 222.21, and sounds the train horn when the train is 24 seconds or fewer away from the crossing.

The '110 patent has two independent claims, claim 1 and claim 11. Claim 1 is a method claim:

> 1. A computerized method for activating a warning device on a train at a location comprising the steps of:
>
> > maintaining a database of locations at which the warning device must be activated and *corresponding regulations* concerning activation of the warning device;
> >
> > obtaining a position of the train from a positioning system;
> >
> > selecting a next upcoming location from among the locations in the database based at least in part on the position;
> >
> > determining a point at which to activate the warning device in compliance with a regulation corresponding to the next upcoming location; and
> >
> > activating the warning device at the point.

'110 patent col. 3 ll. 43–56 (emphasis added).

Claim 11 is a system claim that recites a "control unit" configured to perform the selecting and determining steps recited in claim 1. *Id.* col. 4 ll. 17–19. As relevant here, dependent claims 8 and 18 depend from claims 1 and 11, respectively, and further require that the database receive wireless updates. The claims of the '049 patent are nearly

identical to those of the '110 patent, but the claimed positioning system additionally provides the speed of the train.

In this appeal, the parties focus on independent claims 1 and 11 of both patents, and the fate of dependent claims 2–7, 9, 11–17, and 19 rises and falls with that of claims 1 and 11. The parties also raise separate arguments regarding dependent claims 8 and 18.

Westinghouse Air Brake Technologies Corporation ("Westinghouse") petitioned for *inter partes* review, challenging claims of both patents under 35 U.S.C. § 103. As relevant here, Westinghouse challenged claims 1–7, 9, 11–17, and 19 of both patents as obvious in view of U.S. Patent 7,095,861 ("Byers"), which teaches digital sound processing techniques to adjust train-horn sound based on location, and challenged claims 8 and 18 of both patents as obvious over Byers and U.S. Patent 5,620,155 ("Michalek"), which discloses a system that enables trains to wirelessly signal their approach to upcoming rail crossings. In both proceedings, the Board concluded that all challenged claims would have been obvious over Byers or Byers and Michalek.

Three aspects of the Board's decisions are at issue in this appeal: (1) the Board's construction of "corresponding regulations," (2) the Board's evaluation of Siemens's evidence of secondary considerations, and (3) the Board's fact findings that a person of skill in the art would have combined Byers and Michalek.

First, Siemens argued that "corresponding regulations" should be construed to mean "governing regulations applicable for each location at which a warning device must be activated, such as federal or state rules." J.A. 312. The Board disagreed. In the Board's view, Siemens's construction required multiple governing regulations per location because Siemens repeatedly argued that, at least for some locations, the control unit selected between state and federal regulations. The Board, however, declined to import from the specification a limitation that would require

multiple regulations for individual locations. Ultimately, the Board rejected Siemens's proposed construction, explaining that the "plain language" of claims 1 and 11 is "a database of locations (i.e., plural) at which the warning device must be activated and corresponding regulations (i.e., plural) concerning activation of the warning device, and a regulation (i.e., one or more regulations), corresponding to the next upcoming location." *'110 Decision*, slip op. at 18. Based on this construction, the Board found that Byers discloses, teaches, or suggests each of the limitations in claims 1 and 11.

For claims 1 and 11, Siemens also cited licenses to the Board as objective evidence supporting nonobviousness, which the Board rejected because Siemens failed to provide adequate evidence regarding the "circumstances surrounding the license[s]." *Id.* at 37. Evaluating the record, the Board also found that the licenses were either provided for a nominal fee or lacked royalty rate information, so it was unclear whether the licenses resulted from recognition and acceptance of the validity of the patents or from another reason unrelated to the merits of the patents. The Board similarly rejected evidence regarding a licensing request and testimony from fact witnesses regarding the strength and merit of the patented technology for lack of nexus.

The Board then considered claims 8 and 18 of both patents. Claims 8 and 18 rely on wireless communication to update the claimed database, and Westinghouse argued that Byers in combination with Michalek teach this added limitation. The Board found that a skilled artisan would have recognized that the problem identified in Michalek, outdated data in an onboard database, would be present in Byers and would have looked to Michalek's wireless updating solution. Based on this combination, the Board held the remaining claims unpatentable.

Siemens appealed, and we have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 141(c).

Westinghouse chose not to defend its successes in the IPRs, and the Director intervened in the appeal under 35 U.S.C. § 143.

DISCUSSION

We review the Board's legal determinations *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004) (citing *In re Kollar*, 286 F.3d 1326, 1329 (Fed. Cir. 2002), and its fact findings for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A finding is supported by substantial evidence if a reasonable mind might accept the evidence as sufficient to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

We review the Board's ultimate claim constructions *de novo* and its underlying factual determinations involving extrinsic evidence for substantial evidence. *Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1019 (Fed. Cir. 2017), *cert. denied*, 138 S. Ct. 1693 (2018) (citing *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1297 (Fed. Cir. 2015)). In this case, the Board gave the claims their broadest reasonable interpretation. '*110 Decision*, slip op. at 8; *see Skky, Inc.*, 859 F.3d at 1019 (citing *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016)).

