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## United States Court of Appeals for the Federal Circuit

01-1348

BELDEN WIRE & CABLE COMPANY,

Plaintiff-Appellant,

v.

CABLE DESIGN TECHNOLOGIES CORP.,  
CABLE DESIGN TECHNOLOGIES INC., DEARBORN/CDT, INC.,  
and THERMAX/CDT, INC.,

Defendants-Appellees.

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DECIDED: May 14, 2002

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Before LOURIE, BRYSON, and DYK, Circuit Judges.

LOURIE, Circuit Judge.

Belden Wire & Cable Company (“Belden Wire”) appeals from the decisions of the United States

District Court for the Northern District of Illinois granting summary judgment of noninfringement of Belden's U.S. Patent 5,293,001 and dismissing Belden Wire's claim for infringement after November 8, 1999, on the ground of lack of standing. Belden Wire & Cable Co. v. Cable Design Tech. Corp., No. 99C 0752 (N.D. Ill. Apr. 6, 2001). For the reasons set forth below, we affirm the court's grant of summary judgment of noninfringement.

## BACKGROUND

Belden Wire is the owner of the '001 patent, which is directed to a coaxial cable. A coaxial cable is an electrical cable having two conductors arranged along a common axis with a dielectric material disposed between the conductors. Claim 1 sets forth the invention in its broadest form as follows:

1. A flexible shielded cable comprising:

at least one elongated flexible metal conductor;

a layer of flexible dielectric material disposed about said conductor;

a thin foil disposed about said layer of flexible dielectric material . . . ;

a metallic braid disposed about said thin foil;

a layer of bonding agent bonding said braid and said thin foil; and

said metallic braid is selected from the group consisting of bronze, plated bronze, nickel, plated nickel, silver, and gold.

'001 patent, col. 3, ll. 41-58 (emphasis added).

The history of the prosecution of this patent is as follows: Claim 1 of the issued patent was originally claim 3 of the application that led to the patent. Claim 1 of that application differed from claim 1 of the patent in that it did not recite any Markush group<sup>[1]</sup> defining the type of metal in the metallic braid. Claim 2 of the application depended from claim 1 and added a Markush group that included "copper" and "copper alloy." In response to a prior art rejection of those claims, the applicant cancelled claims 1 and 2, and the application issued with claim 3 renumbered as claim 1, as well as with

other claims, including claim 6. That claim, although narrower than claim 1 in other respects, recites a Markush group including, inter alia, “copper,” “copper alloy,” and “bronze” as the type of metal in the metallic braid. In summary, claim 1 of the issued patent, as can be seen above, finally defined metallic braid by means of a Markush group, which included the term “bronze,” but not “copper” or “copper alloy.”

The defendants (collectively “Cable Design”) manufacture a coaxial cable having a braid that is formed of a metal designated as “C162,” which is an alloy of 99.17% copper and 0.83% cadmium. Belden Wire sued Cable Design in the district court, alleging that Cable Design’s coaxial cable infringed the ’001 patent because C162 is a “bronze.” The court disagreed and granted summary judgment of noninfringement in favor of Cable Design on the grounds that Cable Design’s cable did not meet the claim limitations “a thin foil disposed about said layer of flexible dielectric material,” “bonding said braid and said thin foil,” and “bronze.” Belden Wire & Cable Co. v. Cable Design Tech. Corp., No. 99 C 752, slip op. at 1 (N.D. Ill. Mar. 23, 2001) (“Markman Order”). The court construed the term “bronze” in accordance with the Copper Development Assoc., Standards Handbook: Wrought & Cast Copper and Copper Alloy Products (6th ed. 1994) (“CDA Handbook”), which categorizes C162 as a “high copper alloy” rather than a “bronze.” The court relied on the CDA Handbook rather than the ASM Int’l, Metals Handbook (10th ed. 1990) (“ASM Handbook”), which was also of record, because the latter “defines copper, copper alloy, and bronze primarily as to conductivity [and] offers very little guidance as to the distinctions between the chemical compositions of copper, copper alloy and bronze,” Markman Order at 1, whereas the CDA Handbook “defines copper, copper alloy, and bronze solely for their chemical composition,” id.

When the suit was filed on February 5, 1999, Belden Wire was the owner of the ’001 patent. However, on November 9, 1999, Belden Wire assigned the patent to its affiliate, Belden Technologies, Inc., without also assigning the right to sue for past infringement. A later agreement, dated March 13, 2001, retroactively assigned the patent back to Belden Wire with the right to recover past infringement damages “effective nunc pro tunc as of November 8, 1999.” The court, however, refused to give retroactive effect to the nunc pro tunc assignment, holding that Belden Wire forfeited its standing to

recover infringement damages arising after November 8, 1999. Belden Wire & Cable Co. v. Cable Design Tech. Corp., No. 99 C 752, slip op. at 1 (N.D. Ill. Mar. 29, 2001).

