United States Court of Appeals for the Federal Circuit

MAXELL, LTD.,
Plaintiff-Appellant

v.

AMPEREX TECHNOLOGY LIMITED,
Defendant-Appellee

2023-1194

Appeal from the United States District Court for the Western District of Texas in Nos. 6:21-cv-00347-ADA, 6:21-cv-01007-ADA, Judge Alan D. Albright.

Decided: March 6, 2024

HILARY L. PRESTON, Vinson & Elkins LLP, Austin, TX, argued for plaintiff-appellant. Also represented by CORBIN CESSNA, JEFFREY TA-HWA HAN, ERIK SHALLMAN; ERIC JOSEPH KLEIN, PAIGE HOLLAND WRIGHT, Dallas, TX.

DAVID SPENCER BLOCH, Greenberg Traurig LLP, San Francisco, CA, argued for defendant-appellee. Also represented by HAROLD H. DAVIS, JR.; YANG LIU, East Palo Alto, CA.

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

TARANTO, *Circuit Judge*.

Maxell, Ltd. owns U.S. Patent No. 9,077,035, which describes and claims a rechargeable lithium-ion battery. Amperex Technology Limited is a manufacturer of lithium-ion batteries. In two now-consolidated actions, Maxell asserted infringement, and Amperex challenged the validity, of claims of the '035 patent. The '035 patent's claims require at least two lithium-containing transition metal oxides, represented by formulas that include a transition metal element M^1, and, as relevant here, two limitations of the claims state requirements for that element. The district court held the claim language defining M^1 to be indefinite on the ground that the two limitations contradicted each other, *Maxell, Ltd. v. Amperex Technology Ltd.*, No. 21-cv-00347, 2022 WL 16858824, at *19–21 (W.D. Tex. Nov. 10, 2022) (*Claim Construction Order*), and on that basis the court entered partial final judgment in favor of Amperex, J.A. 18–20. We reverse, concluding that there is no contradiction and therefore no indefiniteness. The case is remanded for further proceedings.

I

A

The '035 patent, titled "Nonaqueous Secondary Battery and Method of Using the Same," describes and claims a lithium-ion battery with a positive electrode, a negative electrode, and a nonaqueous electrolyte. '035 patent, Abstract. The limitations of the patent's claims primarily concern the positive electrode and the electrolyte. *See id.*, col. 29, line 20, through col. 30, line 58. All claims of the patent include a positive electrode that includes at least two lithium-containing transition metal oxides with different average particle sizes. *Id.*, col. 4, lines 6–9; *id.*, col. 29, lines 21–26. The transition metal oxides are represented in the claims by formulas that include, in relevant part, a transition metal element M^1. *Id.*, col. 29, lines 28–31, 43–49.

Claim 1, the sole independent claim of the '035 patent, reads as follows (letters added to label the limitations):

1. A nonaqueous secondary battery comprising:

[a] a positive electrode having a positive electrode mixture layer, a negative electrode, and a nonaqueous electrolyte,

[b] wherein the positive electrode comprises, as active materials, at least two lithium-containing transition metal oxides having different average particle sizes, and the lithium-containing transition metal oxide having the smallest average particle size is a lithium-containing transition metal oxide represented by the formula (1): $Li_xM^1_yM^2_zM^3_vO_2$

[c] ***wherein M^1 represents at least one transition metal element selected from Co, Ni and Mn,*** M^2 represents Mg and at least one metal element selected from the group consisting of Ti, Zr, Ge, Nb, Al and Sn, M^3 represents at least one element selected from the group consisting of Na, K, Rb, Be, Ca, Sr, Ba, Sc, Y, La, Hf, V, Ta, Cr, Mo, W, Tc, Re, Fe, Ru, Rh, Cu, Ag, Au, B, Ca, In, Si, P and Bi, and x, y, z and v are numbers satisfying the equations respectively: $0.97\leq x<1.02$, $0.8\leq y<1.02$, $0.002\leq z\leq 0.05$, and $0\leq v\leq 0.05$, and has an average particle size from 2 μm to 10 μm, and the lithium-containing transition metal oxide having the largest average particle size is a lithium-containing transition metal oxide represented by the formula (2): $Li_aM^1_bM^2_cM^3_dO_2$

[d] wherein M^1, M^2 and M^3 are the same as defined in the formula (1), and a, b, c and d are numbers satisfying the equations respectively: $0.97\leq a<1.02$, $0.8\leq b<1.02$, $0.0002\leq c\leq 0.02$, and

> $0 \leq d \leq 0.02$, and has an average particle size from 5 μm to 25 μm,
>
> [e] wherein said electrolyte contains a fluorine-containing organic solvent,
>
> [f] ***wherein the content of Co in the transition metal M^1 of the formulae (1) and (2) is from 30% by mole to 100% by mole,***
>
> [g] wherein the content of said lithium-containing transition metal oxide having the smallest average particle size in the lithium-containing transition metal oxides is from 5% by weight to 60% by weight,
>
> [h] wherein the content of said lithium-containing transition metal oxide having the largest average particle size in the lithium-containing transition metal oxides is from 40% by weight to 95% by weight, and
>
> [i] wherein an amount of said fluorine-containing organic solvent is 0.1% by weight to 30% by weight based on the whole weight of the electrolyte.

