United States Court of Appeals for the Federal Circuit

TECHTRONIC INDUSTRIES CO. LTD., TECHTRONIC INDUSTRIES NORTH AMERICA, INC., ONE WORLD TECHNOLOGIES, INC., OWT INDUSTRIES, INC., ET TECHNOLOGY (WUXI) CO. LTD.,
Appellants

v.

INTERNATIONAL TRADE COMMISSION,
Appellee

THE CHAMBERLAIN GROUP, INC.,
Intervenor

2018-2191

Appeal from the United States International Trade Commission in Investigation No. 337-TA-1016.

Decided: December 12, 2019

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Before LOURIE, DYK, and WALLACH, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Techtronic Industries Co. Ltd. and Techtronic Industries North America Inc. ("TTI"), One World Technologies Inc. and OWT Industries Inc. ("One World"), and ET Technology (Wuxi) Co. Ltd. ("ET") (collectively, "Appellants") appeal from a final determination of the United States International Trade Commission (the "Commission"), rendered under Section 337 of the Tariff Act of 1930, codified as amended at 19 U.S.C. § 1337 (2018). Following an investigation, the Commission determined that each of the Appellants violated Section 337(a)(1)(B) through the importation of garage door opener products that infringe claims 1–4, 7–12, 15, and 16 of U.S. Patent 7,161,319 (the "'319 patent"). *Certain Access Control Systems and Components Thereof*, Inv. No. 337-TA-1016, USITC Pub. 4957, 2018 WL 8519593, at *1 ("*Commission Determination*") (Mar. 23, 2018); Notice of Final Determination in USITC Inv. No. 337-TA-1016, 83 Fed. Reg. 13,517 (Mar. 29, 2018). The Commission then entered limited exclusion orders against each of the Appellants and cease and desist orders against TTI and One World (collectively, the "Remedial

Orders"). *See Commission Determination*, 2018 WL 8519593, at *22–24; 83 Fed. Reg. 13,517.

We conclude that the Commission erred in its construction of "wall console," a term in each of the '319 patent claims. Accordingly, we reverse its construction and its final determination of infringement, and we vacate the Remedial Orders.

BACKGROUND

Intervenor Chamberlain Group Inc. ("Chamberlain") develops and markets garage door opener technology. It owns the '319 patent, which discloses improved "movable barrier operators," such as garage door openers. '319 patent col. 1 ll. 14–20. The '319 patent explains that passive infrared detectors had been used in prior art garage door openers "for the detection of a person in a particular vicinity" and for automatically controlling functionality—such as lights or the motion of the garage door—accordingly. *Id.* col. 1 ll. 21–50. Passive infrared detectors were often associated with the head unit of the garage door opener, an approach the '319 patent describes as "expensive," "fragile," "deficient," and even potentially unsafe. *Id.* col. 1 l. 51–col. 2 l. 3. The patent describes that there was a need for "a passive infrared detector for controlling illumination from a garage door operator which could be quickly and easily retrofitted to existing garage door operators." *Id.* col. 2 ll. 4–7.

The '319 patent discloses as its invention "a passive infrared detector for a garage door operator," '319 patent col. 2 l. 13, where "the infrared detector . . . [is] contained in a wall control unit," along with an ambient light comparator and a microcontroller. *Id.* col. 2 ll. 17–19. The comparator provides a signal to the microcontroller indicating the status of the lights in the garage, and the microcontroller "communicates over the lines carrying the normal wall control switch signals with a microcontroller in a head unit of the garage door" opener, *id.* col. 2 ll. 36–38, using

"conventional signaling channels," *id.* col. 2 ll. 66–67. The '319 patent proposes methods of programming the wall control unit's microcontroller to control the head unit. The patent also discloses a preferred embodiment, which is illustrated in the figures. The preferred embodiment contains "a wall control unit embodying the present invention," *id.* col. 4 l. 5, "includ[ing] a passive infrared sensor," *id.* col. 4 ll. 22–23, and a microcontroller programmed to command a counterpart microcontroller in the head unit using known digital signaling techniques, like pulse width modulation. Claim 1, recited below, is representative:

> 1. An improved garage door opener comprising
>
> a motor drive unit for opening and closing a garage door, said motor drive unit having a microcontroller
>
> and a *wall console*, said *wall console* having a microcontroller,
>
> said microcontroller of said motor drive unit being connected to the microcontroller of the wall console by means of a digital data bus.

