

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RESMED LIMITED, RESMED INC., and RESMED CORP.,
Petitioners,

v.

FISHER & PAYKEL HEALTHCARE LIMITED,
Patent Owner.

Case IPR2016-01719
Patent 6,398,197 B1

Before HYUN J. JUNG, CARL M. DeFRANCO, and
MICHAEL L. WOODS, *Administrative Patent Judges*.

DeFRANCO, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Fisher & Paykel Healthcare Limited (“FPH”) is the owner of U.S. Patent No. 6,398,197 B1 (Ex. 1001, “the ’197 patent”). ResMed Limited, ResMed Inc., and ResMed Corp. (collectively “ResMed”) filed a Petition (Paper 4, “Pet.”) requesting *inter partes* review of claims 1–3, 6, and 13 of the ’197 patent. We instituted review of all the challenged claims as challenged in the Petition. Paper 12 (“Inst. Dec.”).

After institution, FPH filed a Patent Owner Response (Paper 14, “PO Resp.”), and ResMed followed with a Reply (Paper 17, “Pet. Reply”). We conducted an oral hearing with the parties on December 6, 2017, a transcript of which is in the record. Paper 31 (“Tr.”).

We have jurisdiction over these proceedings under 35 U.S.C. § 6. After considering the evidence and arguments of the parties, we determine that ResMed has proven by a preponderance of the evidence that claims 1–3, 6, and 13 of the ’197 patent are unpatentable. *See* 35 U.S.C. § 316(e). We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a).

II. BACKGROUND

A. *Related Matters*

The ’197 patent is currently the subject of an infringement action, *Fisher & Paykel Healthcare Ltd. v. ResMed Corp.*, No. 3:16-cv-02068 (S.D. Cal.), which is stayed pending resolution of this and other related *inter partes* review (“IPR”) proceedings. Pet. 4–5; Ex. 3001, 7. The other related IPR proceedings involve our review of U.S. Patent No. 8,550,072 B2 (IPR2016-01716, 01717), U.S. Patent No. 7,111,624 (IPR2016-01725, 01727), and U.S. Patent No. 8,091,547 (IPR2016-01729, 01730, 01731).

B. The '197 Patent

The '197 patent relates to a humidifier chamber for a continuous positive airway pressure (“CPAP”) machine that delivers humidified gas to a patient suffering from obstructive sleep apnea. Ex. 1001, 1:5–20. The chamber includes (1) a gas inlet in the sidewall of the chamber for receiving pressurized gas from a blower in the CPAP machine, and (2) a gas outlet in the top wall of the chamber for dispensing humidified gas to the patient. *Id.* at 2:20–24. According to the '197 patent, the improvement over prior art humidifier chambers is an “elongate flow tube” that extends from the gas inlet into the interior of the chamber. *Id.* at 1:41–46, Fig. 2; *see also id.* at 2:25–28 (describing the improvement as an “extension tube”). The advantages of having the elongate tube protrude into the chamber, according to the '197 patent, is that the tube “acts as a weir” against water backflow through the inlet when the chamber is tilted and reduces “noise level” within the chamber. *Id.* at 2:54–61.

C. The Challenged Claims

Of the challenged claims, claim 1 is the only independent claim, and claims 2, 3, 6, and 13 depend directly or indirectly therefrom. Claim 1, a *Jepson*-type claim, recites the following structure:

1. In a water chamber adapted for use in conjunction with a heater base and having a horizontally oriented gases inlet in a wall thereof, the improvement comprising

an elongate flow tube extending into said water chamber from the inner periphery of said gases inlet, an inlet end of said elongate flow tube covering said inlet and an outlet end of said flow tube being spaced from the wall of said chamber, said flow tube in use receiving, at said inlet end, gases supplied to said gases inlet, said gases passing through said flow tube and exiting said flow tube at said outlet end distant from said wall.

Ex. 1001, 3:66–4:9 (emphases added). Dependent claims 2 and 3 are directed to the “distance” the flow tube extends into the chamber, and dependent claims 6 and 13 are directed to a “peripheral flange” and “heat [] plate” on the bottom of the chamber. *Id.* at 4:10–16, 4:26–32, 5:1–7.