Belden Wire appeals from the decisions of the district court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

We review a district court's grant of summary judgment de novo, reapplying the same standard used by the district court. Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1315, 47 USPQ2d 1272, 1275 (Fed. Cir. 1998). Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). "The evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986).

A determination of infringement requires a two-step analysis. "First, the court determines the scope and meaning of the patent claims asserted . . . [Second,] the properly construed claims are compared to the allegedly infringing device." Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (en banc) (citations omitted). Step one, claim construction, is an issue of law, Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71, 34 USPQ2d 1321, 1322 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996), that we review de novo, Cybor, 138 F.3d at 1456, 46 USPQ2d at 1172. Step two, comparison of the claim to the accused device, requires a determination that every claim limitation or its equivalent is found in the accused device. Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29 (1997). Those determinations are questions of fact. Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353, 48 USPQ2d 1674, 1676 (Fed. Cir. 1998).

On appeal, Belden Wire argues that the district court erred by relying on the CDA Handbook because that handbook states that it does not pertain to cable used for electrical transmission (the pertinent art), it is internally inconsistent, and it postdates the patent's filing date. According to Belden Wire, the court should have relied on other extrinsic evidence — the ASM Handbook; George S. Brady & Henry R. Clauser, Materials Handbook (12th ed.) ("Materials Handbook"); and CDA UK Copper Site, Oct. 23, 2000, available at <http://www.edu.com.uk> — sources that classify C162 as a "bronze." Belden Wire

also argues that the district court erred in construing the phrases “disposed about” and “bonding said braid and said thin film.” Finally, Belden Wire contends that standing to sue is based on ownership of an asserted patent at the time of suit, and since it had standing when the action commenced, the March 13, 2001 assignment gave Belden Wire the right to collect past damages for infringement of the ‘001 patent.

Cable Design responds that Belden Wire waived any objection to the use of the CDA Handbook by having urged the court to rely on it. Cable Design further asserts that one skilled in the art would appropriately consult the CDA Handbook for guidance concerning a metal braid in a coaxial cable because such a braid would be selected for its mechanical strength, not its electrical conductivity. Cable Design also defends the court’s reliance upon the 1994 edition of the CDA Handbook, asserting that earlier editions contained the same relevant content. Cable Design also argues that other extrinsic evidence submitted by Belden Wire is irrelevant. Cable Design further contends that the specification and the prosecution history of the ‘001 patent support its assertion that the term “bronze” has a meaning distinct from other copper alloys. Finally, Cable Design defends the court’s construction of the phrases “disposed about” and “bonding said braid and said thin film” as well as the court’s decision not to permit Belden Wire to claim damages incurred during the period when Belden Technologies, not Belden Wire, owned the patent.

The infringement analysis with respect to the “bronze” limitation involves a dispute only as to the first step of the analysis — claim interpretation. The identity of the material of the metallic braid in the accused cable is not contested. Instead, the parties dispute only whether the term “bronze” includes that material. We agree with Cable Design that it does not. In light of that conclusion, Cable Design’s arguments concerning other claim limitations and standing are moot, and we will not address those other arguments.<sup>2</sup>

To begin, we look to the intrinsic evidence to determine the meaning of the term “bronze,” see Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996), and we find that during prosecution Belden Wire clearly surrendered certain materials, including “copper” and “copper alloy,” from the scope of what became claim 1, while claim 6 issued listing all three materials: “copper,” “copper alloy,” and “bronze,” ’001 patent, col. 4, ll. 34-38.<sup>3</sup> Because those terms are potentially overlapping (*i.e.*, a bronze is clearly a copper alloy in the sense that it is an alloy of copper and one or more other metals), their appearance together in the same Markush group is confusing. Belden Wire’s cancellation of the term “copper alloy” from what became claim 1 during prosecution compounds the confusion. Under such a circumstance, we will take the patentee at its word and give effect to its surrender during prosecution. “Bronze,” at least for purposes of this patent, means something different from “copper alloy.” Moreover, because claim 6 lists both the terms “copper alloy” and “bronze,” we will assume that, by retaining the term “copper alloy,” Belden Wire intended that claim to encompass subject matter other than “bronze.”

As indicated above, the district court relied on the CDA Handbook to interpret that term. We agree with the district court’s conclusion. The CDA Handbook draws distinctions similar to those drawn by the applicant during prosecution of the ’001 patent. In particular, the CDA Handbook divides metals containing copper into a number of categories, including “coppers,” which have a copper content of at least 99.3%, CDA Handbook at 7; “high copper alloys,” which have a copper content between 96% and 99.3%, *id.*; and “bronzes.” Regarding the latter, the CDA Handbook states:

Broadly speaking, bronzes are copper alloys in which the major alloying element is not zinc or nickel. Originally “bronze” described alloys with tin as the only or principal alloying element. Today, the term is generally used not by itself but with a modifying adjective . . . tin bronzes . . . aluminum bronzes . . . manganese bronzes.

