United States Court of Appeals for the Federal Circuit

ROBERT BOSCH, LLC,
a Delaware corporation,
Plaintiff-Appellant,

v.

SNAP-ON INCORPORATED,
a Delaware corporation, AND
DREW TECHNOLOGIES, INCORPORATED,
a Michigan corporation,
Defendants-Appellees.

2014-1040

Appeal from the United States District Court for the Eastern District of Michigan in No. 12-CV-11503, Judge Robert H. Cleland.

Decided: October 14, 2014

JONATHAN S. FRANKLIN, Fulbright & Jaworski LLP, of Washington, DC, argued for plaintiff-appellant. With him on the brief were SHELIA KADURA, of Austin, Texas, ERIK G. SWENSON, of Minneapolis, Minnesota, and GEORGE W. JORDAN, III, of Houston, Texas.

GARY M. ROPSKI, Brinks Gilson & Lione, of Chicago, Illinois, argued for defendants-appellees. With him on the

brief were KORI ANNE BAGROWSKI and JAMES G. DEROUIN. Of counsel on the brief were JAMES K. CLELAND, JON H. BEAUPRÉ and JOHN A. LINGL, of Ann Arbor, Michigan.

Before PROST, *Chief Judge,* TARANTO and HUGHES, *Circuit Judges.*

PROST, *Chief Judge*.

Plaintiff-Appellant Robert Bosch, LLC ("Bosch") appeals the decision from the United States District Court for the Eastern District of Michigan holding that all claims in U.S. Patent No. 6,782,313 ("'313 patent") are invalid as indefinite. *See Robert Bosch LLC v. Snap-On, Inc.*, No. 12-11503, 2013 WL 4042664 (E.D. Mich. Aug. 9, 2013). We agree with the district court that the terms "program recognition device" and "program loading device" invoke 35 U.S.C. § 112, ¶ 6 (2010) and that the specification does not disclose corresponding structure for these terms. Therefore, we affirm the district court's holding that all claims in the '313 patent are invalid.

I. BACKGROUND

Bosch owns the rights to the '313 patent, which claims a diagnostic tester that determines whether the computerized control unit in a motor vehicle needs to be reprogrammed. '313 patent col. 1 ll. 8-9, col. 1. l. 61-col. 2. l. 1. The claimed external diagnostic tester is made up of a "program recognition device" and a "program loading device," which are the only two claim terms at issue in this appeal. Both terms are recited in claim 1, the sole independent claim of the '313 patent, which is reproduced below:

> 1. An external diagnostic tester for motor vehicles, the motor vehicles having programmable control units with self-diagnostic means, wherein the control units can be connected to the ex-

> ternal diagnostic tester via a diagnostic/test plug in the motor vehicle, the external diagnostic tester comprising,
>
> a *program recognition* and *program loading device*, wherein a program version contained in a connected control unit is queried and recognized by means of the *program recognition device*, and, if the program available in the motor vehicle and recognized via the diagnostic/test plug is not stored there in a latest and most current version, a respective most current version is loaded by the *program loading device* into a program storage device of the pertinent control unit of the motor vehicle, wherein the external diagnostic tester automatically establishes communication with a central dat[a] base in order to check the program version and, if necessary, to obtain the current program version that applies for the control unit connected to the diagnostic tester and to store it there.

Id. at col. 4 ll. 18-38 (emphases added).

The specification contains no figures, but it states that the "program recognition device" connects to the motor vehicle via a diagnostic plug. '313 patent abstract, col. 2 ll. 22-24. The "program recognition device" then queries and recognizes the program version contained in the control unit of the motor vehicle. *Id.* at col. 2 ll. 20-23.

According to the specification, the "program loading device" also connects to the control unit through the diagnostic plug. '313 patent col. 1 ll. 27-31. If necessary, the "program loading device" loads an updated version of a program into the control unit. *Id.* at col. 2 ll. 25-29.

Bosch initially sued Defendant-Appellee Snap-On Inc. for infringement of the '313 patent in the Central District

of California. Bosch later added infringement allegations against Defendant-Appellee Drew Technologies, Inc., and the case was transferred to the Eastern District of Michigan. After initial claim construction briefing, the Appellees (hereinafter, "Snap-On") asserted that the two claim terms "program loading device" and "program recognition device" are means-plus-function terms under § 112, ¶ 6 and are indefinite. Regarding the first claim term, "program recognition device," the district court adopted a presumption that the term invokes § 112, ¶ 6 based on the presence of the phrase "by means of" in claim 1. The district court then found that the presumption it had applied was not overcome and that the term was indefinite. *Bosch*, 2013 WL 4042664, at *5-7. Regarding the second claim term, "program loading device," the district court adopted the presumption that it did not invoke § 112, ¶ 6 based on the lack of the word "means," but the district court still concluded that "program loading device" was an indefinite means-plus-function term. *Id.* at *8-9. The parties then stipulated to a final judgment of invalidity, and this appeal followed.