D. The Instituted Grounds

We instituted review of independent claim 1 on alternative grounds of obviousness that rely, first, on the HC200 Manual¹ and Hebblewhite,² and, alternatively, on Netzer,³ Hebblewhite, and Smith.⁴ Pet. 6. We also instituted review of dependent claims 2, 3, 6, and 13, the challenge of which builds on these alternative grounds by relying on additional references that include Smith, Gouget,⁵ and/or Rose.⁶ *Id.* The specific grounds on which we instituted review are as follows:

Ground	Prior Art Basis	Claims
§ 103	HC200 Manual and Hebblewhite	1
§ 103	HC200 Manual, Hebblewhite, Gouget, and Rose	2, 3
§ 103	HC200 Manual, Hebblewhite, and Smith	6
§ 103	HC200 Manual, Hebblewhite, Gouget, Rose, and Smith	13
§ 103	Netzer, Hebblewhite, and Smith	1, 6
§ 103	Netzer, Hebblewhite, Smith, Gouget, and Rose	2, 3, 13

¹ Fisher & Paykel Healthcare, *HC200 Series Nasal CPAP Blower & Heated Humidifier User’s Manual*, Part No. 185041244 (May 1998 Rev. A) (Ex. 1015, “HC200 Manual”).

² U.S. Patent No. 6,135,432, iss. Oct. 24, 2000 (Ex. 1004, “Hebblewhite”).

³ PCT WO 98/04311, pub. Feb. 5, 1998 (Ex. 1010, “Netzer”).

⁴ U.S. Patent No. 5,588,423, iss. Dec. 31, 1996 (Ex. 1009, “Smith”).

⁵ U.S. Patent No. 5,953,763, iss. Sep. 21, 1999 (Ex. 1006, “Gouget”).

⁶ U.S. Patent No. 5,231,979, iss. Aug. 3, 1993 (Ex. 1008, “Rose”).

Inst. Dec. 3–4, 12. In further support of these grounds, ResMed proffers a first and second declaration from Alexander Virr, an expert witness retained for purposes of this review. Exs. 1003, 1026.

III. ANALYSIS

A. *Claim Construction*

Neither ResMed nor FPH proposes an express construction for any particular claim term. Because the claim terms appear straightforward and understandable on their face, we can determine patentability of the claimed invention without rendering an express construction of any claim term.

B. *Obviousness of Claim 1 Over the HC200 Manual and Hebblewhite*

We focus initially on ResMed’s challenge against claim 1 based on the combination of the HC200 Manual and Hebblewhite. Pet. 19–26; Reply 1–11. Central to our analysis is claim 1’s recitation of “*the improvement comprising an elongate flow tube extending into said water chamber from the inner periphery of said gases inlet, . . . an outlet end of said flow tube being spaced from the wall of said chamber,*” which FPH recognizes as the distinguishing feature of the claimed invention.⁷ PO Resp. 1. While the claims do not expressly state the purpose of spacing the outlet end of the elongate tube away from the sidewall of the chamber, the specification of the ’197 patent provides some insight:

Locating the inlet port in the side of the chamber significantly increases the likelihood of water spillage from the chamber if the chamber is tilted with water therein. This can be of particular

⁷ FPH does not dispute ResMed’s showing that the HC200 Manual teaches the “heater base,” “slide-on,” and “inlet air port . . . provided horizontally through a side of the chamber” features recited in the preamble of claim 1. See Pet. 19–22. Nor could it reasonably do so, as claim 1 is written in *Jepson*–style format. See 37 C.F.R. 1.75(e)(1).

disadvantage where the water may flow out through the inlet port and into the air blower of the CPAP machine.

Ex. 1001, 1:29–34. To overcome the problem of backflow into the inner workings of the CPAP machine, the '197 patent explains that, because “inlet extension tube 7 extend[s] inwardly into the chamber interior,” it “acts as a weir against water flow back through gases inlet 2 upon tilting of the chamber 1.” *Id.* at 2:25–28, 2:58–60. Figure 6, reproduced below, illustrates how extension tube 7 prevents backflow through gas inlet 2 when chamber 1 is tilted. *Id.* at 2:6–9.