Id. Although the C162 material with its 99.17% copper clearly fits within the CDA's "high copper alloys" category, it might also be within the CDA's "bronzes" category because it is a copper alloy in which the major alloying element (cadmium) is neither zinc nor nickel. However, closer inspection of the handbook reveals that it actually classifies C162 as a "high copper alloy" only, not as a "bronze." The handbook tabulates a large number of wrought metals within each category, listing for each metal its designation number (e.g., "C162" or its equivalent "C16200"), trade name if applicable, and component elements. Id. at 9-18. An entry for C162 appears only once, in a table listing the "high copper alloys," Id. at 10. That entry denotes the trade name "cadmium copper" and a chemical composition of 0.7-1.2% cadmium, 0.02% iron, and the remainder copper. No entry corresponding to the C162 material appears in the tables listing the "bronzes." See id. at 13-16. The CDA Handbook therefore categorizes C162 only as a "high copper alloy," not as a "bronze."

Other extrinsic documents are argued by Belden Wire to support the opposite conclusion. The ASM Handbook refers to a "series of bronzes . . . covered by ASTM B105," including a copper-cadmium alloy designated as "alloy 85," which the referenced ASTM publication equates with C162, Am. Soc'y for Testing & Materials, Designation B 105-94: Std. Spec. for Hard-Drawn Copper Alloy Wires for Elec. Conductors at 1 (2000). The Materials Handbook states, "Copper containing 0.5 to 12.2% cadmium is called cadmium copper or cadmium bronze." Materials Handbook at 127-28. Finally, the CDA UK Copper Web Site also uses the terms "cadmium copper" and "cadmium bronze" to mean copper-cadmium alloys having 0.7-1.3% cadmium.

The district court resolved the uncertainty by relying on the CDA Handbook. Markman Order at 1. The court's opinion discussed only two extrinsic sources, the CDA Handbook and the ASM Handbook, and chose the former because its definitions are solely in terms of chemical composition, whereas the latter's definitions are primarily in terms of conductivity. Id. We agree with the court's reliance on the CDA Handbook, although the most compelling reason for us is that it reflects the parties' positions in the district court. Belden Wire initially embraced the CDA Handbook, apparently believing that C162 fell within the Handbook's definition of "bronzes." Indeed, three experts retained by Belden Wire relied upon the CDA Handbook to support their opinions that C162 was a bronze. Furthermore, in Belden Wire's statement of facts in response to Cable Design's Motion For Partial Summary Judgment, Belden Wire conceded as "uncontested" the following statement: "The Copper Development Association ('CDA') classification scheme for copper, copper alloys, bronzes, and brasses is accepted in the industry." Only after Cable Design pointed out that the CDA Handbook classifies C162 among the "high copper alloys" did Belden Wire retreat from its original position by questioning both the date of the particular edition of the CDA Handbook being cited and relevance of the CDA Handbook to the electrical cable art. We therefore do not accept Belden Wire's newly-crafted interpretation of the term "bronze" which disavows the position it took in the district court.

Although Belden Wire is correct in both stating the rule that claim terms must be construed as of the time when the patent application was filed, Wiener v. NEC Elecs., Inc., 102 F.3d 534, 539, 41 USPQ2d 1023, 1027 (Fed. Cir. 1996), and in noting that the edition of the CDA Handbook published in 1994 followed the '001 patent's filing date by two years, Cable Design introduced evidence that the relevant portions of the handbook have been unchanged since at least 1973. Belden Wire thus failed to demonstrate error based on the date of the particular CDA Handbook edition that was cited by the court.

Belden Wire's second attack on the relevance of the CDA Handbook is based on a disclaimer appearing in the handbook which reads, "The Standards Handbook does not cover wire and cable for electrical transmission and distribution or for other power and electronic applications." Cable Design responds that the metallic braid is chosen primarily for its mechanical strength, not its electrical

properties. Belden Wire's point might have been more persuasive if it had taken this position consistently. However, Belden Wire's own experts' reports, experts' testimony, and concession significantly detract from its later position. Considering the evidence as a whole, the district court correctly concluded that the CDA Handbook defines the meaning of the term "bronze" for purposes of the '001 patent.

For the foregoing reasons, we conclude that the district court did not err in interpreting the meaning of the term "bronze" in the '001 patent as excluding the "high copper alloys" defined in the CDA Handbook. Because there is no genuine issue of material fact concerning whether C162 is such a high copper alloy, we affirm the court's grant of summary judgment of noninfringement.

#### CONCLUSION

Because the term "bronze" in the '001 patent does not encompass C162, the material of the metallic braid in Cable Design's coaxial cable, Cable Design was entitled to summary judgment of noninfringement, and we thus affirm.

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[1] A Markush group is a listing of alternatives in a patent claim, typically expressed in the form "selected from the group consisting of A, B, . . . , and C."

2 At oral argument, both parties represented that, if we affirm the district court's construction of the term "bronze," its construction of the other limitations and the standing issue are moot.

3 For reasons not apparent to us, claim 6 is not at issue in this appeal.