NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

TIPPMANN ENGINEERING, LLC,
Plaintiff-Appellant

v.

INNOVATIVE REFRIGERATION SYSTEMS, INC., MICHAEL J. MCGINNIS, JR.,
Defendants-Appellees

2022-1318

Appeal from the United States District Court for the Western District of Virginia in No. 5:19-cv-00087-MFU-JCH, Chief Judge Michael F. Urbanski.

Decided: January 3, 2023

ANDREW M. MCCOY, Faegre Drinker Biddle & Reath LLP, Indianapolis, IN, argued for plaintiff-appellant. Also represented by ALEXANDRA LAKSHMANAN LUSTER, Denver, CO; LUCAS J. TOMSICH, East Palo Alto, CA.

JOSHUA GLIKIN, Bowie & Jensen, LLC, Towson, MD, argued for defendants-appellees.

Before REYNA, SCHALL, and CHEN, *Circuit Judges*.

CHEN, *Circuit Judge*.

Tippmann Engineering, LLC (Tippmann) sued Innovative Refrigeration Systems, Inc., and Michael J. McGinnis, Jr., (collectively, Innovative) for infringement of U.S. Patent No. 9,297,570 ('570 patent). Following the district court's claim construction order, the parties stipulated to non-infringement, and the district court entered final judgment. Because we agree with the district court's construction of the dispositive claim term, we *affirm*.

BACKGROUND

I

The '570 patent is a continuation of U.S. Patent No. 8,783,047 ('047 patent) and is directed to a "large warehouse, building, or structure" that is "used as a giant freezer that both freezes and maintains perishable foods or like products." '570 patent col. 1 ll. 29–32. Unlike "two-stage freezer warehouses," where products are rapidly frozen in "blast rooms" before being "moved to the storage parts of the warehouse," the '570 patent teaches a "one-stage freezing storage system" that utilizes "a specially configured rack system that assists [in] freezing the product directly in the open warehouse space." *Id.* at col. 1 ll. 32–42. Removing the blast rooms has two benefits. First, more space can be dedicated to storing the product, thus "[i]ncreasing capacity or maneuvering room in a warehouse." *Id.* at col. 2 ll. 4–8. Second, by freezing the product in the same location that it is stored, the '570 patent's configuration "no longer requires transporting the pallet from the blast room to a separate storage location in the warehouse." *Id.* at col. 2 ll. 24–27.

The '570 patent specification is short but very clearly describes a lone embodiment in which the disclosed warehouse comprises "rows of racking" separated by aisles. *Id.* at col. 2 ll. 10–11. In each row, "pallets 4 are positioned

several high on opposing sides and along chamber 6," as shown below:

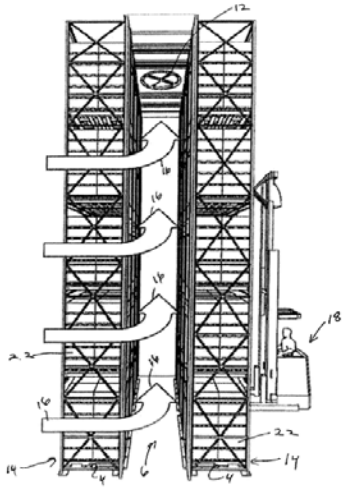

FIG. 4

Id. FIG. 4, col. 1 ll. 46–48; *see also id.* at col. 2 ll. 28–34. The '570 patent explains that its specially configured rack system operates as follows:

> Cold air produced in warehouse 2 is drawn through spacers . . . separating rows of cases of product on the pallet. This air cools the product down while being drawn into chamber 6 indicated by directional arrow 16. In an illustrative embodiment, and as further discussed herein, openings 30 along the periphery of chamber 6 mate with cases 22 on the pallets 4 . . . . The only significant way to move the cold air inside warehouse 2 is by going through and/or around the product on pallet 4. The air 16 drawn into chamber 6 can then be recooled and recirculated, or exhausted. Because the cold air moves around product prior to entering chamber 6, it provides an efficient means for freezing.

Id. at col. 1 ll. 48–59; *see also id.* at col. 2 ll. 29–32 ("[F]an 12 draws air in as indicated by directional arrow 16

through and around cases of product 22 on pallets 4 before entering chamber 6.").