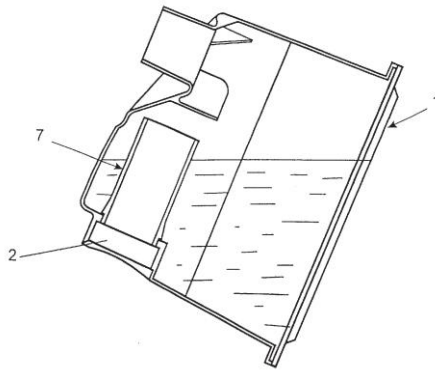


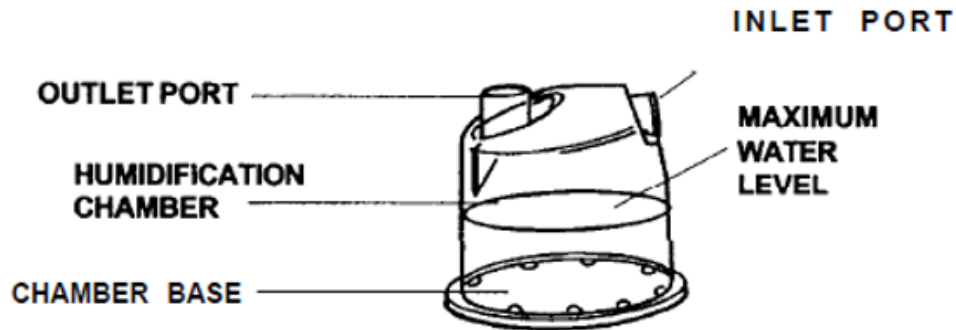
FIGURE 6

ResMed argues that the mere addition of an extension tube, as required by claim 1, to the inlet opening of a CPAP humidifier chamber would have been obvious to a skilled artisan. Pet. 19–26; Reply 1–11. We find ResMed’s arguments persuasive.

As evidence of obviousness, ResMed begins with the HC200 Manual, which is a user’s manual showing FPH’s own CPAP device.⁸ Pet. 19–21 (citing Ex. 1015, 1–12; Ex. 1012, 1–6). The HC200 Manual discloses a “humidification chamber” for the CPAP device and a “blower” unit for

⁸ In the preliminary proceeding, FPH disputed the prior art status of the HC200 Manual. Paper 9, 26–28. It no longer does so.

supplying gas to the chamber. Ex. 1015, 6–10. The HC200 humidifier chamber has an “inlet port” in the sidewall of the chamber and an “outlet port” in the top of the chamber, which from a structural standpoint appears to be identical to the humidifier chamber shown in the ’197 patent, albeit missing the extension tube protruding into the chamber. *Compare id.* at 7, with Ex. 1001, Figs. 1, 2, 2:12–42.



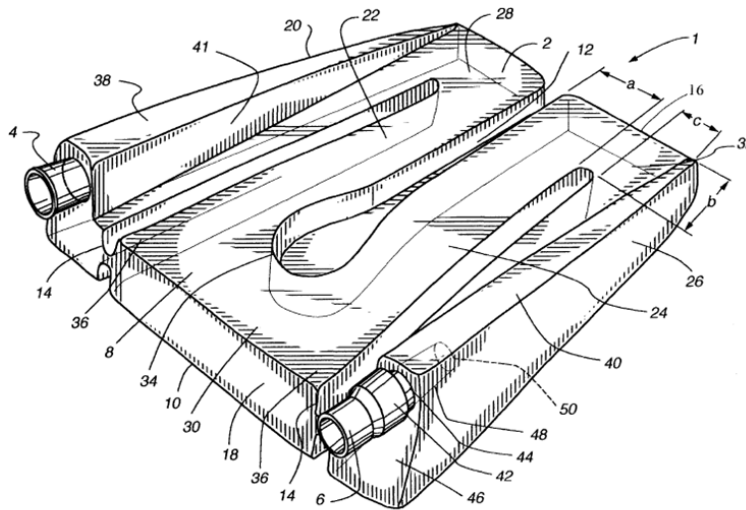
HC200 Manual at page 7 (portions omitted)

A schematic diagram of the HC200 humidifier chamber, reproduced above, depicts the chamber with a horizontal “inlet port” in the sidewall of the chamber situated above a “maximum water level” marker. Ex. 1015, 7. Importantly, the HC200 Manual includes a “CAUTION” warning for users: “Avoid moving or tilting the HC200 when the Humidification Chamber is full of water.” *Id.* at 9. ResMed’s expert, Mr. Virr, testifies that a skilled artisan would have understood this warning to mean that tilting the water-filled chamber could allow water to spill through the chamber’s sidewall port and damage the blower unit in the HC200 device. Ex. 1003 ¶ 72 (citing Ex. 1015, 9; Ex. 1012, 1). Mr. Virr further elaborates that “a very large part of your time in designing literally any humidifier is spent in dealing with water spill-back, how to prevent it, how to lessen it” because “regardless of how much effort you put into waterproofing of the inside of a CPAP, it is

very common for the device to be damaged or destroyed.” Ex. 2004, 72:8–73:16. Given the warning in the HC200 Manual and the testimony of Mr. Virr regarding how a skilled artisan would understand that warning, we find that the HC200 Manual recognizes *the problem* of water entering the sidewall port of a humidifier chamber as a result of “moving or tilting” the chamber.

