

INVENTIO AG, Plaintiff-Appellant,

v.

OTIS ELEVATOR COMPANY,
Defendant-Cross
Appellant.

Nos. 2011-1615, 2012-1108.

United States Court of Appeals,
Federal Circuit.

Nov. 27, 2012.

Rehearing and Rehearing En Banc
Denied Feb. 1, 2013.

Joseph R. Re, Knobbe, Martens, Olson & Bear, LLP, of Irvine, CA, argued for the plaintiff-appellant. With him on the brief were Jon W. Gurka, Joseph S. Cianfrani and Cheryl T. Burgess; and Karen V. Weil and Reza Mirzaie, of Los Angeles, CA.

Andrew C. Baak, Bartlit Beck Herman Palenchar & Scott, LLP, of Chicago, IL, argued for the defendant-cross appellant. With him on the brief were Mark L. Levine and Katherine G. Minarik. Of counsel was Stephen J. Cowen.

Before LINN, REYNA and
WALLACH, Circuit Judges. REYNA,
Circuit Judge.

Inventio AG and Otis Elevator Co. ("Otis") both seek review of different parts of a judgment entered by the United States District Court for the Southern District of New York which followed a jury trial where Otis was found to infringe Inventio's patent. Because we conclude that the asserted claims of Inventio's patent are obvious as a matter of law, and that the district court improperly denied Otis' motion to that effect, we *reverse-in-part*, *vacate-in-part*, and *remand*.

I. Background

In 1992, Schindler Elevator Corp., and its intellectualproperty holding company, Inventio AG (collectively "Inventio"), intro-

duced an elevator "destination dispatching" system where a user enters a destination floor on a 10-button keypad in the lobby or hallway before being directed to a particular elevator to travel to that floor. This obviated conventional requirements of pushing the "up" or "down" button to call the elevator and pushing the button for a particular floor once inside.

Before Inventio introduced its system, its head of research and development, Dr. Joris Schroeder, published an article in the March 1990 issue of *Elevator World* entitled "Advanced Dispatching" ("the Schroeder Article"), which described destination dispatching. Joint App'x at 4807-10. In addition to 10-button keypads, Dr. Schroeder's article described a system where "cards are entered into readers and will automatically register a destination call for a specific floor." *Id.* at 4808. By 1994, in addition to the integrated circuit (IC) cards and magnetic-strip cards disclosed in the Schroeder Article, other recognition devices had been developed, including backscatter Radio Frequency Identification (RFID), bar code, proximity card, remote control, and capacitive coupling. Also in 1994, Inventio refined its destination dispatching system, replacing the cards with passenger-carried RFID transmitters that allow the system to automatically recognize the user and dispatch an elevator. Inventio named this new system utilizing RFID cards "Schindler ID."

In 1995, Inventio filed a patent application on its improved destination dispatching system using RFID transmitters. The patent, covering an "Elevator Installation," issued as U.S. Patent No. 5,689,094 ("the '094 patent") on November 18, 1997. Ac-

cording to the '094 patent, once the passenger brings an information transmitter (e.g., a RFID transmitter) within range of a recognition device,¹ the device activates the transmitter, and the transmitter sends a unique passenger identification code to the device. '094 patent col. 3 l. 22 to col. 4 l. 34. Using an information storage device and a control device, the system then identifies the user's default destination floor, calls an elevator, and informs the passenger of which elevator to board. *Id.* The storage device can also identify whether the passenger has access to certain floors. *Id.* col. 4 ll. 58-63. Claim 1 of the '094 patent is illustrative:

An elevator installation having a plurality of elevators comprising:

a recognition device for recognizing elevator calls entered at an entry location by an information transmitter carried by an elevator user, initializing the entry location as a starting floor of a journey;

a control device receiving the recognized elevator call and allocating an elevator to respond to the elevator call, through a predetermined allocating algorithm;

a call acknowledging device comprising one of a display device and an acoustic device to acknowledge recognition of the elevator call and to communicate a proposed destination floor to the elevator user;

the recognition device, mounted in the access area in the vicinity of the elevators and spatially located away from elevator doors, actuating the information transmitter and comprising a unit that independently reads data transmitted from the information transmitter carried by the elevator user and a storage de-

1. This court construed "information transmitter" to mean "a device that communicates with a recognition device via electromagnetic waves, after being actuated by that recognition device," and likewise "recognition de-

vice" to mean "a device that actuates and reads data transmitted by an information transmitter." *Schindler Elevator Corp. v. Otis Elevator Co.*, 593 F.3d 1275, 1280, 1286 (Fed. Cir.2010).

vice coupled between the unit and the control device:

the recognition device one of transmitting proposed destination floor data, based upon the data transmitted from the information transmitter, to the control device, and, transmitting elevator user specific data. [sic] based upon individual features of the elevator user stored in the storage device, to the control device.