Obviousness is a question of law, supported by underlying fact questions. *In re Baxter Int'l, Inc.* 678 F.3d 1357, 1361 (Fed. Cir. 2012). In evaluating obviousness, we consider the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, and any relevant secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Siemens argues that the Board erred in three respects: (1) in its construction of "corresponding regulations" and resulting analysis for obviousness; (2) in its evaluation of secondary considerations; and (3) in its factual

determination that a person of skill would have combined Byers with Michalek. We address each issue in turn.

I. "Corresponding Regulations"

In this appeal, Siemens again maintains that "corresponding regulations" means "governing *regulations* applicable for each location at which a warning device must be activated, such as federal or state rules." Siemens Br. 26 (emphasis added). This construction, which is repeated throughout Siemens's briefing, appears to require plural governing *regulations* for each location in the database. In Siemens's view, the invention necessarily requires the ability to choose between two or more potentially conflicting regulations if present in the database. Reply Br. 5. Despite this assertion and the phrasing of its proposed construction, Siemens also repeatedly argues that its construction does not require multiple regulations to be stored per location. *See, e.g.*, Siemens Br. 21.

The Director responds that there is nothing in the claim language restricting the form or nature of correspondence between regulations and locations. According to the Director, there is no description of conflicts between federal, state, or other regulations or any particular methodology or database structure prescribed in the specification and no basis to import a conflicts-resolution process into the claims.

We agree with the Director and with the Board that the broadest reasonable interpretation of "corresponding regulations" is "a database of locations (*i.e.*, plural) at which the warning device must be activated and corresponding regulations (*i.e.*, plural) concerning activation of the warning device, and a regulation (*i.e.*, one or more regulations) corresponding to the next upcoming location."

We begin our analysis with the claim language. The term "corresponding regulations" appears in the claims in connection with a database of locations at which the train

horn will be activated. The database includes both "locations" and "corresponding regulations concerning activation of the warning device." '110 patent col. 3 ll. 44–47. Nothing in the language of the claims, however, defines the relationship between the number of locations and number of regulations. At best, the plain language of the claims suggests that the database generally contains multiple locations and multiple regulations. But the claims do not require that multiple regulations be stored for any single location.

This interpretation is reinforced by the language of the "determining" step, which requires "determining a point at which to activate the warning device in compliance with *a regulation* corresponding to the next upcoming location." *Id.* col. 3. ll. 53–55 (emphasis added). By using the phrase "a regulation," the claim indicates that *one or more* regulations could correspond to any individual location. *See Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 977 (Fed. Cir. 1999). Construing the claim to require multiple regulations per location would be eliminate the option of one regulation encompassed by the use of the article "a." *See N. Am. Vaccine, Inc. v. Am. Cyanamid Co.*, 7 F.3d 1571, 1576 (Fed. Cir. 1993) (explaining that "a" has a "normal singular meaning" but can mean one or more).

The specification also supports this reading. There is only one exemplary embodiment in the patent, Figure 2. Figure 2 provides that a location can be subject to a state rule, but, in the absence of a state rule, the invention sounds the warning device in accordance with a specific federal regulation, 49 C.F.R. § 222.21. Figure 2 offers no description, however, of a conflict between regulations or any indication of how the invention would resolve such a conflict. Even if it were proper to import a new limitation about resolving conflicts between regulations into the claims from the specification, Figure 2 provides no basis to do so.

Siemens argues that "[t]here would be no point to [Figure 2's] steps if the system was only able to store and apply one regulation." Siemens Br. 34. But Figure 2 clearly contemplates locations for which only one regulation is stored and applied. The process outlined in Figure 2 begins by determining the next grade crossing and determining whether it is subject to a state rule. If it is not, the horn is activated in accordance with a specific federal regulation, 49 C.F.R. § 222.21. Thus, following the process in Figure 2, a location with no state rule only has one "corresponding regulation," § 222.21. Contrary to Siemens's assertions, Figure 2 is not at odds with the Board's construction.

Having considered Siemens's remaining arguments, we are persuaded that the Board's construction is correct. Siemens makes additional arguments concerning the Board's reading of Byers, but these arguments hinge on our acceptance of Siemens's claim construction position, so we need not reach them here.

II. Secondary Considerations

Next, Siemens argues that the Board misinterpreted the law regarding secondary considerations. Siemens presented two license agreements to the '049 and '110 patents that it submits were entitled to a presumption of nexus to the claimed subject matter. Siemens also presented evidence regarding Westinghouse's request to license and testimony from Westinghouse employees regarding the strength of the patents. In Siemens's view, the Board improperly discounted this evidence for lack of nexus.

In evaluating obviousness, we consider secondary considerations to "give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham*, 383 U.S. at 17–18. "A nexus is required between the merits of the claimed invention and the evidence offered, if that evidence is to be given substantial weight enroute to conclusion on the obviousness issue." *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1539 (Fed. Cir. 1983)

(citing *Solder Removal Co. v. Int'l Trade Comm'n*, 582 F.2d 628, 637 (CCPA 1978)). The patentee bears the burden of establishing a nexus between claimed features of the invention and the objective evidence offered to show non-obviousness. *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999) (citing *Cable Elec. Prods, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985), *overruled on other grounds by Midwest Indus., Inc. v. Karavan Trailers, Inc.*, 175 F.3d 1356 (Fed. Cir. 1999)).