Although the HC200 Manual does not disclose “an elongate flow tube” for the horizontal inlet, as required by claim 1, ResMed proffers Hebblewhite for the “traditionally known” concept of attaching an elongate tube to a side-wall opening in a humidifier chamber of a CPAP device so as to prevent water from spilling into the opening. Pet. 22–23 (citing Ex. 1004). Like the HC200 Manual, Hebblewhite discloses “a humidifier for use with a Continuous Positive Airway Pressure (CPAP) device.” Ex. 1004, 1:7–10. Also much like the HC200 humidifier chamber, Hebblewhite’s humidifier includes an inlet for receiving air from a blower and an outlet for discharging humidified air to a patient. *Id.* at 1:50–54.

Notably, Hebblewhite discloses an extension tube attached to the outlet and protruding into the chamber for preventing water from spilling into the outlet. Figure 1 of Hebblewhite, reproduced below, depicts humidifier chamber 1 with air inlet 4 and air outlet 6 in the sidewalls of the chamber and extension tube 48 attached to the outlet.



Hebblewhite at Figure 1

As shown in Figure 1 above, Hebblewhite’s humidifier chamber includes elongate passageway 2 extending between inlet 4 and outlet 6 so that air passing through the passageway is humidified before exiting through the outlet. *Id.* at 1:54–60. Attached to the outlet is elongate tube 48, which has an aperture 50 “spaced away from the end wall 46” of the chamber. *Id.* at 4:67–5:8. Similar to the claimed invention, Hebblewhite explains that spacing aperture 50 away from the wall of the water chamber reduces the risk of water spillage into the wall opening as a result of backsplash:

When the air flow within the passageway creates waves on the surface of the water, it has been found that the water has a tendency to splash against the end wall of the passageway, resulting in a danger of water spilling into the air outlet. *It has been found that by spacing the air outlet aperture away from the end wall, the danger of water spilling into the air outlet is greatly reduced.*

Id. at 3:33–39 (emphasis added).

Hebblewhite’s disclosure of “spacing the air outlet aperture away from the end wall” reads almost identical to claim 1’s recitation of “an outlet end of said tube being spaced from the wall of said chamber.” Although

Hebblewhite's elongate tube is positioned on the outlet of the humidifier as opposed to the inlet, Hebblewhite recognizes that "the idea of spacing the outlet aperture, in this case the aperture 50 of the tube 48, away from the walls of the humidifier is *of general applicability*, and may be used in other humidifiers, regardless of whether the humidifiers are formed with elongate passageways." *Id.* at 5:17–21 (emphasis added). In other words, Hebblewhite suggests that the elongate tube has broader application to other humidifiers where spillage into a sidewall opening poses a problem. As such, we find that Hebblewhite recognizes *the solution* of adding an elongate tube to a sidewall opening in a humidifier chamber so as to space the opening away from a point where water infiltration might cause damage to the CPAP device. *Id.* at 5:17–21. With that finding, we consider now whether a skilled artisan would have had a *reason to apply* Hebblewhite's tube solution to the tilting problem expressed in the HC200 Manual.

"One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims." *KSR, Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419–20 (2007). That is the case here. ResMed's expert, Mr. Virr, testifies that, given the HC200 Manual's recognition that "moving or tilting" a humidifier may cause water to spill into a sidewall opening and damage the CPAP unit *and* Hebblewhite's solution that spacing an opening away from a humidifier sidewall through the use of an extension tube may prevent water from spilling into the opening, a skilled artisan would have been prompted to add Hebblewhite's extension tube to the inlet opening of the HC200 Manual's humidifier chamber to alleviate its express concern with moving or tilting

the humidifier chamber. Ex. 1003 ¶¶ 72–73 (citing Ex. 1015, 9; Ex. 1012, 1). We find this testimony persuasive evidence of why a skilled artisan would have incorporated Hebblewhite’s tube solution into the inlet port of the HC200 Manual’s humidifier chamber in a manner that results in the claimed invention.