II. APPLICABLE LAW

Section 112, ¶ 6 (now § 112(f)) allows a patentee to express a claim limitation as "a means or step for performing a specified function without the recital of structure, material, or acts in support thereof," and the section provides that claim limitations expressed in this manner "shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

The framework under which we determine if a claim limitation invokes § 112, ¶ 6 is a two-step process. First, we must determine if the claim limitation is drafted in the means-plus-function format. The use of the term "means" triggers a rebuttable presumption that § 112, ¶ 6 governs the construction of the claim term. *EnOcean GmbH v.*

Face Int'l Corp., 742 F.3d 955, 958 (Fed. Cir. 2014) (citations omitted). Alternatively, where the claim language does not recite the term "means," we presume that the limitation does not invoke § 112, ¶ 6. *Id.* When a claim term lacks the word "means," the presumption can be overcome if the challenger demonstrates that "the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Id.* (citation omitted).

If we conclude that a claim term invokes § 112, ¶ 6, we proceed to the second step and attempt to construe the disputed claim term by identifying the "corresponding structure, material, or acts described in the specification" to which the claim term will be limited. *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1097 (Fed. Cir. 2008). If we are unable to identify any "corresponding structure, material, or acts described in the specification," the claim term is indefinite. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012) ("[A] means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.") (citations omitted).

Determining whether certain claim language invokes § 112, ¶ 6 "is an exercise in claim construction and is therefore a question of law, subject to de novo review." *Inventio AG v. ThyssenKrupp Elevator Ams. Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011). Indefiniteness is a question of law that is also reviewed de novo. *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1378 (Fed. Cir. 1999).

III. DISCUSSION

This appeal concerns Bosch's challenges to the district court's holding that two claim terms are means-plus-function terms and are indefinite for failing to disclose corresponding structure. For the reasons discussed

herein, we conclude that the district court erred in applying the presumption that "program recognition device" is a means-plus-function term. However, this error was harmless because we conclude that even without a presumption, the term "program recognition device" nonetheless invokes § 112, ¶ 6. We further agree with the district court that "program loading device" also invokes § 112, ¶ 6. And because the specification fails to identify corresponding structures that are required where § 112, ¶ 6 applies, we conclude that the terms "program recognition device" and "program loading device" are indefinite.

A. No Presumption that "Program Recognition Device" Is a Means-Plus-Function Term

Claim 1 of the '313 patent includes two references to a "program recognition device": "the external diagnostic tester comprising, a [1] program recognition and program loading device, wherein a program version contained in a connected control unit is queried and recognized *by means of* the [2] program recognition device . . . ." '313 patent col. 4 ll. 22-27 (emphasis added). The district court adopted a presumption that "program recognition device" is a means-plus-function term based on the phrase "by means of" in claim 1. *Bosch*, 2013 WL 4042664, at *5. The district court then held that the presumption it had applied was not overcome, reasoning that "the claim language is silent as to the structure for 'program recognition device.'" *Id.* Therefore, the district court concluded that this term invoked § 112, ¶ 6. *Id.* at *6.

On appeal, Snap-On does not defend the district court's invocation of the "means" presumption, Appellee's Br. 17 n.3, and Bosch challenges it. Bosch argues that the presumption is not triggered by any and every use of the word "means" in a patent claim. *See York Prods., Inc. v. Cent. Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1574 (Fed. Cir. 1996) ("[M]ere incantation of the word 'means' in a clause reciting predominantly structure cannot evoke

section 112, ¶ 6."). Here, Bosch notes that when first reciting a program recognition device, the claim does not use the term "means" at all, much less the classic phrase "means for." And Bosch claims that the subsequent use of the term "by means of" later in the claim does not trigger the presumption in favor of § 112, ¶ 6.

On this initial issue we agree with Bosch. We are unaware of any precedent stating that the presumption is triggered by a claim's use of the expression "by means of." In the past we have applied the presumption when a claim uses the word "means" as a noun in the claim: a "means" for doing something. We have not done so for the phrase "by means of."