The patent also discloses "chillers" that produce the cold air that flows through the product to both freeze it and maintain its frozen condition:

> Chillers 8 inside warehouse 2 produce the cold air that flows through aisles 10 and into chambers 6. It is appreciated that chillers 8 can be positioned in different locations as needed inside warehouse 2. . . . The chilled air passes through open spaces near or through cases of product in order to enter chamber 6. Air handlers, such as fans 12 inside or in air flow communication with chamber 6 assist in drawing the air within warehouse 2 through the palletized and/or through the product cases and into the channel. Continuing this process freezes the product as well as maintains its frozen condition.

Id. at col. 1 l. 60 – col. 2 l. 4.

Independent claim 1 is representative and recites:

> 1. An installation for warehousing pallets of product, comprising:
>
> > *a warehouse defining a warehouse space set to a desired air temperature*; and
> >
> > a pallet racking assembly disposed in the warehouse space, the pallet racking assembly comprising:
> >
> > > a pallet receiving space sized and configured to receive a pallet assembly including a pallet and a plurality of vertically stacked rows of cases disposed on the pallet and providing an airflow pathway

> through the vertically stacked rows of cases;
>
> an airflow chamber including an *air inlet and an air outlet*;
>
> *a fan positioned to direct air into the airflow chamber from the air inlet and exhaust air into the warehouse space through the air outlet*; and
>
> a wall disposed between the pallet receiving space and the airflow chamber, the wall having an airflow opening defining an opening periphery, the opening sized and positioned to be sealingly engaged by the pallet assembly when the pallet assembly is pressed against the opening periphery, whereby the air at the desired air temperature can pass into the airflow pathway of the pallet assembly to thereby transfer heat between the product and the air.

Id. at col. 4 ll. 24–48 (emphases added). The italicized phrases are the focus of this appeal.

II

Tippmann sued Innovative, alleging that Innovative infringed claims 1–4, 8–16, and 19–22 of the '570 patent. J.A. 1–2. On November 9, 2021, the district court issued a claim construction order. *Tippmann Eng'g, LLC v. Innovative Refrigeration Sys., Inc.*, No. 5:19-cv-87, 2021 WL 5236872 (W.D. Va. Nov. 9, 2021) (*Claim Construction Order*).

Relevant here, the parties disputed whether "an air inlet and an air outlet" and "a fan positioned to direct the air into the airflow chamber from the air inlet and exhaust air into the warehouse space through the air outlet" (collectively, Air Flow Terms) require a negative-pressure arrangement (also called an induced air arrangement), in which air is drawn or sucked through the products to be frozen, or whether the Air Flow Terms also encompass a positive-pressure arrangement, in which air is forced or pushed through the products to be frozen. *Id.* at *2; *see also* J.A. 237–38; J.A. 542 ¶ 47. The district court found the claims are limited to a negative-pressure arrangement because "all figures and embodiments disclosed in the '047 and '570 Patents' shared specification either imply an induced air arrangement or expressly disclose an induced air arrangement" and that "no other embodiment or design is ever taught, illustrated, or suggested." *Claim Construction Order*, 2021 WL 5236872, at *12–13. The district court also found that the "prosecution history of the '047 Patent informs and limits the scope of the '570 claims" because Tippmann distinguished two prior art references disclosing positive-pressure arrangements by "vigorously argu[ing] that all of its independent claims required an 'induced air arrangement,' i.e., negative air pressure." *Id.* at *7. Thus, the district court construed "an air inlet and an air outlet" to mean "air intake(s) positioned along the wall of the air chamber that correspond to each pallet position, and an air outlet positioned at the top of the chamber from which air is exhausted from the chamber back into the warehouse space." *Id.* at *16. The court also construed "a fan positioned to direct the air into the airflow chamber from the air inlet and exhaust air into the warehouse space through the air outlet" to mean "the fan is positioned to create a negative pressure in the chamber that pulls air from the air inlets/intakes and pushes the air through the air outlet at the top of the chamber." *Id.*

The parties further disputed the construction of the term "a warehouse defining a warehouse space set to a desired air temperature" (Warehouse Term). The court first explained that, although the '570 patent's claims "do not expressly include the air chiller element," "it would be clear to a person of ordinary skill in the art that the system needs a chiller to function." *Id.* at *7 (citing '570 patent col. 1 ll. 60–61). The court then found that "the chiller must be within the warehouse space" because (1) the specification teaches that the chiller "can be positioned in different locations as needed inside warehouse 2," '570 patent col. 1 ll. 61–63, and (2) "Tippmann emphatically distinguished [the '047 patent's] application from [the prior art], asserting that its independent claims require 'at least one chiller in the . . . warehouse space,'" J.A. 937. *See Claim Construction Order*, 2021 WL 5236872, at *7, *11. Thus, the court construed "a warehouse defining a warehouse space set to a desired air temperature" to mean "a structure containing a space used as a giant freezer that contains a chiller and both freezes and maintains perishable foods or like products." *Id.* at *16.