FPH, in turn, argues that a skilled artisan would not have undertaken the combination because Hebblewhite’s tube solution pertains only to “the *outlet* of the water chamber,” not the inlet. PO Resp. 18. Although Hebblewhite discusses its tube solution in the context of preventing water spillage into the air outlet, “[c]ommon sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *KSR, Int’l*, 550 U.S. at 420.

Here, common sense supports that Hebblewhite’s tube solution has obvious applications beyond simply a humidifier’s air outlet. For instance, Hebblewhite recognizes expressly that its tube solution is “of general applicability.” Ex. 1004, 5:17–21. And ResMed’s expert, Mr. Virr, explains that:

the portions of Hebblewhite that discuss the concerns with water spillage focus on how the tube spaces the “aperture” away from the water chamber wall to prevent a water spill, and there is little difference between the HC200 water chamber inlet and the Hebblewhite water chamber outlet, except that air is going in one and out the other when the devices are operating (but both openings would be free of airflow when the devices are off, and yet tipping would remain a concern). I do not believe that a skilled artisan would have considered spacing an aperture away from a wall using a tube to be a technology that applies to air outlets and not air inlets.

Ex. 1003 ¶ 76. Moreover, Mr. Virr explains that “the spillage-prevention characteristics of Hebblewhite’s tube were not due to the direction in which air flowed through the tube, but were instead related to the shape of the tube and its proximity and orientation to water that may contact the tube.”

Ex. 1026 ¶ 5; *see also id.* ¶ 7 (essentially same). Given that evidence, the idea that a skilled artisan looking to solve the tilting, and resultant spillage, problem of the HC200 Manual would ignore Hebblewhite’s tube solution solely because Hebblewhite speaks of spillage in terms of a humidifier’s air outlet, as opposed to its inlet, makes little sense. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR, Int’l*, 550 U.S. at 421. As a matter of common sense and ordinary creativity, a skilled artisan would have recognized Hebblewhite’s tube solution as applicable to *any* horizontal opening in the sidewall of a humidifier chamber where the opening’s proximity to water may lead to water spillage into the inner workings of the CPAP device.

FPH also argues that a skilled artisan would not have undertaken to combine Hebblewhite with the HC200 Manual because Hebblewhite is concerned solely with “a solution to a specific splashing issue that results from the low-profile design of the humidifier.” PO Resp. 19. According to FPH, Hebblewhite fails to teach “a solution to the problem of spillage caused by tipping the water chamber” that is of concern in the HC200 Manual. *Id.* at 24. The problem of spillage caused by wave splashing, FPH argues, is “fundamentally different” from the problem of spillage caused by tipping because the former involves “a small amount of splashing water” whereas the latter involves “a large volume of water that . . . pours through the opening.” *Id.* at 25. We disagree.

Despite Hebblewhite's focus on water spillage caused by wave action in a lower-profile humidifier rather than water spillage caused by tipping action in a relatively taller humidifier, Mr. Virr explains "there is simply no indication in Hebblewhite that the tube would only work on waves that were created by air rather than waves that were created due to mechanical movements of the water chamber." Ex. 1003 ¶ 74. Instead of taking a narrow view of Hebblewhite, Mr. Virr explains, a skilled artisan would have understood Hebblewhite's tube solution is equally applicable to both types of spillage because "Hebblewhite is clear that 'the idea of spacing the outlet aperture, in this case the aperture 50 of the tube 48, away from the walls of the humidifier is of general applicability, and may be used in other humidifiers, regardless of whether the humidifiers are formed with elongate passageways.'" *Id.* ¶ 75 (citing Ex. 1004, 5:17–22). That testimony, along with Hebblewhite's disclosure of a broader application, persuades us that a skilled artisan would have recognized Hebblewhite's solution as equally applicable to flat-profile humidifiers where wave spillage is a concern as well as taller-profile humidifiers where tilting spillage is a concern because, regardless of the cause, any movement of water proximal to the sidewall opening of a CPAP humidifier poses a risk of damage to the unit. "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR, Int'l*, 550 U.S. at 417.

