NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

SHARKNINJA OPERATING LLC, SHARKNINJA MANAGEMENT LLC, SHARKNINJA SALES COMPANY,
Appellants

v.

IROBOT CORPORATION,
Appellee

2023-1151

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2021-00545.

Decided: March 15, 2024

DANIEL C. TUCKER, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Reston, VA, argued for appellants. Also represented by ERIKA ARNER, Washington, DC; BENJAMIN AARON SAIDMAN, Atlanta, GA.

JOHN C. O'QUINN, Kirkland & Ellis LLP, Washington, DC, argued for appellee. Also represented by WILLIAM H.

BURGESS, GREGG LOCASCIO, SEAN M. MCELDOWNEY, TERA JO STONE.

Before LOURIE, HUGHES, and STARK, *Circuit Judges*.

LOURIE, *Circuit Judge*.

SharkNinja Operating LLC, SharkNinja Management LLC, and SharkNinja Sales Company ("SharkNinja") appeal from a final written decision of the U.S. Patent and Trademark Office Patent Trial and Appeal Board ("the Board") holding that claims 24, 25, 32–34, 36, 37, 55, 56, and 62 of U.S. Patent 7,571,511 had not been shown to have been unpatentable as obvious in view of the asserted prior art. *SharkNinja Operating LLC v. iRobot Corp.*, No. IPR2021-00545, 2022 WL 4111189 (P.T.A.B. Sept. 6, 2022) ("*Decision*"). For the following reasons, we *affirm*.

BACKGROUND

This appeal pertains to an *inter partes* review ("IPR") in which SharkNinja challenged various claims of the '511 patent directed to an autonomous floor-cleaning robot vacuum. Independent claim 24 is presented below:

> 24. A self-propelled floor-cleaning robot comprising
>
> a housing defining a round housing perimeter;
>
> a powered primary brush assembly disposed within the round housing perimeter and positioned to engage a floor surface;
>
> a powered side brush extending beyond the round housing perimeter and positioned to brush floor surface debris from beyond the round housing perimeter;
>
> an obstacle detector responsive to obstacles

> encountered by the robot; and
>
> a control circuit in electrical communication with the motor drive and configured to control the motor drive to maneuver the robot about detected obstacles across the floor surface during a floor-cleaning operation.

'511 patent, col. 17 ll. 50–63 (emphases added).

Independent claim 55 similarly recites a self-propelled floor-cleaning robot comprising "a cleaning head disposed within the round housing perimeter" and "a powered rotating side brush extending beyond the round housing perimeter." *Id.* col. 20 ll. 5–29. Only the primary brush assembly and cleaning head limitations are at issue in this appeal; thus, the patentability of the corresponding dependent claims rests on the fate of independent claims 24 and 55.

In its petition, SharkNinja raised multiple grounds of invalidity under 35 U.S.C. § 103 based on Bisset[1] in view of various additional references including Toyoda.[2] Bisset describes a self-propelled floor-cleaning robot comprising wheels, a controller, and a housing, as well as a cleaning head comprising a brush. *Decision* at *4; J.A. 2001–04, 2018–22. Bisset's cleaning head, however, extends beyond the perimeter of the robot's housing, yielding a protuberance described as being useful for cleaning edges and corners. *See* J.A. 2003 ("[T]he cleaner head 122 is asymmetrically mounted on the chassis 102 so that one side of the cleaner head 122 protrudes beyond the general circumference of the chassis 102. This allows the cleaner 100 to clean up to the edge of a room on the side of the cleaner 100 on which the cleaner head 122 protrudes."),

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[1] International Patent Application Publication 2000/38026; J.A. 1997.

[2] Japanese Patent Application Publication 2000-353014 A, published December 19, 2000; J.A. 2046.

2022 (FIGS. 5A & 5B). Toyoda teaches a self-propelled cleaning robot that comprises side brushes. *Decision* at *4; J.A. 2049, 2082.

The Board construed claims 24 and 55 to require that their respective primary brush assembly and cleaning head be "entirely within" the housing perimeter, *Decision* at *3–4, and found that Bisset's robot did not meet that limitation, *id.* at *7–8. The Board further held that SharkNinja had not met its burden to establish that a person of ordinary skill in the art would have had a motivation to redesign the Bisset structure such that its cleaning head no longer protruded beyond the housing perimeter. *Id.* at *7–8. The Board thus concluded that SharkNinja had failed to establish that the combination of Bisset and Toyoda rendered independent claims 24 and 55, as well as the claims that depend therefrom, obvious. *Id.*

SharkNinja appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 141(c).

DISCUSSION

We review the Board's legal determinations *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004), and the Board's factual findings for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). 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).

SharkNinja argues that the Board erred in construing claim 24's "primary brush assembly disposed within the round housing perimeter" and claim 55's "cleaning head disposed within the round housing perimeter" to require that those structures be "entirely within" the round housing perimeter. It further argues that the Board erred in finding that it failed to establish a motivation to modify Bisset such that the cleaning head would have been positioned entirely within the housing perimeter. We address

each argument in turn.

Claim construction is ultimately a question of law that we review *de novo*. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 808 (Fed. Cir. 2021). "It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention[,] which the patentee is entitled . . . to exclude'" others from practicing. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("[W]e look to the words of the claims themselves . . . to define the scope of the patented invention.").

We begin with the language of the claims, which expressly require that the primary brush assembly and cleaning head be "within" the housing perimeter. The term "within" establishes a relationship between the primary brush assembly, or alternatively, the cleaning head, and the boundary structure of the housing perimeter. *See* '511 patent, col. 17 ll. 52–54; *id.* col. 20 ll. 17–18. In contrast, a different limitation reciting a side brush establishes a relationship between that side brush and the housing perimeter such that the side brush "extend[s] beyond the housing perimeter." *See id.* col. 17 ll. 55–57; *see also id.* col. 20 ll. 19–25. Given that the claims expressly contemplate that the side brush "extend[s] beyond" the housing perimeter, while the primary brush assembly and cleaning head exist "within" the perimeter, the plain language of the claims supports that the primary brush assembly and cleaning head be located entirely within the housing perimeter.

The specification similarly describes how the primary brush assembly is "mounted in the deck 82 recess," which is consistently depicted as existing entirely within the housing perimeter. *See* '511 patent, col. 12 ll. 29–38; *id.* FIGS. 3A–3B, 6–7B. That placement of the primary brush assembly, or cleaning head, allows for macroscopic and

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