NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

ORANGE ELECTRONIC CO. LTD.,
Plaintiff-Appellant

v.

AUTEL INTELLIGENT TECHNOLOGY CORP., LTD.,
Defendant-Cross-Appellant

2024-1876, 2024-1885

Appeals from the United States District Court for the Eastern District of Texas in No. 2:21-cv-00240-JRG, Judge J. Rodney Gilstrap.

Decided: January 23, 2026

JOHN F. RABENA, Sughrue Mion, PLLC, Washington, DC, argued for plaintiff-appellant. Also represented by WILLIAM MANDIR.

NICOLE A. SAHARSKY, Mayer Brown, LLP, Washington, DC, argued for defendant-cross-appellant. Also represented by CLARK BAKEWELL, JAMES A. FUSSELL, III, GARY HNATH, BRYAN NESE, MINH NGUYEN-DANG; HAO TAN, SHEN WANG, Arch & Lake LLP, Chicago, IL.

Before DYK, TARANTO, and CUNNINGHAM, *Circuit Judges*.

DYK, *Circuit Judge*.

Orange Electronic Co. Ltd. ("Orange") sued Autel Intelligent Technology Corp., Ltd. ("Autel") in the Eastern District of Texas alleging infringement of claims 26 and 27 of U.S. Patent No. 8,031,064 ("'064 patent"). The jury found that both claims were not invalid as obvious under 35 U.S.C. § 103 and not directed to patent ineligible subject matter under 35 U.S.C. § 101 and that Autel directly infringed the claims. After the trial, Autel moved for judgment as a matter of law ("JMOL") on obviousness, patent ineligible subject matter, and noninfringement. The district court denied JMOL with respect to obviousness and patent ineligible subject matter. However, the district court granted JMOL as to noninfringement, concluding that the evidence established that Autel did not sell, offer to sell, or import infringing goods into the United States. Orange appeals the district court's grant of JMOL as to noninfringement, and Autel cross-appeals the district court's denial of JMOL as to 35 U.S.C. §§ 101 and 103. We *reverse* as to obviousness and accordingly do not reach the issue of patent eligible subject matter under section 101 or the issue of infringement.

BACKGROUND

The '064 patent is directed to "an identification rewritable tire pressure detecting apparatus." '064 patent, col. 1 ll. 10–11. The patent describes a system where a "new tire pressure detector can . . . easily replace[] a fail[ed] tire pressure detector by cop[y]ing the identification of the fail[ed] tire pressure detector." *Id.*, col. 1 l. 65–col. 2 l. 2.

Claim 26 of the '064 patent, which is representative of the asserted claims, recites (with the relevant claim language highlighted):

A tire pressure detecting system, comprising:

an identification rewritable tire pressure detector used for being installed in a vehicle, the identification rewritable tire pressure detector comprising:

a micro-processing module having a rewritable memory unit to record an identification;

a sensing module electrically connected to the micro-processing module and having a pressure-detecting unit to detect a tire pressure and send a detection result to the micro-processing module;

a transmitting module controlled by the micro-processing module to transmit a radio frequency (RF) signal, wherein the RF signal comprises the detection result and the identification of the identification rewritable tire pressure detector;

a power module electronically connected to the micro-processing module to supply power to the identification rewriteable tire pressure detector; and

an interface arranged to receive an external signal and send the external signal to the micro-processing module, wherein the external signal comprises an external identification to be written into the rewriteable memory unit or to be used to overwrite a preset identification in the rewriteable memory unit; and

a portable setting apparatus arranged to communicate with the identification rewriteable tire pressure detector, comprising;

a control module;

an input module connected to the control module to enable an operator to manually input an identification to be written into the identification rewriteable tire pressure detector;

a receiving module connected to the control module to receive the RF signal from the identification rewriteable tire pressure detector or a tire pressure detector and to send the RF signal to the control module;

a setting output module controlled by the control module to send the external signal to the interface of the identification rewriteable tire pressure detector, wherein the external signal is generated by the control module and comprises the identification that is provided by the input module or provided by the RF signal received from the receiving module; and

a power source connected to the control module to supply power to the setting apparatus;

wherein the portable setting apparatus is not equipped in the vehicle and is portable relative to the vehicle, and is configured to:

obtain an update identification to be written into a new identification rewriteable tire pressure detector either by (1) receiving the RF signal from an old tire pressure detector by the receiving module, retrieving an old identification of the old tire pressure detector from the RF signal, and using the old identification as the update identification, or by (2) receiving a manual input of the identification from the input module, and using the identification as the update identification, wherein the old tire pressure detector stores only the old identification;

store the update identification in the setting apparatus; and

generate the external signal comprising the update identification as the external identification, and send the external signal to the new identification rewriteable tire pressure detector such that the new identification rewriteable tire pressure detector records the update identification in the rewritable memory unit or overwrites the preset identification in the rewritable memory unit by the update identification, wherein the external identification is from the old tire pressure detector, and the external signal is a low frequency (LF) signal.