To the extent FPH argues against the combination because Hebblewhite contemplates "[o]nly a short tube length" of "less than one inch" for preventing spillage into the chamber's sidewall opening, we are

not persuaded. *See* PO Resp. 20–21, 27–28. Hebblewhite plainly suggests a longer tube, stating that the tube’s opening “should preferably be spaced *at least* 2 cm away from the end wall” of the humidifier chamber. Ex. 1004, 5:15–16 (emphasis added). Clearly, that disclosure suggests only a lower limit on the tube’s length, thus, a skilled artisan would have recognized that such a tube in the HC200 device would have been longer than the “2 cm” FPH mistakenly argues is the upper limit. Ex. 1026 ¶ 4. As for FPH’s additional arguments (*see, e.g.*, PO Resp. 27–29, 33–34), we have considered them but do not find them persuasive for the reasons articulated by ResMed, which we adopt as our own. Reply 3–11; *see also Paice LLC v. Ford Motor Co.*, 881 F.3d 894, 905–06 (Fed. Cir. 2018) (refusing to fault the Board’s limited treatment of certain arguments where its treatment was at least commensurate with that party’s presentation of those arguments, and holding that, in such circumstances, it is sufficient for the Board to cite to the other side’s arguments and explain simply that they are more persuasive).

In sum, we are not persuaded that FPH’s purported differences between Hebblewhite and the HC200 Manual would have been sufficient to dissuade a skilled artisan from incorporating Hebblewhite’s extension tube into the inlet of the HC200 Manual’s humidifier chamber. Although Hebblewhite’s tube is affixed to the outlet of the water chamber, rather than the inlet, and reduces the risk of spillage caused by wave splashing rather than chamber movement, the weight of the evidence nonetheless supports that a skilled artisan would have recognized Hebblewhite’s extension tube as suitable for any opening in the sidewall of a CPAP device where the proximal movement of water poses a risk of spillage into the opening and

potential damage to the CPAP humidifier. As such, we conclude that ResMed has demonstrated by preponderant evidence that claim 1 is unpatentable as obvious over the combination of the HC200 Manual and Hebblewhite.

C. Obviousness of Claims 2 and 3 Over the HC200 Manual, Hebblewhite, and Gouget

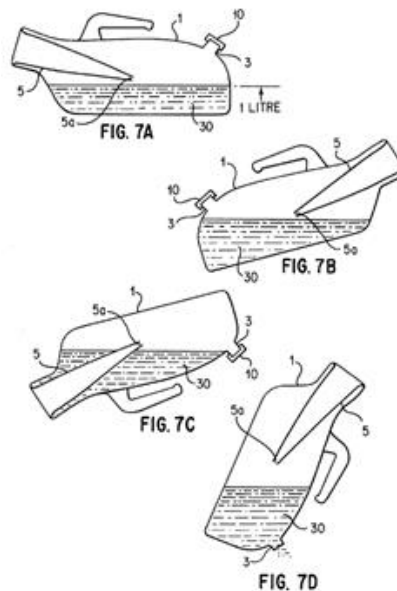
ResMed challenges dependent claims 2 and 3 based on obviousness over the combination of the HC200 Manual, Hebblewhite, Gouget, and Rose. Pet. 26–30; Reply 11–17. We consider this challenge to be based only on the HC200 Manual, Hebblewhite, and Gouget, without Rose.⁹

Claims 2 and 3 are directed to the length of the elongate tube relative to the diameter of the water chamber. For instance, claim 2 recites that the tube “extends for a distance of at least a quarter of the diameter” of the chamber, and claim 3 recites that the tube “extends to approximately the middle” of the chamber. Ex. 1001, 4:10–15. As discussed above, Hebblewhite’s suggestion to add an extension tube to the sidewall opening of a humidifier chamber would have led to a predictable improvement in the HC200 humidification chamber by reducing the chance of spillage through its sidewall opening. As for the distance the tube extends into the modified HC200 chamber, Hebblewhite describes a lower limit of “at least 2 cm” in length, but is silent about the upper limit. Ex. 1004, 5:15–16. In that regard, ResMed argues that a skilled artisan “would have logically considered the

⁹ In this challenge, ResMed relies on Rose for teaching a “baffle” between the inlet and outlet. Pet. 28–29. Neither claims 2 or 3, nor claim 1 from which they depend, requires a baffle; only dependent claims 4, 5, 11, and 12 do, none of which are at issue here. As such, we do not consider Rose as part of the challenge against claims 2 and 3.

size of the HC200 chamber . . . and other containers in identifying an appropriate tube length.” Reply 11 (citing Ex. 1026 ¶ 15). We agree.