'319 patent col. 7 ll. 34–39 (emphasis and formatting added).

In July 2016, Chamberlain filed a complaint at the Commission, alleging that the Appellants violated Section 337(a)(1)(B) by the "importation into the United States, the sale for importation, and the sale within the United States after importation" of Ryobi Garage Door Opener models that infringe the '319 patent, along with U.S. Patents

7,339,336 and 7,196,611.[1] The Commission then instituted an investigation.

The Administrative Law Judge issued a claim construction order concerning the patents-in-suit. Order No. 13, *Certain Access Control Systems and Components Thereof*, Inv. No. 337-TA-1016 (Jan. 26, 2017) ("*ALJ Opinion*"), J.A. 5287. The only disputed term of the '319 patent was "wall console." The ALJ acknowledged Chamberlain's argument that the plain and ordinary meaning of "wall console" is "wall-mounted control unit" but decided that, under this court's holding in *Poly-America, L.P. v. API Industries, Inc.*, 839 F.3d 1131 (Fed. Cir. 2016), Chamberlain had disavowed wall consoles lacking a passive infrared detector. *ALJ Opinion*, slip op. at 14–18. The ALJ determined that the '319 patent sets forth its invention as a passive infrared detector superior to those of the prior art by virtue of its location in the wall console, rather than in the head unit, and that the only embodiment in the '319 patent places the passive infrared detector in the wall console as well. Thus, the ALJ construed "wall console," as "wall-mounted control unit including a passive infrared detector." *Id.* at 18.

The ALJ then granted Appellants' unopposed motion for summary determination of non-infringement of the '319 patent based upon the ALJ's construction. The

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[1] Chamberlain previously asserted the same patents in an infringement suit against the Appellants and Ryobi Technologies Inc. in the United States District Court for the Northern District of Illinois. First Amended Complaint, *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, No. 1:16-cv-06094 (N.D. Ill. July 1, 2016), ECF No. 24. That case is currently stayed pursuant to 28 U.S.C. § 1659, pending final resolution of the Commission's investigation. Minute Entry, *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, No. 1:16-cv-06094 (N.D. Ill. Sept. 7, 2016), ECF No. 30.

Commission provided notice that it would review the ALJ's order and later issued a decision reversing the ALJ's construction of "wall console" and vacating his initial determination of noninfringement. *Certain Access Control Systems and Components Thereof*, Inv. No. 337-TA-1016, USITC Pub. 4957, 2017 WL 11198844 ("*Commission Opinion*") (May 5, 2017).[2]

The Commission concluded that, while "the ['319] specification describes the 'principal aspect of the present invention' as providing an improved [passive infrared detector] for a garage door operator," the specification discloses other aspects of the invention, and a patentee is not required to recite in each claim all features described as important in the written description. *Commission Opinion*, 2017 WL 11198844, at *9 (citing *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004)). In addition, the Commission noted that the claims of U.S. Patent 6,737,968, which issued from a parent application, expressly located the passive infrared detector in the wall console, "demonstrat[ing] the patentee's intent to claim wall control units *with* and *without* [passive infrared detectors]," *Commission Opinion*, 2017 WL 11198844, at *10, and therefore weighing against disavowal. The Commission distinguished *Poly-America* on the basis that the prosecution history of the '319 patent lacked "the clear prosecution history disclaimer" present in that case. *Id.* at *12.

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[2] Before the Commission, Chamberlain and the Appellants agreed that the plain meaning of "wall console" is "wall-mounted control unit." *Commission Opinion*, 2017 WL 11198844, at *4. Moreover, the parties do not argue on appeal that the slight distinction between "wall console" and "wall-mounted control unit" is relevant. *See* Appellants Br. 50; Chamberlain Br. 5, 19; Commission Br. 29.

Under the Commission's construction, the ALJ found that Appellants infringed the '319 patent, a determination the Commission adopted. *Commission Determination*, 2018 WL 8519593, at *1. Accordingly, the Commission entered the Remedial Orders against the Appellants. *Id.* at *22–24.