Id. at col. 6 ll. 10–36.²

In late 2002, Inventio's competitor, Otis began developing its own destination dispatching system. Its engineers reviewed a definitive article by Mr. Leo Port, who first proposed the idea of destination dispatching in 1968. In the fall of 2003, at the request of the site developer, Larry Silverstein, Otis substituted its newly-developed destination dispatching system, "Compass with Seamless Entry," for the conventional elevator installation Mr. Silverstein had ordered for 7 World Trade Center. Otis completed installation of this Compass system in 2006, which made it the first destination-dispatching elevator installation in the United States. Otis subsequently installed Compass with Seamless Entry into seven other buildings across the country.

In 2006, Inventio sued Otis for infringement of the '094 patent, asserting independent claims 1 and 14 as well as dependent claims 2, 7, 9, 11, 12, and 13. The court construed the claims and granted Otis' motion for summary judgment of noninfringement based on its construction. See *Schindler Elevator Corp. v. Otis Elevator*

Co., 586 F.Supp.2d 231 (S.D.N.Y.2008). This court reversed the pertinent portions of the district court's claim construction and vacated its corresponding noninfringement decision. *Schindler Elevator Corp. v. Otis Elevator Co.*, 593 F.3d 1275 (Fed. Cir.2010).³

On remand, the district court bifurcated the liability and damages phases of the trial. In the first phase of the trial dealing with infringement and validity, Otis attempted to show that the '094 patent was obvious in view of the Schroeder Article in combination with prior art teaching the use of RFID card readers ("RFID prior art"). Both parties treated the validity of the dependent claims as rising and falling with the independent ones.

The RFID prior art Otis offered included U.S. Patent Nos. 5,030,807 ("Landt"), which discloses a toll collection system (e.g., EZPass) using backscatter RFID tags, and 4,822,990 ("Tamada"), which describes the use of cards that communicate via electromagnetic waves to open admissions gates at events like the Olympics To the extent the other references did not disclose a "storage device coupled between the [recognition device] and the control device" as required by claims 1 and 14, Otis offered Yamagishi, a published Japanese patent application, which discloses incorporating a database that stores passenger details into a system that uses cards to place elevator calls.

Inventio's expert, Dr. Eric Dowling, opined that the '094 patent was nonobvious, but admitted that the RFID prior art

2. The other independent claim at issue, claim 14, only differs from claim 1 in that the last limitation (i.e., "the recognition device one of ...") is replaced by the following limitation: "the recognition device transmitting the data through the storage device and to the control device." Compare '094 patent col. 6 ll.10–36, with col.7 l.3 to col. 8 l.11.

3. This court did not consider the district court's construction of "coupled between" to mean "linked directly" because the district court did not reach Otis' alternative noninfringement theory based on this construction. *Schindler*, 593 F.3d at 1287.

would have been known to persons of ordinary skill in the art when the patent was filed in 1994. In this regard, the court charged the jury: "To qualify as prior art relative to the '094 patent[,] references must be reasonably related to the claimed invention in the patent. A reference is reasonably related if it is in the same field as the claimed invention or is from another field to which a person of ordinary skill in the art would look to try to solve a known problem." Joint App'x at 1135. According to the court, Inventio did not dispute that a number of items qualified as prior art, including Landt, Tamada, and Yamagishi. Notwithstanding the court's charge, the jury upheld the validity of the asserted claims of the '094 patent as nonobvious. The jury also found that Otis infringed every asserted claim, literally and under the doctrine of equivalents, and that Otis induced or contributed to infringement at each infringing installation. Otis moved for judgment as a matter of law (JMOL) concerning invalidity and noninfringement, but the court denied those motions.

While the jury was deliberating following the liability trial, the court reaffirmed an earlier damages ruling that effectively eviscerated Inventio's damages case. Inventio had no alternative theories on which to rely. Rather than pursue a *de minimis* damages award, Inventio opted to forgo the damages trial. The court also refused to enter a broad injunction proposed by Inventio, instead adopting Otis' narrower proposal. Dissatisfied with the damages ruling and the scope of the district court's injunction, Inventio appealed to this court.⁴ Otis cross-appealed the judge's denial of its JMOL motions on invalidity and noninfringement. We have jurisdiction over

these consolidated appeals pursuant to 28 U.S.C. §§ 1291, 1292(c)(1), and 1295(a)(1).