ResMed points to Gouget for the basic premise that an anti-backflow tube in a fluid chamber should extend approximately to the center of the chamber where the fluid is less likely to enter the tube in the event the chamber is tilted. Pet. 26–30; Ex. 1003 ¶¶ 84–85. More specifically, Gouget discloses a fluid chamber in the form of a portable urinal, equipped “with a detachable anti-backflow element having an interior end located at the volumetric center of the urinal.” Ex. 1006, Abstract; *see also id.* at 8:36–41. Figures 7A–7D of Gouget, reproduced below, illustrate how positioning opening 5a of anti-backflow tube 5 in the center of fluid chamber 1 prevents spillage when the chamber is tilted. *Id.* at 9:51–60.



Gouget at Figures 7A-D

According to Gouget, the central location of the tube’s opening “prevent[s] spillage from the urinal at any angle of tilt when the contents of the urinal are below the fill indicator level.” *Id.* at 2:36–39. In other words,

Gouget teaches that an optimal length for an anti-backflow tube is one where the tube extends to the center of a fluid chamber, which is the location that best protects against spillage regardless of the angle of tilt. We find Gouget to be persuasive evidence that a skilled artisan would have known the benefits of having an anti-backflow tube extend to the middle of a fluid chamber and would have chosen a similar length for the anti-backflow tube in the modified HC200 humidification chamber.

FPH responds that the combination of Gouget with the HC200 Manual and Hebblewhite is improper because Gouget is “not analogous art.” PO Resp. 35–40. As such, FPH argues that Gouget is neither “from the same field of endeavor as the claimed invention” nor “reasonably pertinent to the inventor’s problem.” PO Resp. 35–40 (citing *In re Bigio*, 381 F.3d 1320, 1325–26 (Fed. Cir. 2004)). ResMed replies that, even if Gouget’s “type of container” is not within the same field of endeavor, it nonetheless is reasonably pertinent to the problem expressed in the ’197 patent “because Gouget addresses container spillage that results from tipping.” Pet. Reply 13–14. Anticipating that argument, FPH contends that Gouget is not reasonably pertinent to the problem of the ’197 patent because, while Gouget may address tilting, “Gouget does not take into account airflow patterns through the chamber or the rate of the airflow for effective humidification.” PO Resp. 39–40.

A reference is “reasonably pertinent” only if it “logically would have commended itself to an inventor’s attention in considering his [or her] problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). Here, the ’197 patent clearly identifies the problem with existing humidifier chambers in terms of “water spillage” resulting from the chamber being “tilted.” Ex.

1001, 1:24–34 (“Locating the inlet port in the side of the chamber significantly increases the likelihood of water spillage from the chamber if the chamber is tilted with water therein.”); *see also id.* at 2:58–60 (“Additionally, with reference to Fig. 6, the inlet extension tube 7 acts as a weir against water flow back through gases inlet 2 upon tilting of the chamber 1.”).

We are persuaded that Gouget “would have commended itself to [the ’197 patent] inventor’s attention in considering his problem” because, like the ’197 patent, Gouget also addresses spillage that results from tipping a fluid chamber. *Clay*, 966 F.2d at 659. A skilled artisan would have recognized that Gouget’s primary focus is not the type of fluid contained, but rather the problem of preventing fluid from spilling out of a container. Ex. 1026 ¶ 17. Indeed, the very first paragraph of Gouget states that the “invention” is a container that “may be tilted in any direction without spillage,” which is essentially the same problem addressed in the ’197 patent. Ex. 1006, 1:9–20. It is beyond question that the elongate tubes in both Gouget and the ’197 patent are anti-backflow tubes for preventing spillage from a fluid chamber that has been tipped. That the tube in the ’197 patent addresses an additional problem of “noise level” within the chamber does not remove Gouget from the circle of pertinence. *See* PO Resp. 40. A prior art reference need not be reasonably pertinent to *every* problem of concern to the inventor involved; reasonable pertinence to a single such problem is sufficient. Thus, we find that Gouget’s tube logically would have been drawn to the inventor’s attention in considering the problem of preventing spillage from an opening in a tilted fluid chamber.