Successful licensing is not an "infallible guide to patentability." *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985). Parties may enter into licenses because of business judgments, to avoid litigation, and for other reasons unrelated to obviousness, so the evidentiary value of licenses must be "carefully appraised." *Id.* at 908. Here, however, we need not resolve whether Siemens was entitled to a presumption of nexus for its licensing evidence because the licenses are of little evidentiary value in the obviousness analysis. *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1371 (Fed. Cir. 2006) (holding based on the record that "[t]he presence of certain secondary considerations of nonobviousness are insufficient as a matter of law to overcome our conclusion that the evidence *only* supports a legal conclusion that claim 1 would have been obvious"); *see also Agrizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1344 (Fed. Cir. 2008).

First, we note that the Board's factual critiques of the licensing evidence are supported by substantial evidence. As the Board correctly found, the license agreement with Norfolk Southern expressly indicates that the company sought the license to "promote interoperability across multiple suppliers." '*110 Decision*, slip op. at 39; *see also* J.A. 850. The Norfolk Southern license was presented to the Board with royalty information redacted, *see* J.A. 853–54, and another license was provided only for a "nominal fee." '*110 Decision*, slip op. at 39. The Board considered a license

request from Westinghouse but concluded that the license may have been sought for other reasons, including to avoid the cost of an already-pending patent infringement suit. *Id.* at 40. And with respect to employee testimony concerning the strength of Siemens's patents, the Board was not persuaded that the testimony was related to the '110 and '049 patents just because it referred to a "horn sequencing patent" or addressed "automatic horn activation," without any connection to the language of the claims. *Id.* at 41–42. Based on the contextual information the Board reviewed, its determination that the licensing evidence "provide[d] a scant basis for assessing the value of the '110 patent" is supported by substantial evidence. *Id.* at 39.

Siemens's "scant" evidence of licensing is afforded little weight. As the Board correctly found, Byers discloses a database that stores locations of grade crossings on a rail line and related "trigger positions," site-specific parameters at which the train horn is activated in compliance with governing regulations. *Id.* at 20–21. Byers thus clearly teaches "maintaining a database of locations at which the warning device must be activated and corresponding regulations concerning the activation of the warning device," as required by the first step of claim 1. As to step 2, Byers further discloses a position sensor, which "obtain[s] a position of the train from a positioning system." Claim 1's next steps require "selecting a next upcoming location from among the locations in the database at least in part on the position," "determining a point at which to activate the warning device in compliance with a regulation corresponding to the next upcoming location," which Byers teaches in its disclosure comparing the train's current position with the trigger positions in the database to determine whether the train horn should be activated. The last step of claim 1, "activating the warning device at the point" is also taught by Byers's disclosure of activation of a train whistle based on inputs from a proximity sensor or GPS receiver. Siemens has not contested that Byers teaches

every limitation of claim 1 under the Board's and our construction of corresponding regulations, and Siemens's evidence of licensing is not persuasive in this obviousness analysis, even if a nexus connecting the licenses to the patents is presumed.

Siemens urges us to adopt its view of the facts, but on this record, the Board's findings are clearly supported by substantial evidence. Thus, we are persuaded that the Board's decision that claims 1 and 11 would have been obvious in view of Byers is supported by substantial evidence. Because Siemens's challenge to the Board's determination that dependent claims 2–7, 9, 12–17, and 19 would have been obvious depends on our acceptance of its arguments regarding claims 1 and 11, we likewise conclude that the Board's decision that the dependent claims would have been obvious in view of Byers is supported by substantial evidence.

III. Claims 8 and 18

Siemens separately challenges the Board's obviousness determination for claims 8 and 18, arguing that a skilled artisan would not have modified Byers with Michalek. According to Siemens, the problem of outdated data is not a reason to combine these references because Byers does not store the type of information that Michalek obtains wirelessly.

We disagree with Siemens. Substantial evidence supports the Board's finding that a skilled artisan would have recognized that the problem of outdated data in Michalek would have been present in Byers and would have looked to Michalek's wireless updating as a potential solution. Siemens argues that the references deal with different types of data and would not have been combined; but claims 8 and 18 do not require updating any specific type of data within the database. And even if Siemens could provide a reason to believe that the distinction between data types matters, we cannot conclude that the Board's

decision otherwise lacked substantial evidence. Siemens may disagree with the Board's evaluation of the record, but the Board's findings and ultimate conclusion that claims 8 and 18 would have been obvious over the references meet the substantial evidence standard. *Consol. Edison,* 305 U.S. at 229.

CONCLUSION

We have considered Siemens's remaining arguments but find them unpersuasive. Accordingly, the Board's decisions holding claims 1–9 and 11–19 of the '049 and '110 patents unpatentable is affirmed.

AFFIRMED