Based on the court's constructions, the parties stipulated that Innovative did not infringe the asserted claims and requested the court enter judgment of non-infringement. J.A. 4–5. The district court entered a final judgment on December 3, 2021. J.A. 1–2. Tippmann timely appealed. We have jurisdiction under 28 U.S.C. §§ 1291 and 1295(a)(1).

DISCUSSION

We review claim construction based on intrinsic evidence de novo and review any findings of fact regarding extrinsic evidence for clear error. *SpeedTrack, Inc. v. Amazon.com, Inc.*, 998 F.3d 1373, 1378 (Fed. Cir. 2021) (citing *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 331–32 (2015)).

I. Air Flow Terms

Tippmann argues that the district court's construction of the Air Flow Terms is erroneous because the plain and ordinary meaning of the claims does not require a negative-pressure arrangement, and neither the '570 patent's specification nor the prosecution history of the '047 or '570 patents disclaim positive-pressure arrangements. Appellant's Br. 24–52. We disagree.

Claim construction requires determining how a skilled artisan would understand a claim term "in the context of the entire patent, including the specification." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). The specification is the "single best guide to the meaning of a disputed term," *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996), and is "the primary basis for construing the claims," *Phillips*, 415 F.3d at 1315 (internal quotation marks and citation omitted). Thus, although claim terms are normally given their ordinary and customary meaning, where the inventor has disavowed claim scope by manifesting 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. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343–44 (Fed. Cir. 2001)).

"A disavowal must be clear, but it need not be explicit." *Techtronic Indus. Co. v. Int'l Trade Comm'n*, 944 F.3d 901, 907 (Fed. Cir. 2019) (citing *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.'" *Id.* (first quoting *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012); and then citing *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")). In

the end, "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.'" *Id.* (quoting *Phillips*, 415 F.3d at 1323–24).

We conclude the '570 patent is singularly devoted to a negative-pressure system in which cold air is drawn into the chamber. The specification discloses as the invention a specially configured rack system that *draws* cold air from the warehouse through the palletized product to both freeze and store the product. *See, e.g.*, '570 patent col. 1 ll. 48–51 ("Cold air produced in warehouse 2 is *drawn* through spacers 20 (see FIG. 6) separating rows of cases of product on the pallet. This air cools the product down while being *drawn* into chamber 6 indicated by directional arrow 16." (emphases added)); *id.* at col 1 l. 56 ("The air 16 *drawn* into chamber 6 . . . ." (emphasis added)); *id.* at col. 1 ll. 57–59 ("Because the cold air moves around the product *prior to entering chamber 6*, it provides an efficient means for freezing." (emphasis added)); *id.* at col. 1 l. 66 – col 2 l. 4 ("Air handlers, such as fans 12 inside or in air flow communication with chamber 6, assist in *drawing* the air within warehouse 2 through the palletized and/or through the product cases and into the channel. Continuing this process freezes the product as well as maintains its frozen condition." (emphasis added)); *id.* at col. 2 ll. 29–32 ("[F]an 12 *draws* air in as indicated by directional arrow 16 through and around cases of product 22 on pallets 4 before entering chamber 6." (emphasis added)); *see also id.* at Abstract ("A plurality of racking structures each define an air flow chamber having air intake openings on opposite sides thereof and an air outlet to enable freezing air to be *drawn* into the chamber through the intake openings and exhausting into the warehouse space. Pallets on pallet guides are pressed against the intake openings such that freezing air is *drawn* through the palletized product to

thereby quickly freeze the product." (emphases added)); *id.* FIGS. 4, 6, 10 (arrows 16 depicting air flow from the warehouse aisles, through the product, and into chamber 6).

This arrangement, whereby cold air is *drawn* from the warehouse through the palletized product and into the chamber between the pallets, is a negative-pressure arrangement, and no other arrangement is taught or suggested. When viewed in its entirety, the '570 patent's disclosure is unambiguously focused on and limited to a negative-pressure arrangement, thereby excluding a positive-pressure system. *See E.I. du Pont de Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1068 (Fed. Cir. 2019) ("When the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." (internal quotation marks and citation omitted)). Thus, we find the '570 patent's specification clearly disavows a positive-pressure arrangement.