This appeal followed.[3] We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(6).

DISCUSSION

Our review of the Commission's final determination of a Section 337 violation is governed by the standards of the Administrative Procedure Act. *Ajinomoto Co. v. Int'l Trade Comm'n*, 597 F.3d 1267, 1272 (Fed. Cir. 2010); 19 U.S.C. § 1337(c). Under 5 U.S.C. § 706, we review the Commission's legal determinations *de novo* and its factual findings for substantial evidence. *Converse, Inc. v. Int'l Trade Comm'n*, 909 F.3d 1110, 1115 (Fed. Cir. 2018) (citing *Cisco Sys., Inc. v. Int'l Trade Comm'n*, 873 F.3d 1354, 1360–61 (Fed. Cir. 2017)). A finding is supported by substantial evidence if a reasonable mind might accept the evidence as adequate to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

Under 35 U.S.C. § 112, a patent specification must "conclude with one or more claims particularly pointing out and distinctly claiming [the invention]," a requirement

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[3] Chamberlain appealed from the same final determination, but it did so with respect to the Commission's decision that the Appellants did not infringe U.S. Patent 7,339,336. We affirmed that decision separately. *See Chamberlain Grp., Inc. v. Int'l Trade Comm'n*, 780 F. App'x 925 (Fed. Cir. 2019). The Commission terminated its investigation with respect to U.S. Patent 7,196,611. J.A. 13260; *Commission Determination*, 2018 WL 8519593, at *3.

that must be complied with "accurately and precisely," *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938). Patent infringement "requires a finding that the patent claim covers the alleged infringer's product or process, which in turn necessitates a determination of what the words in the claim mean." *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 374 (1996) (quotation marks and citation omitted). Claim construction is ultimately an issue of law, which we review *de novo*. *Shire Dev., LLC v. Watson Pharm., Inc.*, 787 F.3d 1359, 1364 (Fed. Cir. 2015).

The Appellants make one principal argument on appeal: that the Commission erred in reversing the ALJ's claim construction because, they assert, Chamberlain disavowed coverage of garage door openers with wall consoles lacking a passive infrared detector. The Appellants point to the '319 patent's consistent description of the invention as a wall console with a passive infrared detector—a feature included in the sole embodiment—and the patent's disparagement of prior art garage door openers that placed the detector in the head unit. Under *Poly-America* and similar cases, the Appellants maintain, such a description of the invention as a whole constitutes a disavowal of claim scope.

Chamberlain argues in response that locating the passive infrared detector in the wall console is only one aspect of the invention. It cites in particular the '319 patent's use of digital signaling techniques, along with the disclosed methods of programming the wall console's microcontroller, as means for controlling the operation of the garage door opener. Chamberlain also highlights portions of the specification that describe the invention more broadly as "relat[ing] in general to movable barrier operators" or to "garage door operators . . . which include passive infrared detectors associated with them." Chamberlain Br. 22 (quoting '319 patent col. 1 ll. 14–17). As a result, Chamberlain contends that the '319 patent's characterization of

the invention does not rise to the level of a disavowal of claim scope.

The Commission adds that the claims of the parent '968 patent are expressly directed to garage door openers that locate the passive infrared detector in the wall console, indicating the patentee's intention to seek broader claims in the instant patent, without specifying the location of the passive infrared detector.

We agree with the Appellants that Chamberlain disavowed coverage of wall consoles without a passive infrared detector. Claim terms are normally given their ordinary and customary meaning, as understood by persons of ordinary skill in the art in view of the specification and prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). But where the inventor has clearly set forth a different definition of a claim term, or has manifested that the invention does or does not include a particular aspect, that intention "is regarded as dispositive." *Id.* at 1316 (citing *SciMed Life Sys., Inc. v. Adv. Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343–44 (Fed. Cir. 2001)). In the latter circumstance, the inventor has "disavowed" claim scope.