II. Standard of Review

Obviousness is a question of law, so this court "review[s] the jury's conclusions . . . without deference, and the underlying findings of fact, whether explicit or implicit within the verdict, for substantial evidence." *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 990 (Fed.Cir. 2009). Because a special verdict or interrogatories were not used, this court must review the jury's implicit factual findings for substantial evidence and assume that the jury found all factual questions in favor of Inventio. *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1359–60 (Fed.Cir.2012); see also *Kinetic Concepts, Inc. v. Blue Sky Med. Grp.*, 554 F.3d 1010, 1021 (Fed.Cir.2009). Otis is challenging the jury's nonobviousness determination on a JMOL motion so it must show that "there [is] no legally sufficient evidentiary basis for a reasonable jury to find in favor of the nonmoving party." *Nimely v. City of New York*, 414 F.3d 381, 390 (2d Cir.2005) (quoting Fed.R.Civ.P. 50(a)) (internal quotation marks omitted).

III. Discussion

"A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the pertinent art." *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1366 (Fed.Cir.2011) (citing 35 U.S.C. § 103(a) (2006)). While the ultimate ruling on this issue is a matter of law, that ruling necessarily depends on factual findings. See *Boston Scientific*, 554 F.3d at

4. Because we conclude that the asserted claims of the '094 patent are invalid, we do not address the issues Inventio raises related

to the damages calculation and the scope of the injunction.

990. The underlying factual inquiry in an obviousness determination includes four factors: the scope and content of the prior art; the differences between the prior art and the claims at issue; the level of ordinary skill in the pertinent art; and secondary conditions of nonobviousness such as commercial success, long-felt but unsolved need, and the failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). Other factual questions concern the presence or absence of a motivation to combine, and whether a reference constitutes analogous prior art. See *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir.2004). Obviousness must be proven by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, — U.S. —, 131 S.Ct. 2238, 2242, 180 L.Ed.2d 131 (2011). The parties focus their arguments on the scope and content of the art, the differences between the prior art and the claims, and secondary considerations. We address each in turn.

Inventio argues that the Schroeder Article makes no mention of RFID cards, so it discloses neither an information transmitter nor a recognition device as required by the independent claims. But as Inventio's expert admitted, RFID card readers were widely known when the '094 patent was filed, and Otis introduced examples such as Landt and Tamada. Inventio contends, however, that Landt and Tamada are nonanalogous art, do not concern the same problem addressed by the '094 patent, and thus are not eligible prior art. As we have observed, "[a] reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the claimed invention." *In re Klein*, 647 F.3d 1343, 1348 (Fed.Cir.2011). When a reference is from a field of endeavor different from the patent, it must be "reasonably pertinent to the particular problem with which the inventor is involved." *Innovation Toys, LLC v. MGA Entm't, Inc.*, 637

F.3d 1314, 1321 (Fed.Cir.2011) (quoting *In re Bigio*, 381 F.3d at 1325). As Inventio's expert admitted, a skilled artisan would no doubt be aware of the RFID prior art that disclosed seamlessly controlling access to sporting events and toll roads. So how could it not "logically . . . commend[] itself to [the '094] inventor's attention in considering his problem" of seamlessly controlling access to elevators? See *id.*; see also *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed.Cir.2010). We need not decide the question because, based on the jury charge, a reasonable juror could not conclude that the RFID prior art was nonanalogous.

After instructing the jury on the standard for prior art, and within that definition, analogous prior art, the court clearly stated that "the parties don't dispute a number of items of *prior art* . . . [including] . . . the Landt patent, the Tamada patent, . . . and Yamagishi patent application." Joint App'x at 1135–36 (emphasis added). In light of this instruction, a reasonable juror would have to find that not only were Landt and Tamada prior art, they were also analogous prior art. Inventio maintains that it only agreed to the "prior-ness" of the art; that is, that it existed before the '094 patent's critical date. But its stipulation reflected in the court's jury instruction suggests otherwise, and it is to that stipulation Inventio is bound. *Fisher v. First Stamford Bank & Trust Co.*, 751 F.2d 519, 523 (2d Cir.1984) ("[A] stipulation of fact that is fairly entered into is controlling on the parties and the court is bound to enforce it."). Furthermore, Inventio did not object to the court's clear jury instruction, thereby waiving any later challenge. *John Wiley & Sons, Inc. v. Kirtsaeng*, 654 F.3d 210, 223 (2d Cir.2011) ("[F]ailure to object to a jury instruction . . . prior to the jury retiring results in a waiver of that objection.")