FPH also faults ResMed's proposed combination for failing to account for the tapered shape and angular orientation of Gouget's anti-backflow tube. PO Resp. 41–42. But FPH's argument suggests that each and every feature of Gouget's tube must be bodily incorporated into the modified HC200 humidifier chamber. However, "[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425 (CCPA 1981); *see also In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) ("It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.") (citation omitted). Here, ResMed relies on Gouget as simply teaching an optimal length for an anti-backflow tube within a fluid chamber susceptible to tipping, namely, that the tube "extend to the middle of the water chamber." Pet. 27. And ResMed's expert, Mr. Virr, explains that a skilled artisan would have known to extend the tube to the horizontal mid-point above the volumetric center so as to advantageously maximize spill resistance as suggested by Gouget, while still maintaining the original water capacity provided by the pre-existing height and horizontal orientation of the inlet port designed into the HC200 chamber. Ex. 1003 ¶¶ 84–85; Ex. 1026 ¶ 18. Thus, because ResMed relies on Gouget simply for the teaching of optimizing the length of the horizontal tube in the modified HC200 chamber to extend to the middle of the chamber, FPH's assertions concerning whether the tapered shape and angular orientation of Gouget's tube could be

physically combined with the modified HC200 chamber are basically irrelevant.

FPH also argues that a skilled artisan would not have lengthened Hebblewhite's tube because it would hit the top of Hebblewhite's chamber. PO Resp. 42–43. But ResMed never suggests lengthening the tube *within Hebblewhite's chamber*. Pet. 26–28. FPH improperly reads Hebblewhite in “isolation,” rather than properly “in combination with the prior art as a whole.” *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

In sum, the evidence shows that Gouget suggests extending the length of an anti-backflow tube to the middle of a fluid chamber and that a skilled artisan would have recognized the benefit of applying Gouget's suggestion of an optimal tube length to the anti-backflow tube in the modified HC200 humidification chamber. As such, we determine that ResMed has demonstrated by preponderant evidence that claims 2 and 3 are unpatentable as obvious over the combined teachings of the HC200 Manual, Hebblewhite, and Gouget.

D. Obviousness of Claims 6 and 13

FPH does not present additional arguments for patentability of claims 6 and 13, and instead argues simply that they “fail[] for all the same reasons” as claims 1–3. See PO Resp. 48–49. As discussed above, we do not find those reasons persuasive. And, after considering the evidence and arguments presented by ResMed explaining how claims 6 and 13 would have been obvious over the asserted prior art combinations, we find ResMed's reasoning more persuasive and adopt it as our own. Pet. 30–34. Accordingly, we determine that the preponderance of the evidence weighs in favor of ResMed's case that claim 6 is unpatentable as obvious over the

HC200 Manual, Hebblewhite, and Smith, and that claim 13 is unpatentable as obvious over the HC200 Manual, Hebblewhite, Gouget, and Smith.¹⁰

E. ResMed's Alternative Grounds of Obviousness

In light of our determination that ResMed has shown by preponderant evidence that claims 1–3, 6, and 13 are unpatentable over various combinations that include the HC200 Manual, Hebblewhite, Gouget, and Smith, we need not reach ResMed's alternative grounds that merely replace the HC200 Manual with Netzer as the primary reference while continuing to rely on the same secondary references. *See* Pet. 34–50.

IV. CONCLUSION

After considering the totality of the evidence and the respective arguments of the parties, we conclude that ResMed has demonstrated by a preponderance of the evidence that claim 1 is unpatentable as obvious over the HC200 Manual and Hebblewhite, that claims 2 and 3 are unpatentable as obvious over the HC200 Manual, Hebblewhite, and Gouget, that claim 6 is unpatentable over the HC200 Manual, Hebblewhite, and Smith, and that claim 13 is unpatentable as obvious over the HC200 Manual, Hebblewhite, Gouget, and Smith. Having determined all the challenged claims unpatentable on these grounds, we need not reach ResMed's other grounds.

¹⁰ Similar to the challenge against claims 2 and 3, ResMed includes Rose in the challenge against claim 13. Pet. 33. As explained above (*see supra* section III.C. n.9), ResMed relies on Rose for teaching a “baffle” (Pet. 28–29), however, neither claim 13, nor any of the claims from which it depends, requires a baffle. As such, we do not consider Rose as part of the challenge against claim 13.

V. ORDER

Accordingly, it is hereby:

ORDERED that ResMed has carried its burden to show that claims 1–3, 6, and 13 of the '197 patent are unpatentable on grounds of obviousness under 35 U.S.C. § 103; and

FURTHER ORDERED that, because this is a Final Written Decision, any party to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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