A disavowal must be clear, but it need not be explicit. *See Trs. Of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016). Disavowal "may be inferred from clear limiting descriptions of the invention in the specification or prosecution history." *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012); *see also Blackbird Tech LLC v. ELB Elecs., Inc.*, 895 F.3d 1374, 1377–78 (Fed. Cir. 2018) (collecting cases and finding no disavowal where the specification did not teach that the feature in question was "important, essential, or critical to the invention"). An inventor may also disavow claim scope "by distinguishing the claimed invention over the prior art." *Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1304 (Fed. Cir. 1997). Ultimately, as this court held in *Phillips*,

the purpose of claim construction is to "capture the scope of the actual invention," and whether "the embodiments . . . define the outer limits of the claim term," or are "merely . . . exemplary in nature," is a question that must be determined "in the context of the particular patent." 415 F.3d at 1323–24.

We conclude that the '319 patent disavows coverage of wall consoles lacking a passive infrared detector because the specification, in each of its sections, discloses as the invention a garage door opener improved by moving the passive infrared detector from the head unit to the wall console. It is axiomatic that, where the specification "describes 'the present invention' as having [a] feature," that representation may disavow contrary embodiments. *See Poly-America*, 839 F.3d at 1136 ("[A]n inventor may disavow claims lacking a particular feature when the specification describes 'the present invention' as having that feature." (citing *Luminara Worldwide, LLC v. Liown Elecs. Co.*, 814 F.3d 1343, 1353 (Fed. Cir. 2016))). The '319 patent, by consistently representing the invention as the placement of the detector in the wall console, has thus effected a disavowal of alternative locations.

According to the background section, the prior art taught the use of passive infrared detectors in the head unit of the garage door opener to control the garage's lighting, but that locating the detector in the head unit was expensive, complicated, and unreliable. *See* '319 patent col. 1 l. 51–col. 2 l. 3. The '319 patent therefore sets out to solve the need for "a passive infrared detector for controlling illumination from a garage door operator which could be quickly and easily retrofitted to existing garage door operators with a minimum of trouble and without voiding the warranty." *Id.* col. 2 ll. 4–8.

The remaining sections of the patent—even the abstract—disclose a straightforward solution: moving the detector to the wall console. *See* '319 patent at Abstract ("A

wall control unit . . . sends baseband signals over a wire connection to a head unit . . . . An infrared detector causes a command signal to be sent to the head unit to control . . . the light source."); *id.* at Summary of the Invention, col. 2 ll. 13–22 (disclosing a "passive infrared detector" that, together with the comparator and the microcontroller, generate signals to control the garage door opener and lights); *id.* col. 2 ll. 17–19 ("Both the infrared detector and the comparator and the microcontroller are contained in a wall control unit."); *id.* at Brief Description of the Drawings, col. 3 ll. 10–37 (illustrating the preferred embodiment, "a garage door operator, having associated with it a passive infrared detector in a wall control unit and embodying the present invention"); *id.* at Detailed Description of the Preferred Embodiment, col. 3 l. 39–col. 7 l. 26 (describing the preferred embodiment and teaching, at col. 4 ll. 22–23, a "wall control, as may best be seen in FIG. 4, includ[ing] a passive infrared sensor").[4]

The suggestion that the patent recites another invention—related to programming the microcontroller—in no way undermines the conclusion that the infrared detector must be on the wall unit. As Chamberlain and the Commission argue, that portions of the description, particularly col. 4 l. 60–col. 7 l. 26, concern an exemplary method of programming the microcontroller to interact with the head unit by means of certain digital signaling techniques,

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[4] In addition, Figures 5–11, which illustrate in detail the wall console of Figures 1 and 4, appear to depict the passive infrared detector behind a lens. Provisional Application 60/128,209, from which the '968 patent and '319 patent claim priority, specified that the passive infrared detector was located behind a "Fresnel lens 61" in Figures 5–11. Provisional Application 60/128,209, Apr. 7, 1999, Miscellaneous Incoming Letter, Specification at page 6 l. 17.

matters not strictly related to the detector. But the entire purpose of this part of the description is to enable placement of the detector in the wall console, and it never discusses programming the microcontroller or applying digital signaling techniques for any purpose other than transmitting lighting commands from the wall console. *See, e.g.*, '319 patent col. 5 ll. 46–49, col. 6 ll. 9–11, col. 7 ll. 12–19; *see also id.* col. 2 ll. 36–63.