Id., col. 29, line 20, through col. 30, line 9 (emphases added).

B

In April 2021, Amperex filed a complaint in district court in New Jersey seeking a declaratory judgment of non-infringement of several Maxell patents, including the '035 patent. Complaint, *Amperex Technology Ltd. v. Maxell Ltd.*, No. 21-cv-08461 (D.N.J. Apr. 6, 2021), ECF No. 1; J.A. 1341–430. In response, Maxell brought an affirmative patent-infringement action against Amperex in the Western District of Texas on the same set of patents. Complaint, *Maxell Ltd. v. Amperex Technology Ltd.*, No. 21-cv-00347 (W.D. Tex. Apr. 8, 2021), ECF No. 1; J.A. 1431–565. In January 2022, the cases were consolidated in the Western

District of Texas. J.A. 1996–97; *see also In re Amperex Technology Ltd.*, No. 2022-105, 2022 WL 135431 (Fed. Cir. Jan. 14, 2022) (denying Amperex's mandamus petition challenging the transfer of its New Jersey action).

In February 2022, the district court conducted claim-construction proceedings and issued an order that, among other things, addressed the two above-highlighted wherein clauses and held to be indefinite the following phrase that combines them: "M^1 represents at least one transition metal element selected from Co, Ni and Mn, . . . wherein the content of Co in the transition metal M^1 of the formulae (1) and (2) is from 30% by mole to 100% by mole." J.A. 25. On November 10, 2022, the district court issued a claim construction order setting forth its reasoning. *Claim Construction Order*, at *19–21. The court reasoned that "the plain language of the claim recites a contradiction," because the first limitation does not require the presence of cobalt (nickel or manganese suffices), so cobalt is "optional," whereas the second limitation does require cobalt. *Id.* at *20; *see also id.* at *21 (repeating point that the first limitation describes "options").

Pursuant to Federal Rule of Civil Procedure 54(b), the district court severed the '035 patent claims and counterclaims from the remainder of the case and entered partial final judgment in favor of Amperex and against Maxell with respect to all claims and counterclaims involving the '035 patent. J.A. 18–20. Maxell filed a timely notice of appeal on November 14, 2022, J.A. 99, within the 30 days allowed under 28 U.S.C. § 2107(a). We have jurisdiction to review the partial final judgment under 28 U.S.C. § 1295(a)(1).

II

Under 35 U.S.C. § 112, ¶ 2 (2006),[1] a patent specification "shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." Patent claims that fail to meet the "particularly pointing out and distinctly claiming" requirement are invalid for indefiniteness. When "claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention," they are indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). "Indefiniteness must be proven by clear and convincing evidence." *Sonix Technology Co. v. Publications International, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). We decide indefiniteness de novo where, as here, there are no material underlying factual issues. *See Cox Communications, Inc. v. Sprint Communication Co.*, 838 F.3d 1224, 1228 (Fed. Cir. 2016); *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1377–78 (Fed. Cir. 2015).

The district court based its indefiniteness conclusion on its determination that "the plain language of [claim 1] recites a contradiction" in that "[t]he first part of the claim recites a *Markush* group where [cobalt] is not necessarily required to be in the claimed compound while the second part of the claim recites that [cobalt] is necessarily required. For an element to simultaneously be optional and required is a contradiction on its face." *Claim Construction Order*, at *20. That rationale, we conclude, is incorrect, but not because a contradiction in a claim cannot produce

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[1] Section 112 was amended by the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284, 296–97 (2011), but the pre-AIA version applies to this case. The AIA relabeled § 112 ¶ 2 as § 112(b) but made no change in the language material to this case.

indefiniteness. Rather, there is no contradiction in the claim language at issue in this case.

The first of the two limitations at issue regarding M1–limitation [c]—states one requirement a transition metal element must meet to come within the claim: It must contain cobalt, nickel, or manganese. The second limitation at issue—limitation [f]—states a second requirement: The transition metal element must contain cobalt at a content of 30% to 100% by mole. It is perfectly possible for a transition metal element to meet both requirements. The two limitations are therefore not contradictory.

