United States Court of Appeals for the Federal Circuit

ESIP SERIES 2, LLC,
Appellant

v.

PUZHEN LIFE USA, LLC,
Appellee

2019-1659

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-02197.

Decided: May 19, 2020

GORDON K. HILL, Pate Baird, Salt Lake City, UT, argued for appellant. Also argued by ALMA JOHN PATE.

MARK A. MILLER, Dorsey & Whitney LLP, Salt Lake City, UT, argued for appellee. Also represented by ELLIOT HALES; GREGORY STUART SMITH, Law Offices of Gregory S. Smith, Washington, DC.

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

REYNA, *Circuit Judge*.

ESIP Series 2, LLC, appeals a decision of the Patent Trial and Appeal Board that certain claims of ESIP's patent are invalid as obvious. ESIP also contends that the Board should not have instituted inter partes review because appellee Puzhen failed to identify "all real parties in interest" as required by 35 U.S.C. § 312. We find no error in the Board's obviousness determination, and the Board's decision to institute inter partes review is final and non-appealable. We affirm.

BACKGROUND

A. The '130 Patent

ESIP Series 2, LLC, ("ESIP") owns U.S. Patent No. 9,415,130 ("the '130 patent"), which relates to "a novel system and method for combining germicidal protection and aromatic diffusion in enclosed habitable spaces." '130 patent at 1:7–10. Products of this type are commonly known as "vaporizers" or "diffusers." Figure 2 of the '130 patent, shown below, depicts an embodiment of the claimed invention with a diffusion module (45) contained within a housing (12).

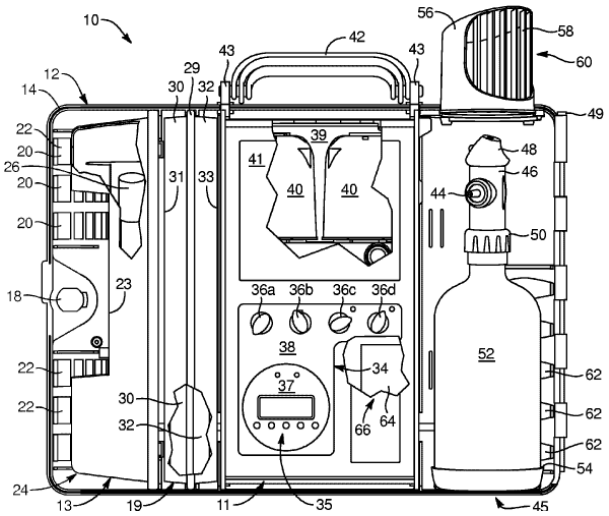

FIG. 2

The '130 patent states that it overcomes "a number of problems" in the prior art that stem from the diffusion of

"[o]verly large particles." '130 patent at 4:15–28. It teaches that overly large particles cause waste and reduce effectiveness: "rather than remaining in the air until they have evaporated or been incorporated into the atmosphere, they may instead settle out relatively quickly, onto surfaces, furniture, floors, into HVAC systems, or the like." *Id.*

To avoid these problems, the claimed invention recites "a micro-cyclone for quiet, well diffused flow of ultra-fine droplets." '130 patent at 4:15–28. Figure 12, shown below, depicts components of the diffusion module (45), including: a "reservoir" (52), an "atomizer" (46), and a "micro-cyclone" (90). The micro-cyclone contains a "spiral channel" (91) that "begins below a central plane . . . defined by a plate" (96). *Id.* at 16:57–17:4. The micro-cyclone causes "the comparatively larger particles in the stream of air . . . to smash and coalesce against the inside of the outer wall of the [spiral] channel," leaving only "the comparatively smallest range of droplets [to be] passed out to the nozzle." *Id.* at 17:26–31. After coalescing, the larger droplets "drip back into the atomizer . . . to be re-atomized." *Id.*

