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Paper 47
Date: July 18, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SCENTAIR TECHNOLOGIES, INC.,
Petitioner,

v.

PROLITEC, INC.,
Patent Owner.

Case IPR2013-00180
Patent 7,930,068

Before JAMESON LEE, MICHAEL J. FITZPATRICK, and CHRISTOPHER L. CRUMBLEY, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

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

I. BACKGROUND

Petitioner, ScentAir Technologies, Inc. ("ScentAir") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1, 3-5, 9-13, 15, 22-24, 26, 28, and 33 of U.S. Patent No. 7,930,068 (Ex. 1001, "the '068 patent"). Patent Owner, Prolitec, Inc. ("Prolitec"), expressly waived the filing of a patent owner preliminary response. Paper 11. In a July 30, 2013, Decision to Institute (Paper 13, "Dec."), we instituted trial on the following grounds:

1. Claims 1, 3-5, 9-13, 15, 22-24, 26, 28, and 33 as having been obvious over Le Pesant;[1] and
2. Claims 1, 3-5, 9-13, 15, 22-24, 26, 28, and 33 as having been obvious over the combined disclosures of Le Pesant and Privas.[2]

Dec. 18.

Following institution, Prolitec filed a Patent Owner Response to the Petition (Paper 26, "PO Resp."), and ScentAir filed a Reply (Paper 31, "Pet. Reply"). Oral hearing was requested by both parties, and was held on March 10, 2014. A transcript of the oral hearing is included in the record. Paper 44, "Tr."

Both parties presented witness testimony via declaration. With its Petition, ScentAir provided a Declaration from Charles A. Garris, Jr., Ph.D. Ex. 1004. With its Patent Owner Response, Prolitec presented a Declaration from Timothy A.

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[1] U.S. Patent No. 6,712,287, issued March 30, 2004 (Ex. 1005).
[2] WO 96/23530, published Aug. 8, 1996 (Ex. 1011). An English translation of Privas was submitted as Ex. 1012; our citations to "Privas" are to the English language document.

Shedd, Ph.D. Ex. 2001. Finally, along with its Reply, ScentAir provided a second Declaration from Dr. Garris. Ex. 1019.

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, addresses issues and arguments raised during trial. For the reasons discussed below, we determine that ScentAir has met its burden to prove, by a preponderance of the evidence, that claims 1, 3-5, 9-13, 15, 22-24, 26, 28, and 33 of the '068 patent are unpatentable.

A. The '068 Patent

The '068 patent is directed to a method and system of controlling operation of a diffusion appliance to treat the atmosphere within an enclosed space. Ex. 1001, Abstract. In particular, the '068 patent discloses controlling a diffusion appliance according to a plurality of control schemes, each of which defines the timing of operation of the appliance and the flow rate of the liquid to be diffused into a space. *Id*. at 3:61-67. The volume of the space to be treated using the diffusion appliance determines the appropriate control scheme, which can then be selected using, for example, a numerical dial on the appliance. *Id*. at 3:67-4:5. The '068 patent suggests providing users with a chart of settings which, if the characteristics of the liquids to be diffused are kept consistent, define a set of control schemes appropriate for any given room size. *Id*. at 4:8-11. Alternatively, if a liquid of significantly different characteristics is to be diffused in the space, users may be provided with an equivalents table providing revised volumes associated with the settings of the device. *Id*. at 4:12-16.

B. The Challenged Claims

Of the challenged claims, claims 1 and 24 are independent. Claims 3-5, 9-13, 15, and 22-23 depend directly or indirectly from claim 1, which is illustrative and set forth below.

> 1. A method of controlling a liquid diffusion appliance comprising:
>
> providing an enclosed space to be treated by a liquid and with which the appliance is in fluid communication, the appliance including a reservoir of liquid and a means of diffusing the liquid into the air of the space;
>
> *providing a plurality of control schemes for the appliance which based on characteristics of the liquid and a level of treatment desired for the space, each of the control schemes specifying operational parameters for the appliance including a flow rate of liquid, and a periodic timing of operation of the diffusion means*;
>
> providing the diffusion means including a venturi in fluid communication with the liquid reservoir, and the venturi in fluid communication with a source of compressed gas, and wherein operation of the diffusion means comprises release of the pressurized gas into the venturi, the release of the gas into the venturi operating to draw liquid from the reservoir into the venturi where the liquid mixes with the gas at the desired flow rate and then dispersing the gas and liquid mixture into the space;
>
> determining a volume of the space to be treated; and
>
> *selecting one of the control schemes based on the volume of the space to be treated*;
>
> operating the appliance based on the selected control scheme.

Ex. 1001, 9:19-44 (key claim limitations emphasized).

Independent claim 24 is directed to a system for treating an enclosed space with a liquid, and contains limitations similar to those in claim 1, including *control*

schemes, wherein each of the control schemes corresponds to a particular volume within the space. Claims 26, 28, and 33 depend from claim 24.

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, "[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears." 37 C.F.R. § 42.100(b). Under this standard, we construe claim terms using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). We presume that claim terms have their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) ("The ordinary and customary meaning is the meaning that the term would have to a person of ordinary skill in the art in question.") (internal quotation marks omitted). However, a patentee may rebut this presumption by acting as his own lexicographer, providing a definition of the term in the specification with "reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

For purposes of our Decision to Institute, we gave each claim term its broadest reasonable interpretation, as understood by one of ordinary skill in the art and as consistent with the specification of the '068 patent. We expressly construed the claim term *venturi* as "a structure having a constriction that causes an increase

in the velocity of flow of a fluid and a corresponding decrease in fluid pressure thereby creating suction." Dec. 8-10. We also determined that the terms *means of diffusing* and *diffusion means* are not means-plus-function limitations within the scope of 35 U.S.C. § 112, sixth paragraph. *Id*. at 10-11. Neither party contested these constructions during trial, and we discern no reason to modify them. *See* PO Resp. 6 (Prolitec does not object to the Board's constructions).