Therefore, we conclude that the district court erred in adopting a presumption that "program recognition device" is a means-plus-function term based on the phrase "by means of" in claim 1. However, for the reasons discussed in the Part III.B, *infra*, that error was harmless, as even without the benefit of the presumption, "program recognition device" still invokes § 112, ¶ 6.

B. The Presumption Against Invoking § 112, ¶ 6 Is Overcome for Both Terms

Although both "program recognition device" and "program loading device" are presumed not to invoke § 112, ¶ 6, we must next turn to the issue of whether this "strong" presumption against means-plus-function claiming is overcome. *See Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004). In undertaking this analysis, we ask if the claim language, read in light of the specification, recites sufficiently definite structure to avoid § 112, ¶ 6. *Inventio*, 649 F.3d at 1357. The question is whether the claim language names particular structures or, instead, refers only to a general category of whatever may perform specified functions. *See Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1536 (Fed. Cir. 1991) ("[t]he recited structure tells only what

the means-for-joining does, not what it is structurally"). In the latter case, § 112, ¶ 6 then commands a construction of the limitation as referring to specification-identified corresponding structures and their equivalents.

Snap-On argues that the claim terms "program recognition device" and "program loading device" each lack sufficiently definite structure. Indeed, this court has found the word "device" to be a non-structural, "nonce" word. *See Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006); *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 705 (Fed. Cir. 1998). And the other words do nothing more than identify functions for the "device" to perform.

Bosch does not dispute the generic meaning of "device," but it argues that the terms "program recognition device" and "program loading device" both name physical electronic structures with physical connections to other components discussed in the '313 patent. According to Bosch, the specification explains how the "program recognition device" connects through the diagnostic plug to the control unit of the motor vehicle and receives and processes signals from the control unit when it determines the program version. '313 patent col 2 ll. 20-22 ("the program version contained in the connected control unit is queried and recognized using the *program recognition device*"); col. 3 ll. 19-23 ("the external diagnostic tester automatically checks, using the *program recognition device* simultaneously and preferably automatically, which program version and which data record is available in the control unit connected at that moment") (emphases added). And Bosch claims that the specification explains how the "program recognition device" connects to the diagnostic plug in the motor vehicle to interface with the control unit. '313 patent abstract ("the program available in the motor vehicle [is] recognized via the diagnostic/test plug").

However, as Snap-On notes, the '313 patent's specification does not contain a single reference to the structure of the "program recognition device" itself; all of the proffered citations from the specification merely explain its function. For example, the statement that the external diagnostic tester is "equipped" with the "program recognition device" that "querie[s] and recognize[s]" program versions in the control unit is nothing more than a functional description. '313 patent col. 2 ll. 18-22. This passage is devoid of structure. Likewise, the passage that explains how the external diagnostic tester uses the "program recognition device" to automatically check which program version is currently on the control unit only describes the connection of the external diagnostic tester to the control unit in the vehicle. *See id.* at col. 3 ll. 19-23. The specification is, therefore, also silent about any interaction between the "program recognition device" and other components of the system, including the external diagnostic tester. Contrary to what Bosch contends, the specification does not teach how the "program recognition device" receives and processes signals, as the words "signal" and "process" are not even in the specification.

Similarly, Bosch argues that the specification explains that the "program loading device" loads, if necessary, an updated version of a program into the program storage device component of the control unit. *Id.* at col. 3 ll. 25-29. And Bosch notes that the specification states the "program loading device" interfaces with the control unit of a motor vehicle via the diagnostic plug in the motor vehicle. *See id.* at col. 1 ll. 29-31 (prior art discussing how "control unit programs can be loaded into the unprogrammed control unit via the interface of the diagnostic/test plug"). In addition, Bosch notes that this occurs via "the serial communication protocol," *id.* at col. 3 ll. 32-35, which Bosch uses as support for its argument that signals are passed and processed. Thus, Bosch claims that the '313 patent teaches how the "program loading

device" connects to, interacts with, and sends signals to physical components of a motor vehicle through physical connections.