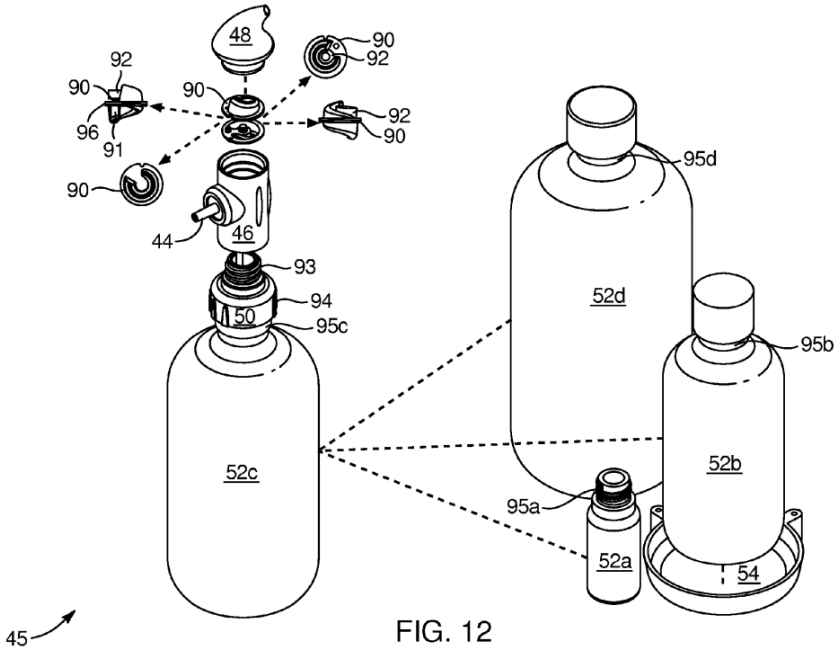

FIG. 12

Claim 1, reproduced below, illustrates the claimed invention:

> 1. A method for introducing a scent into breathable air, the method comprising;
>
> providing a system comprising a reservoir, eductor, and separator operably connected to one another;
>
> providing a liquid constituting an aromatic substance selected by an operator for the scent to be introduced into the breathable air;
>
> drawing a first portion of the liquid from the reservoir by the eductor passing a flow of air;
>
> entraining the first portion of the liquid into the flow;
>
> forming droplets of the first portion by at least one of restricting an area through which the flow passes and the entraining;
>
> ***separating*** out a second distribution of the droplets by passing the flow through a wall between a first chamber and a second chamber, the flow path spiraling axially and circumferentially, simultaneously and continuously, ***through an arcuate channel formed through the wall***; and passing a first distribution of the droplets out of the separator into the breathable air.

'130 patent at 23:22–41 (emphases added).

B. IPR Proceeding

Puzhen Life USA, LLC, ("Puzhen") filed a petition for inter partes review of claims 1, 3, and 17 of the '130 patent.

Puzhen challenged the claims as obvious (i) in view of Sevy[1] and Cronenberg[2]; and (ii) in view of Sevy and Giroux[3].

Sevy relates to "novel systems and methods for integrating air supplies, reservoirs and atomizers into an integrated system." Sevy at 1:6–8. Sevy relies on "direction change and momentum of impact to further comminute [] droplets into a more finely atomized mist." *Id.* at 2:13–19. Sevy teaches that larger droplets are separated from the mist because they "cannot move with the airflow, typically because . . . they will not be able to quickly turn to follow the flow of air." *Id.* at 8:64–9:4.

Cronenberg relates to "[a] separator adapted for use as part of a fluid dispenser system for supplying inhalable fluids." Cronenberg at Abstract. Cronenberg teaches that the "separator is adapted to be positioned within the fluid dispenser system so that the mixture of liquid and gas passes along [a] tortuous passageway," causing "the larger droplets of liquid [to be] removed from the mixture." *Id.* at 2:48–55. In this way, the separator "achieve[s] the desired vapor and avoid[s] the presence of liquid droplets in the gas and liquid mixture." *Id*. at 1:20–22.

Giroux relates to "a novel integrated nebulizer and particle dispersion chamber" that "provides for delivery of a vortical flow of nebulized particles to the nostrils." Giroux at Abstract. To achieve the size and velocity characteristics that are important for effective drug delivery, Giroux teaches forcing the particles to flow through a "baffle" that is in a "generally serpentine or helix shape," which "create[s] motion of the nebulized particles in a vortex as they exit the dispersion chamber." *Id.* at 13:32–42.