It makes no difference, at least here, that the two requirements are placed in separate limitations—rather than both appearing in limitation [c]. Such placement does not alter the logical point that it is possible to meet both requirements, meaning that there is no contradiction. Moreover, a reader seeking to understand "the scope of the invention," *Nautilus*, 572 U.S. at 901, is charged with knowing not only that any particular claim language must be "read in the context of the *full* claim," *Salazar v. AT&T Mobility LLC*, 64 F.4th 1311, 1318 (Fed. Cir. 2023) (emphasis added), but also that "all limitations of a claim must be considered in deciding what invention is defined," *Hall v. Taylor*, 332 F.2d 844, 848 (CCPA 1964) (per Rich, J.); *see also Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 29 (1997) ("Each element contained in a patent claim is deemed material to defining the scope of the patented invention."). In this context, as in other legal-interpretation settings, later text must be read along with earlier text to discern the meaning. *Cf. Arkansas Game and Fish Commission v. United States*, 568 U.S. 23, 36 (2014) ("But the first rule of case law as well as statutory interpretation is: Read on.").

The placement of the two requirements does not create an otherwise-nonexistent contradiction. That is so even if there was a more artful way of stating the two requirements within the same claim. And the record provides a readily discernible explanation for the placement: The

second requirement for the M^1 term was added during prosecution to overcome a prior art reference that primarily used nickel as a transition metal. *See* J.A. 1272–80, 1293–99. That there were other ways of drafting the claim does not render the claim language contradictory or indefinite.

The district court's explanation for its contrary conclusion repeatedly describes limitation [c] as granting "options" as to the makeup of M^1—seemingly in the sense of a grant of right to others—which limitation [f] then takes back. *See Claim Construction Order*, at *19–21. But this description is inapt, even aside from its treatment of the limitations in isolation from each other. Claim limitations do not grant options. They state requirements—conditions that must be met for a product or process (as the case may be) to come within the claim's protected zone of exclusivity. If there are two requirements, and it is possible to meet both, there is no contradiction.

That there is no contradiction here is confirmed by the fact that it is the ordinary role of dependent claims to add narrowing limitations to the independent claims to which they refer. *See*, *e.g.*, *Alcon Research, Ltd. v. Apotex Inc.*, 687 F.3d 1362, 1367 (Fed. Cir. 2012) (noting that "a dependent claim narrows the claim from which it depends"). If a limitation that merely narrows an earlier limitation creates an invalidating contradiction, the ordinary practice for dependent claims would be upended because, by statute, "[a] claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." 35 U.S.C. § 112 ¶ 4 (2006); 35 U.S.C. § 112(d). We recognized that narrowing does not imply contradiction when we observed that "[a] dependent claim that *contradicts*, *rather than narrows*, the claim from which it depends is invalid." *Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.*, 831 F.3d 1350, 1362 (Fed. Cir. 2016) (emphasis added). Amperex itself properly concedes that there would be no contradiction, and therefore no indefiniteness problem, if limitation [f] were recited

in a dependent claim, rather than in independent claim 1 itself. Oral Arg. at 15:45–17:04. But there is no difference material to the indefiniteness inquiry between a narrowing limitation recited in a dependent claim and the situation here, where the further narrowing limitation is recited in the independent claim itself.

Amperex, in support of its position, notes the contrast between the claim language defining M^1 and the claim language defining the M^2 term, which clearly requires magnesium. '035 patent, col. 29, lines 33–35 ("M^2 represents Mg and at least one metal element selected from the group consisting of Ti, Zr, Ge, Nb, Al, and Sn."). The suggestion seems to be that a relevant artisan would be irremediably uncertain about the scope of M^1 because if the patentee truly meant to cover a cobalt-requiring M^1, it would have written the claim by using the language defining M^2. But this suggestion in no way establishes a contradiction, which was the district court's sole basis for holding the claim indefinite. And it lacks merit on its own terms. The language defining M^1 is clear, and it is not overridden by the specification or prosecution history. A relevant reader would not reasonably be confused into abandoning that clear meaning by the claim's use of different language for defining M^2. That is especially so because the compositional mixes of the two elements are different: M^1 can be 100% cobalt, whereas M^2 requires both magnesium and another metal element (from the six-member group). One would not expect simple borrowing of the M^2 claim-language formulation for M^1.

III

The district court's indefiniteness ruling and partial final judgment are reversed and the matter is remanded for further proceedings consistent with this opinion.

Costs awarded to appellant.

REVERSED AND REMANDED