'064 patent, claim 26 (emphases added).

Autel manufactures tire pressure monitoring system ("TPMS") setting mechanisms. Autel's subsidiary, Autel U.S., sells Autel's products to customers in the United States. On June 30, 2021, Orange sued Autel for infringement of the '064 patent. Autel brought a counterclaim of invalidity under sections 101, 102, 103, and/or 112.

From June 5–8, 2023, the district court held a jury trial. The jury found that Autel infringed the asserted claims (claims 26 and 27) and that neither of those claims was invalid under 35 U.S.C. §§ 101 or 103. The jury awarded Orange $6,616,397 in damages.

In a posttrial JMOL motion, Autel argued that JMOL should be granted because claims 26 and 27 are invalid as obvious under section 103 based on the combination of U.S. Patent Application Publication No. 2007/0055411 ("Nihei") in view of U.S. Patent Application Publication No. 2006/0208864 ("Nantz"). It also argued that the JMOL should be granted because the asserted claims are directed to patent ineligible subject matter under section 101. The district court denied Autel's motion as to obviousness, concluding that "substantial evidence supports the jury's verdict that Autel has not shown the Asserted Claims to be obvious by clear and convincing evidence." J.A. 55.[1] And while the district court concluded that the asserted claims were directed to an abstract idea, it denied JMOL as to section 101 under step 2 of the Supreme Court's framework in *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014). The district court did, however, grant Autel's motion for JMOL of noninfringement, find-

[1] Citations to the J.A. refer to the Joint Appendix filed by the parties at Dkt. No. 26.

ing no evidence of sales, offers for sale, or importation in the United States.

Orange appeals the district court's grant of JMOL of noninfringement and Autel cross-appeals the district court's denial of JMOL as to invalidity under 35 U.S.C. §§ 101 or 103. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

We need only consider the district court's denial of JMOL as to obviousness. "A patent for a claimed invention may not be obtained . . . if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art." 35 U.S.C. § 103. "We review the jury's conclusions on obviousness, a question of law, without deference, and the underlying findings of fact, whether explicit or implicit within the verdict, for substantial evidence." *Bos. Sci. Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 990 (Fed. Cir. 2009) (quoting *Johns Hopkins Univ. v. Datascope Corp.*, 543 F.3d 1342, 1345 (Fed. Cir. 2008)).

The claims describe a "tire pressure detecting system." *See* '064 patent, claim 26. The invention of the '064 patent is "an identification rewritable tire pressure detector," that can replace a broken tire pressure detector. *Id.* To do this, the claims describe, a "portable setting apparatus" that rewrites the old tire pressure detector's identification onto the new tire pressure detector. *Id.*

Autel argues that the combination of two pieces of prior art, Nihei and Nantz, renders the asserted claims obvious. Nihei is directed to "a wheel information-acquiring system for transmitting, by radio, wheel information to a vehicle body . . . for example, inner pressure data and temperature data of a tire." J.A. 3751, ¶ 1. Nihei's system includes a "setting device . . . connected to

the PC [personal computer]" that "upon manual inputting of an ID to be set for the transmitter" can transmit and receive signals containing information from another communication device. J.A. 3755, ¶ 63. Nantz "provides an improved method and improved system for tire pressure monitoring (TPM) sensor testing and diagnosis." J.A. 3742, ¶ 12. Nantz discloses one embodiment where, when a "TPM sensor 104 is damaged or functioning incorrectly, immobilizer 102 may read the ID [identification] of the damaged TPM sensor and transmit . . . the ID of the damaged sensor to a replacement TPM sensor 104." J.A. 3743, ¶ 30.

Autel presented testimony that the Nihei/Nantz combination satisfies all the limitations of the asserted claims, that a person of skill in the art would be motivated to combine Nihei and Nantz, and that secondary considerations do not support a conclusion of nonobviousness. However, the district court denied Autel's motion for JMOL as to obviousness because it found substantial evidence that "Nihei and Nantz fail to teach or suggest the Asserted Claims' 'portable setting apparatus' limitations" and accordingly "[did] not reach the other obviousness-related issues raised by the [p]arties." J.A. 55. On appeal, the parties do not dispute that Autel's proposed combination meets most of the claim limitations. However, Orange argues that the district court was correct as to the "portable setting apparatus" limitation and that the combination in other respects does not render the claims obvious.