Much like the descriptions of the "program recognition device," the passages in the specification on which Bosch relies to discuss the "program loading device" provide no structural guidance. Indeed, as Snap-On notes, the '313 patent is silent on what such a "program loading device" consists of; the loading could be achieved by using any type of device that comprises hardware, software, or both. And the specification is again silent about how the "program loading device" receives and processes signals; the lone mention of a serial communication protocol is actually in reference to the "diagnostic/test plug." *See* '313 patent col. 3 ll. 32-35 ("The control units used today are equipped with a flash storage device that can be programmed via the serial communication protocol via the diagnostic/test plug."). Because the '313 patent's disclosures of "program recognition device" and "program loading device" are solely functional, one of ordinary skill in the art could not find in the specification a definition of the terms as referring to a particular structure.

In trying to avoid invoking § 112, ¶ 6, Bosch also heavily relies on *Inventio*, a case where we held that the term "modernizing device" fell outside § 112, ¶ 6 based on the extensive structural description in the intrinsic record. *Inventio*, 649 F.3d at 1357-59. In *Inventio*, however, the specification and drawings of the patent-in-suit not only described in detail how the "modernizing device" was "connected to an elevator control and a computing unit" but also showed the internal components of the "modernizing device," including a processor, a signal generator, a converter, memory, and signal receiver elements. *Id.* at 1354, 1358. Dependent claims further referred to "input, output, and signal receiver aspects" of the "modernizing device." *Id.* at 1358. Here, unlike in *Inventio*, the claims involve ordinary functional terms, and there is no lan-

guage in the '313 patent's dependent claims or specification that defines the terms to refer to structures.

Finally, Bosch argues that the district court improperly disregarded the declaration of its expert witness, Dr. Wagner, who is also a named inventor. At a minimum, Bosch alleges that this declaration created a disputed issue of material fact. Dr. Wagner asserted that the two claim terms were generally understood to have structural meanings in the art at the time of the invention. He stated that a "program recognition device" is "an electronic detection unit configured to identify or acknowledge the existence, status or validity of a program," and by definition, "it connotes structure." J.A. 3087 ¶¶ 21, 27. Dr. Wagner also posited that a "program loading device" is "an electronic device configured to copy or move a computer program into a memory area from which the program is executed," and he stated that this meaning connotes a physical electronic structure. J.A. 3085 ¶ 12. However, Dr. Wagner's statements are both conclusory and unhelpful to Bosch. Labeling the devices as "electronic" and repeating their function does not identify structure.

Dr. Wagner also stated that one of ordinary skill in the art would be able to employ the functions of the "program recognition device" and the "program loading device" by using one of many possible devices. *See* J.A. 3087 ¶ 24 ("I have had hands-on experience with the following types of program recognition devices: translators, converters, receivers, bus monitors, calibration applications and development environments."); J.A. 3085 ¶ 15 ("I have had hands-on experience with an installer, which is one type of program loading device."). However, merely listing examples of possible structures is insufficient to avoid invocation of § 112, ¶ 6. Indeed, means-plus-function language that defines a category in functional terms will typically cover examples of structures

that fall within it. This is not a basis for distinguishing structural language from § 112, ¶ 6 language.

Although Bosch was entitled to a presumption against means-plus-function claiming, for the foregoing reasons we agree with the district court and Snap-On that this presumption was overcome. The claim terms, construed in light of the specification, fail to provide sufficiently definite structure to one of skill in the art. The claim terms "program recognition device" and "program loading device" invoke § 112, ¶ 6.

C. The Two Claim Terms Are Indefinite

Since we have concluded that both claim terms invoke § 112, ¶ 6, we now must attempt to construe the terms by identifying the "corresponding structure . . . described in the specification" to which the claim term will be limited. *Welker Bearing Co.*, 550 F.3d at 1097. "If there is no structure in the specification corresponding to the means-plus-function limitation in the claims, the claim will be found invalid as indefinite." *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007). On this point, however, little needs to be said. Bosch did not argue to this court that, even if the claim language at issue is within § 112, ¶ 6, the language is definite because the specification sufficiently discloses corresponding structure. *See* Appellant's Br. 51-52. And we also see no such disclosure.

Indeed, as already discussed in Part III.B, in the limited number of instances that the specification even mentions these claim terms, it offers no further guidance about their structures. Therefore, we conclude that "program recognition device" and "program loading device" are indefinite. Since these terms are found in the only independent claim of the '313 patent, we conclude that all claims in the '313 patent are invalid.

IV. CONCLUSION

Since we agree with the district court that both "program recognition device" and "program loading device" are means-plus-function terms and that the specification does not disclose the requisite corresponding structures, we affirm the district court's holding that all claims in the '313 patent are invalid as indefinite.

AFFIRMED