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1 U.S. Patent No. 7,878,418 ("Sevy").
2 U.S. Patent No. 4,243,396 ("Cronenberg").
3 U.S. Patent No. 8,001,963 ("Giroux").

Based on the prior art and expert testimony, the Board determined that the challenged claims would have been obvious in view of Sevy and Cronenberg and in view of Sevy and Giroux. J.A. 40, 47. The Board found that Sevy discloses every element of the challenged claims except for the "arcuate channel" limitation of the "separating" claim element. J.A. 23–31. The Board found that both Cronenberg and Giroux disclose the "arcuate channel" limitation. The Board explained:

> [N]either reference, considered by itself, teaches forming an arcuate channel through a wall for the purpose of separating liquid droplets out of a mixed air-droplet flow. Sevy's separator passes flow through a wall, but not using an arcuate passageway. Cronenberg [and Giroux] teach[] accomplishing the same type of separation using an arcuate passageway, but not one passing through a wall.

J.A. 27, 43. The Board determined that a skilled artisan would have been motivated to combine the teachings of each reference with Sevy to arrive at the claimed invention.

The Board also addressed in its final written decision ESIP's argument that Puzhen's petition was barred from institution because Puzhen failed to identify "all real parties in interest" as required by 35 U.S.C. § 312(a)(2). J.A. 849. According to ESIP, Puzhen's petition failed to identify two real parties in interest: doTERRA International, LLC, and Puzhen Life Co., Ltd. J.A. 5. After considering ESIP's asserted evidence, the Board determined that neither party was a real party in interest within the meaning of 35 U.S.C. § 312(a)(2) and that Puzhen's petition was not barred from institution. J.A. 11, 14.

ANALYSIS

Obviousness is a question of law with underlying factual findings relating to the scope and content of the prior art; differences between the prior art and the claims at

issue; the level of ordinary skill in the pertinent art; the presence or absence of a motivation to combine or modify prior art with a reasonable expectation of success; and any objective indicia of non-obviousness. *Persion Pharms. LLC v. Alvogen Malta Operations Ltd.*, 945 F.3d 1184, 1189 (Fed. Cir. 2019). We review factual determinations for substantial evidence. *Id.* Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). We review the Board's legal conclusions de novo. *Velander v. Garner*, 348 F.3d 1359, 1371 (Fed. Cir. 2003).

A. Obviousness

ESIP challenges four fact findings underlying the Board's conclusion that the '130 patent claims would have been obvious. We determine that all four fact findings are supported by substantial evidence, and we affirm the Board's conclusion.

First, with respect to the "separating" claim limitation, ESIP challenges the Board's finding that Sevy teaches separating droplets by passing the flow through an orifice in a wall. Appellant Br. 27–28. ESIP argues that Sevy's orifice—aperture 99, shown in Figure 7 below—"does not function as a separator" because it "cannot discriminate with regard to the size of a particle passing through it. It's a hole." *Id.* at 28. We disagree. In support of its finding, the Board relied on Sevy's disclosure that "separator plate 98 passes the flow of air from the atomizer 16 through apertures 99" and that droplets with "too large a size and mass will not be able to quickly turn to follow the flow of air, and will strike the walls of the opening 100 or the separator plate 98." J.A. 26 (citing Sevy at 8:64–9:2). The Board also relied on the testimony of Puzhen's expert, Mr. Smith, who testified that the separator plate (98) in Sevy "segregate[s]" atomizer droplets. *Id.* (citing J.A. 634–635).