First, Orange argues that the jury heard substantial evidence to conclude that the prior art combination of Nihei/Nantz does not disclose a "portable setting apparatus." A predicate question is what in the Nihei/Nantz combination constitutes the setting apparatus. Autel argues that Nihei's setting device and PC together disclose the claimed "portable setting apparatus." Orange argues that there is substantial evidence to support a finding that the setting device alone in Nihei is the

claimed setting apparatus. But there is no such testimony in the record to support Orange's argument. The only testimony as to what constitutes the setting apparatus comes from Autel's expert, Dr. Souri, who testified that the setting device and PC "form the setting apparatus" because "the PC is the brain. . . . It's what performs the control function" required by the claims. J.A. 2917; *see* '064 patent, claim 26. We agree with Autel that the record can only support the conclusion that the setting apparatus in the Nihei/Nantz combination constitutes both the setting device and the PC.

Given that the setting device and the PC together form the claimed setting apparatus in the Nihei/Nantz combination, Autel argues that the "portable setting apparatus" limitation is satisfied. Orange argues that a reasonable jury could conclude the setting apparatus is not portable because it must be "h[e]ld" so a technician can "go to the wheel.". Oral Argument 30:16–26. Orange's expert witness, Mr. McAlexander, testified that the setting device in Nihei "is not a portable device" because it is "tethered to a personal computer." J.A. 3154. But the claims only require that the setting apparatus be portable "relative to the vehicle," not that it be handheld. '064 patent, claim 26. Mr. McAlexander offered no testimony explaining why Nihei's setting device and PC are not portable *relative to the vehicle*. Without contradiction, Dr. Souri testified Nihei's setting device and PC are "portable to the vehicle so that you're able to move around and program the sensors in the wheels." J.A. 2918. Mr. McAlexander, indeed, admitted that Nihei's setting device and PC "move independently from Nihei's vehicle." J.A. 3167–68. We accordingly do not find substantial evidence to support the jury's verdict of nonobviousness as to a portable setting apparatus.

Second, Orange argues that Nihei does not disclose a setting apparatus "configured to . . . receiv[e] a manual input of the identification" as required by the asserted claims. '064 patent, claim 26. While Nihei's setting

device does not receive manual input, Nihei's setting apparatus including a PC does. Given that the only configuration of the setting apparatus supported by substantial evidence includes the PC, no reasonable jury could conclude that the prior art did not disclose the manual input limitation. Indeed, as Mr. McAlexander stated, "manual input [is] available . . . at the PC." J.A. 3154.

Third, Orange argues that Nihei and Nantz do not render the asserted claims obvious because the Nihei/Nantz combination requires that the operator access and update the sensor ID on the vehicle's computer. Mr. McAlexander testified that "the only way this system [the combination] works is that you have to change the identification on the sensor and the controller in the vehicle, and that is not what the '064 patent teaches." J.A. 3153–54. The claims do not preclude a device that uses a computer. *See* '064 patent, claim 26. As counsel for Orange conceded at oral argument, the asserted claims say nothing about precluding the use of the vehicle's computer. Oral Argument at 27:45–28:11 ("There's not an express recitation that you don't have to communicate with the car.")

Fourth, Orange argues that the Nihei/Nantz combination does not teach a tire pressure detection sensor that transmits RF signals to the setting apparatus as required by the claims. However, this is exactly what Nihei teaches. As Dr. Souri explained, "Nihei discloses the setting device that can receive the RF signal," which means the tire pressure detection sensor transmits an RF signal to the setting apparatus. J.A. 2929. Orange's theory appears to be that Nantz teaches away from a sensor that transmits RF signals because it discloses a sensor with a two-way LF channel. But teaching an LF embodiment does not suggest that an RF embodiment is not desirable. In other words, there is no teaching away.

Finally, Orange argues that Nantz teaches storing "a bank of TPM sensor IDs," which are used to assign a new ID to the replacement tire pressure detection sensor, and the asserted claims require using the old identification. J.A. 3743, ¶ 30. But the bank of sensor IDs is explicitly described in Nantz as "one embodiment" and an "alternative embodiment" "read[s] the ID of the damaged TPM sensor and transmit[s] an LF signal containing the ID of the damaged sensor to a replacement TPM sensor." *Id.* The undisputed evidence shows that the Nihei/Nantz combination discloses using the old sensor ID.

Orange does not identify any other defects in the combination that could render the asserted claims not obvious. In one sentence in its response brief to Autel's cross-appeal, Orange suggests that secondary considerations support the district court's denial of JMOL, but this argument is undeveloped. The same is true for Orange's argument concerning motivation to combine. We conclude no reasonable jury could have found the claims nonobvious in view of Nihei and Nantz and that substantial evidence does not support the jury's verdict of nonobviousness. We accordingly reverse the district court's grant of JMOL as to obviousness and need not reach either the issue of patent ineligible subject matter under section 101 or the issue of infringement.

REVERSED

COSTS

Costs to Autel.