Tippmann presents three arguments in response. First, Tippmann argues that dependent claims 5–7 and 17–18 recite limitations that require a negative-pressure arrangement, and thus the independent claims are not so limited. Appellant's Br. 46–50. But as Tippmann's brief concedes, claim differentiation only creates a presumption that each claim in a patent has a different scope. Appellant's Br. 46–47 (citing *Versa Corp. v. Ag-Bag Int'l Ltd.*, 392 F.3d 1325, 1330 (Fed. Cir. 2004)). As we have explained, "claim differentiation is not a hard and fast rule, and the presumption can be overcome by a contrary construction required by the specification or prosecution history, such as via a disclaimer." *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1310 (Fed. Cir. 2014) (citation omitted). Here, any claim differentiation presumption is

overcome by the specification's clear disavowal of a positive-pressure arrangement.

Second, Tippmann argues that construing the claims to require a negative-pressure arrangement improperly reads in limitations from the only disclosed embodiment. Appellant's Br. 43–46. We disagree. Tippmann's argument ignores, for example, the fact that the Abstract, which does not refer to the "illustrative embodiment," explains that "freezing air is *drawn* through the palletized product to thereby quickly freeze the product." '570 patent Abstract; *see also Hill-Rom Co. v. Kinetic Concepts, Inc.*, 209 F.3d 1337, 1341 n.* (Fed. Cir. 2000) ("We have frequently looked to the abstract to determine the scope of the invention . . . ." (citations omitted)). Additionally, as we explained in *Phillips*, "[o]ne of the best ways to teach a person of ordinary skill in the art how to make and use the invention is to provide an example of how to practice the invention in a particular case," and that "[m]uch of the time, upon reading the specification in that context, it will become clear whether the patentee is setting out specific examples of the invention . . . or whether the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive." 415 F.3d at 1323; *see also id.* (citing *Snow v. Lake Shore & M.S. Ry. Co.*, 121 U.S. 617, 630 (1887) (it was clear from the specification that there was "nothing in the context to indicate that the patentee contemplated any alternative" embodiment to the one presented)). Here, we find the specification's repeated disclosure of a negative-pressure arrangement, coupled with the figures illustrating a negative-pressure air flow, describes the invention, not a mere example of the invention. *See also Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc.*, 450 F.3d 1350, 1355 (Fed. Cir. 2006) ("Although claims need not be limited to the preferred embodiment when the invention is more broadly described, neither do the claims enlarge what is patented beyond what the

inventor has described as the invention." (internal quotation marks and citation omitted)).

Third, Tippmann argues that the district court erred in relying on the '047 patent's prosecution history. Appellant's Br. 28–43. We agree that statements regarding the specific limitations at issue in the '047 patent's prosecution history do not apply to the claims of the '570 patent. *Saunders Grp., Inc. v. Comfortrac, Inc.*, 492 F.3d 1326, 1333 (Fed. Cir. 2007) ("When the purported disclaimers are directed to specific claim terms that have been omitted or materially altered in subsequent applications (rather than to the invention itself), those disclaimers do not apply." (citation omitted)). But the district court's reliance on prosecution history is harmless because we find that the '570 patent's specification clearly disavows a positive-pressure arrangement.

We thus adopt the district court's construction of "an air inlet and an air outlet" and "a fan positioned to direct the air into the airflow chamber from the air inlet and exhaust air into the warehouse space through the air outlet."

II. Warehouse Term

Tippmann also argues that the district court erred in construing the term "a warehouse defining a warehouse space set to a desired air temperature" to require a chiller located in the warehouse space. Appellant's Br. 52–62. We find it unnecessary to address this argument, however, because our construction of the '570 patent's Air Flow Terms as limited to a negative-pressure arrangement is sufficient to affirm the judgment below. *See Claim Construction Order*, 2021 WL 5236872, at *2 ("As Tippmann noted at oral argument, if the '570 Patent was limited to a negative pressure system, 'that would end our case.'" (citation omitted)).

CONCLUSION

We have considered Tippmann's remaining arguments and find them unpersuasive. For the foregoing reasons, we

adopt the district court's construction of "an air inlet and an air outlet" and its construction of "a fan positioned to direct the air into the airflow chamber from the air inlet and exhaust air into the warehouse space through the air outlet," and we affirm the district court's judgment based thereon.

AFFIRMED