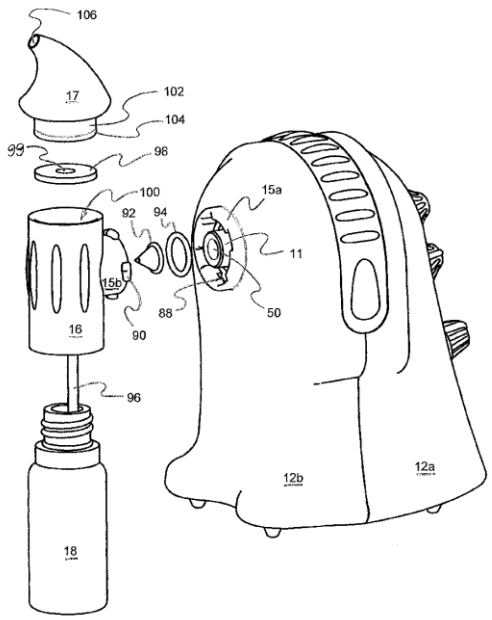

FIG-7

We find no error in the Board's decision to credit the opinion of one expert over another, and we do not reweigh evidence on appeal. *Impax Labs. Inc. v. Lannett Holdings Inc.*, 893 F.3d 1372, 1382 (Fed. Cir. 2018). Substantial evidence supports the Board's finding that Sevy teaches separating droplets by passing the flow through an orifice in a wall.

Second, also with respect to the "separating" claim limitation, ESIP challenges the Board's finding that Giroux discloses a "vortex" that separates large droplets from the air flow. ESIP argues that the circulation of particles through Giroux's "vortex" "does not result in the larger droplets being separated from the vortex or separated from the air flow." Appellant Br. at 35. For support, ESIP cites only the testimony of its expert, Dr. Bell, which the Board found to be "conclusory and unsupported" and thus "unhelpful and unpersuasive." J.A. 29. In support of its finding that Giroux's vortex separates large droplets from the

airflow, the Board relied on the expert testimony of Mr. Smith and Giroux's teaching that the swirl of droplets in Giroux's "vortex" "sends the larger droplets to the outside rings and . . . keeps the smaller [] droplets in the air stream for a longer period of time." J.A. 43 (quoting Giroux at 8:60–62, 12:33-37; J.A. 643–644). Substantial evidence therefore supports the Board's finding that Giroux teaches a vortex that separates larger droplets from the air flow. *See Impax*, 893 F.3d at 1382.

Third, ESIP challenges the Board's finding that a skilled artisan would have been motivated to replace the aperture in Sevy with the arcuate passageway of Cronenberg. The Board found that Sevy and Cronenberg teach two alternative methods for achieving the separation of droplets from the mixed droplet-air flow, and that a skilled artisan would have been motivated to substitute one method for the other. J.A. 26–27. ESIP argues that Sevy and Cronenberg "achieve different results" and that combination of these two references would require "substantial reconstruction." Appellant Br. 28–29. Again, ESIP relies solely on the discredited testimony of Dr. Bell. In reaching its finding, the Board relied on the disclosures of Sevy and Cronenberg, and the expert testimony of Mr. Smith, who testified that a skilled artisan "would [have] replace[d] [Sevy's] aperture(s) in plate 98 with the helical pathway of Cronenberg." J.A. 26 (citing Sevy at 8:64–9:2; Cronenberg at 3:12–21, 5:37–43; J.A. 634–635). Substantial evidence therefore supports the Board's finding that a skilled artisan would be motivated to combine Sevy and Cronenberg. *See Impax*, 893 F.3d at 1382.

Fourth, ESIP challenges the Board's finding that a skilled artisan would have been motivated to combine Sevy with Giroux. Appellant Br. 36. ESIP asserts that the Board "failed to articulate the required explication as to why Giroux's helical baffle would be 'formed through a wall' as required by the subject claims." *Id.* We disagree. The Board found that "both Sevy and Giroux teach

methods for removing large droplets from [the] mixture of air and liquid droplets," and thus a skilled artisan would have been motivated to "substitute a channel defined by a helical baffle, as taught by Giroux, for the straight orifice in Sevy's plate." J.A. 44–45. In reaching that determination, the Board relied on the disclosures of Sevy and Giroux, and the expert testimony of Mr. Smith, who testified that a skilled artisan "would have had a reason to combine the teachings of Sevy with those of Giroux." *Id.* (citing Sevy at 8:64–9:2; Giroux at 8:60–62, 12:33–37; J.A. 643–644). Substantial evidence therefore supports the Board's finding that a skilled artisan would be motivated to combine Sevy and Giroux. *See Impax*, 893 F.3d at 1382.