(alteration in original)), *cert. granted*, — U.S. —, 132 S.Ct. 1905, 182 L.Ed.2d 770 (2012); *Funai Electric Co. v. Daewoo Elecs. Corp.*, 616 F.3d 1357, 1374 (Fed.Cir. 2010); *see also* Fed.R.Civ.P. 51.

Because the jury should have found the RFID prior art analogous, the conclusion becomes inescapable that '094 patent is a clear example of a "combination of familiar elements according to known methods [yielding] no more than . . . predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415, 127 S.Ct. 1727, 167 L.Ed.2d 705 (2007). In particular, the Schroeder Article discloses a destination dispatching system using card reader technology while the RFID prior art discloses the required information transmitter and recognition device in the form of a RFID transmitter and receiver. Because RFID, along with IC, bar code, proximity, magnetic strip, remote control, and capacitive coupling, were among the "number of identified, predictable solutions, a person of ordinary skill ha[d] good reason to pursue the[se] known options within his or her technical grasp." *Id.* at 421, 127 S.Ct. 1727. Replacing the older card reader in the Schroeder Article's destination dispatching system with the modern RFID transmitter was well within the abilities of a person of ordinary skill in the art. *Leapfrog Enters. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed.Cir.2007) ("Applying modern electronics to older mechanical devices has been commonplace in recent years."); *see also* *Western Union Co. v. MoneyGram Payment Sys.*, 626 F.3d 1361, 1369–70 (Fed.Cir.2010) (overturning a jury's nonobviousness verdict when the claimed invention simply replaced a fax machine with a more sophisticated keypad and interface in an otherwise known system for making money transfers). Rather than a product of innovation, the invention recited in the asserted claims of the '094 patent becomes an application "of ordinary

skill and common sense" that was obvious to try and had a reasonable expectation of success. *KSR*, 550 U.S. at 421, 127 S.Ct. 1727; *Wyers*, 616 F.3d at 1242. A reasonable juror could not conclude otherwise.

To the extent Inventio argues that the jury could have found that the combination of the Schroeder Article and the RFID prior art does not disclose a "storage device coupled between the [recognition device] and the control device," it is incorrect. The Schroeder Article itself disclosed the idea of integrating a security database into the destination dispatching system, which could be linked to the elevator supervisory controller. Another prior art reference Inventio stipulated to, Yamagishi, unquestionably discloses a database that stores passenger details into a system that uses cards to place elevator calls. Inventio cannot overcome this art by suggesting that the claim limitation requires a particular arrangement of elements when the district court construed "coupled between" to mean "linked directly," which is the precise arrangement disclosed in the Schroeder Article. *See Schindler Elevator Corp. v. Otis Elevator Co.*, 561 F.Supp.2d 352, 365 (S.D.N.Y.2008). A juror could not reasonably conclude that the prior art does not disclose this limitation.

Secondary considerations do not alter our conclusion. Inventio asserts that commercial success, industry praise, and failure of others suggest that the '094 patent is nonobvious. Regarding commercial success, Inventio merely identified the number of Schindler ID® units sold, but "evidence related solely to the number of units sold provides a very weak showing of commercial success, if any." *In re Huang*, 100 F.3d 135, 140 (Fed.Cir.1996). It also failed to establish a nexus between the patented invention and either commercial success or industry praise. *Western Union*, 626 F.3d at 1372–73 (Fed.Cir.2010)

("[T]he patentee must establish a nexus between the evidence of commercial success and the patented invention."). In particular, Inventio did not link the sales or praise directly to the patented feature as opposed to destination dispatching more generally. Inventio's evidence of failure of others is likewise insubstantial, pointing to a single contemporaneous patent application filed by an Otis employee claiming something other than destination dispatching with RFID technology. Whatever this may be evidence of, it is not substantial evidence of failure of others. In sum, we conclude that the asserted claims of the '094 patent are obvious as a matter of law and the jury's verdict to the contrary lacks substantial evidentiary support.

IV. Conclusion

Because the asserted claims of the '094 patent are invalid for obviousness as a matter of law, we reverse the district court's denial of Otis' JMOL motion. Given our holding on the issue of obviousness, the other issues appealed by the parties are moot. Accordingly, we vacate the remainder of the district court's decision and remand for further proceedings consistent with this opinion.

**REVERSED-IN-PART, VACATED-
IN-PART, AND REMANDED**

COSTS

Costs to Otis.

Sandra G. HALE, Plaintiff-Appellant,

v.

UNITED STATES, Defendant-Appellee.

No. 2012-5132.

United States Court of Appeals,
Federal Circuit.

Nov. 27, 2012.

Rehearing En Banc Denied Feb. 8, 2012.