Moreover, claim 1 is not limited to any specific programming means or digital signaling technique, and the specification teaches that the signaling is accomplished through "conventional signaling channels" connecting the wall console and the head unit. '319 patent col. 2 l. 67. And Claim 1's requirement of a "digital data bus" is supported in the specification only by a disclosure of "the lines carrying the normal wall control switch signals." J.A. 4628 (identifying "line 62" in the specification, col. 4 ll. 5–32, as the bus). Thus, this section of the '319 patent can only be understood as disclosing means to enable placement of the detector in the wall console by using preexisting components of the garage door opener.

Nevertheless, the Commission maintains that the '319 patent's criticism of prior art garage door openers that located the detector in the head unit, and its disclosure of a solution to that problem in the form of locating the detector in the wall console, fall short of disavowal because "[n]owhere does the '319 patent state that it is impossible or even infeasible to locate a passive infrared detector at some other location." Commission Br. 58.

We disagree with the Commission. While "mere criticism" of a particular embodiment will not always rise to the level of disavowal, depending on the rest of the intrinsic record, *see Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1366–68 (Fed. Cir. 2012), we must construe claims "in the light of the specifications and . . . with a view to ascertaining the invention." *United States v. Adams*,

383 U.S. 39, 49 (1966) (collecting cases). Where, as here, the specification plainly represents the scope of the invention to the exclusion of some embodiments, it is unnecessary that it also concede that those embodiments are "infeasible" or even "impossible" by reference to its teachings. *See Trs. of Columbia Univ.*, 811 F.3d at 1363–64 (rejecting a requirement of "express[]" disavowal (citing *Phillips*, 415 F.3d at 1320–21)). Indeed, it is difficult to imagine a situation in which the Commission's standard for disavowal would be satisfied. Here, the entire specification focuses on enabling placement of the passive infrared detector in the wall console, which is both responsive to the prior art deficiency the '319 patent identifies and repeatedly set forth as the objective of the invention. Thus, the '319 patent disavows locating the detector elsewhere, even without an express concession to that effect.

Finally, we reject the contention of Chamberlain and the Commission that the '319 patent's prosecution history is inconsistent with disavowal. As these parties note, we have long held that claims must be construed in light of both the specification and the prosecution history. *See, e.g.*, *Phillips*, 415 F.3d at 1317. Disavowal may be unlikely where the prosecution history contains contradictory statements, *see Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 798–99 (Fed. Cir. 2019), but there is also no requirement that the prosecution history reiterate the specification's disavowal.

Here, the prosecution history sheds little light on the meaning of "wall console." As Chamberlain notes, it previously obtained claims expressly locating the passive infrared detector in the wall console in the '968 patent. But, as the Appellants respond, when later faced with an enablement rejection during prosecution of the '319 patent, Chamberlain identified as its enabling disclosure the wall console of the preferred embodiment, which contains a passive infrared detector. J.A. 4628.

We do not find the arguments of Chamberlain and the Commission persuasive. In particular, the fact that Chamberlain obtained more modest claims in its parent patent does not inoculate it from the specification's disavowal. *See Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) ("[A]ny presumption created by the doctrine of claim differentiation 'will be overcome by a contrary construction dictated by the written description or prosecution history.'" (quoting *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005))). The prosecution history lacks any indication that Chamberlain defined "wall console" differently there than in the specification, which discloses a wall console with a passive infrared detector as the critical and inventive feature.

We conclude that the '319 patent disavows wall consoles lacking a passive infrared detector. Accordingly, we reverse the Commission's claim construction order and hold that the term "wall console" in each of the '319 patent claims is properly construed as "wall-mounted control unit including a passive infrared detector." Because the parties agree that the Appellants do not infringe the '319 patent under the ALJ's claim construction, Appellants Br. 50; J.A. 9105–10, the Commission's determination of infringement must also be reversed.

CONCLUSION

We have considered the parties' further arguments but find them unpersuasive. For the foregoing reasons, we reverse the Commission's construction of "wall console" and its final determination of infringement, and we vacate the Remedial Orders.

REVERSED-IN-PART AND VACATED-IN-PART

COSTS

Costs to Appellants.