ESIP also argues that the Board committed numerous legal errors when rendering its obviousness determination. For example, ESIP claims that the Board legally erred by failing to expressly define the applicable level of ordinary skill in the art. Appellant Br. 19–20. Yet ESIP fails to make the requisite showing that there are "any meaningful differences" between the parties proposed definitions or that "the outcome of [the] case would have been different based on which definition the Board used." *Genzyme Therapeutic Prod. Ltd. P'ship v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1371–72 (Fed. Cir. 2016). Similarly, ESIP challenges the Board's construction of "wall," yet ESIP "fail[s] to clearly explain what result would occur if this court adopted [the appellant's] proposed claim construction[]." *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 582 F.3d 1288, 1304 (Fed. Cir. 2009) (holding that the appellant "gave this court little guidance and cited no record support regarding why a modified claim construction would affect the [judgment]. For that reason alone, we may decline to consider Fresenius's claim construction arguments."). We find ESIP's arguments unpersuasive.

Because the Board's obviousness conclusion is not legally erroneous and the fact findings are supported by substantial evidence, we affirm the determination that

claims 1, 3, and 17 would have been obvious in view of Sevy and Cronenberg and in view of Sevy and Giroux.

B. Real Party in Interest

Under 35 U.S.C. § 312(a), a petition "may be considered only if" it includes: (1) payment of fees; (2) identification of all real parties in interest; (3) identification "with particularity" of each claim challenged, the grounds of each challenge, and the supporting evidence; (4) other information the Director requires by regulation; and (5) copies of these documents for the patent owner. ESIP argues that Puzhen failed to identify all "real parties in interest" and thus the Board erred when it considered institution of inter partes review. For the reasons stated below, the Board's § 312(a)(2) real-party-in-interest determination is final and non-appealable.

In *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016), the Supreme Court held that this Court is precluded from reviewing Board decisions concerning the "particularity" requirement under § 312(a)(3). The Court explained that § 314(d) bars appellate review of "questions that are closely tied to the application and interpretation of statutes related to the Patent Office's decision to initiate inter partes review." *Id.* at 2141–42. The Court further explained that "where a patent holder grounds its claim in a statute closely related to that decision to institute inter partes review, § 314(d) bars judicial review." *Id.*

More recently, in *Thryv, Inc v. Click-To-Call Techs., LP*, 140 S. Ct. 1367 (2020), the Supreme Court held that § 314(d) also precludes judicial review of the agency's decision whether to apply the one-year time bar set forth in § 315(b)). The Court explained that "§ 315(b)'s time limitation is integral to, indeed a condition on, institution," and that "a contention that a petition fails under § 315(b) is a contention that the agency should have refused 'to institute an inter partes review.'" *Id.* at 1373–74 (quoting 35 U.S.C. § 314(d)). The Court concluded that a challenge to a

petition's timeliness under § 315(b) raises "an ordinary dispute about the application of" an institution-related statute and is barred from appellate review by § 314(d). *Id.*

In view of *Cuozzo* and *Click-to-Call*, we find no principled reason why preclusion of judicial review under § 314(d) would not extend to a Board decision concerning the "real parties in interest" requirement of § 312(a)(2). ESIP's contention that the Board failed to comply with § 312(a)(2) is "a contention that the agency should have refused to institute an inter partes review." *See Click-To-Call*, 140 S. Ct. at 1373–74. Indeed, ESIP expressly argues that the agency should have refused to institute inter partes review because of Puzhen's failure to identify all "real parties in interest." *E.g.*, Appellant Br. at 5 ("[I]t was improper for the Board to 'consider' the IPR Petition and institute an IPR."). Accordingly, we hold that ESIP's challenge to the Board's "real parties in interest" determination "raises 'an ordinary dispute about the application of' an institution-related statute," and that § 314(d) precludes our review of that determination. *Click-To-Call*, 140 S. Ct. at 1373–74 (quoting *Cuozzo*,136 S. Ct. at 2141–42).

CONCLUSION

We have considered ESIP's other arguments and find them unpersuasive. We affirm the Board's determination that claims 1, 3, and 17 of the '130 patent are invalid as obvious.

AFFIRMED