During trial and at oral hearing, the parties' arguments shifted away from the terms we had construed in our Decision to Institute, and instead focused on whether the prior art taught the claim limitations *a plurality of control schemes* and *selecting one of the control schemes based on the volume of the space to be treated*. In resolving the parties' dispute, we find it helpful to provide an explicit construction of the limitation *control schemes*.

1. A Plurality Of Control Schemes

In construing *a plurality of control schemes*, our analysis begins with, and remains centered on, the language of the claims themselves. *See Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1330 (Fed. Cir. 2001). In the context of claim 1, a control scheme is "based on characteristics of the liquid" being diffused into the air, and the "level of treatment desired for the space." Ex. 1001, 9:26-27. Each control scheme then specifies operational parameters for the appliance, including the flow rate of the liquid and the periodic timing of operation of the diffusion means. *Id*. at 9:27-30. The control schemes of claim 24 also specify the same two operational parameters of flow rate and periodic timing, but the claim does not require particular inputs to the control scheme. *Id*. at 11:15-19.

In both claims, a user then selects a control scheme based on the particular volume of the space to be treated. *Id*. at 9:41-42 ; 11:19-20.

Thus, from the language of the claims themselves, we understand *a plurality of control schemes* to be a system of correlations[3] between particular inputs (e.g., characteristics of the liquid and level of treatment) and particular outputs for controlling the diffusion means (e.g., flow rate, periodic timing). Once this set of correlations is determined, a particular control scheme may be selected based on user criteria including, but not limited to, the volume of the space to be treated.

Upon reviewing the specification of the '068 patent, we do not consider the inventors to have acted as their own lexicographers. Rather, the usage in the specification is consistent with the plain and ordinary meaning of control schemes as used in the claims. In particular, Figure 4 of the '068 patent illustrates a chart of settings to control the system, with each row corresponding to a particular control scheme. *Id*. at 3:61-65. A partial excerpt of Figure 4 is reproduced below.

[3] *See scheme,* RANDOM HOUSE KERNERMAN WEBSTER'S COLLEGE DICTIONARY (2010) (available at http://www.thefreedictionary.com/scheme) ("any system of correlated things, parts, etc., or the manner of their arrangement"); *see also scheme,* COLLINS ENGLISH DICTIONARY (2003) (available at http://www.thefreedictionary.com/scheme) ("a systematic arrangement of correlated parts; system").

FIG. 4

54	111		112	114		116		118			120	
Room Vol. (cft)	Dial (DS)	NSU Output (ml/hr)	Speed (%PWM)	Ton (Sec)	Ton (mn)	Toff (Sec)	Toff (mn)	Duty cycle (% on)	Avg Consump. (ml/hr)	Monthly usage (ml)	Cartridge life (weeks)	
80	1										150	
160	2										102	110
240	3										80	
320	4										66	
400	5										56	
480	6										49	
560	7										35	
640	8										31	
720	9										28	
880	10										26	
1040	11										24	
1200	12										22	
1360	13										20	
1710	14										16	
1890	15										15	
2070	16										14	

In the above partial excerpt of Figure 4, each control scheme 110 specifies speed setting 112 and duty cycle 118. *Id*. at 4:22-25. The specification states that each control scheme "*may*, *for example*, be associated with a particular numerical dial setting or other selectable setting 111," and that each setting 111 "*may* be defined as suitable for a particular volume 54." *Id*. at 3:67-4:4 (emphases added). In the event that the characteristics of the liquid to be diffused differ from those of a standard liquid, the specification states that additional tables may be supplied that set forth alternative control schemes. *Id*. at 4:12-17.

Prolitec asks that we construe *control schemes* as "a set of operational parameters for the appliance." PO Resp. 6. ScentAir does not proffer a particular construction, but Prolitec notes that, in related district court litigation, ScentAir defined the term as "systematic plan of control." *Id*. (citing Ex. 1015, 3). We decline to adopt either construction as the broadest reasonable interpretation of the claim language. Prolitec's construction, "a set of operational parameters for the

appliance," merely repeats language used in the claim immediately following *control schemes*, and therefore, adds nothing to the understanding of the term. *See, e.g.*, Ex. 1001, 9:27-29 ("each of the control schemes specifying operational parameters for the appliance"). In addition, by focusing on the "operational parameters" aspect of the control scheme, Prolitec's construction ignores that the control schemes are relationships between inputs and those operational parameters, which may be selected by the user according to some other criteria. This feature was repeatedly emphasized by Prolitec's counsel at oral argument. Tr. 34 ("adjusting all of these other variables automatically according to that easy to estimate variable . . . in our view that's the whole point of the '068 control schemes."). ScentAir's district court claim construction, by focusing on a "systematic plan of *control*," similarly errs by focusing only on the output of the control scheme, and not also on the input.

Based on the foregoing, we consider the broadest reasonable interpretation of *a plurality of control schemes* to be a system of correlations between particular inputs and particular outputs for controlling the diffusion means, which permits a user to select a particular correlation based on user criteria.

B. Prior Art References

Neither party disputes that the following two references at issue in the instituted trial are prior art to the '068 patent.

1. Le Pesant

Le Pesant discloses a programmable, odor-bearing substance diffusion device. Ex. 1005, Abstract. Figure 2 of Le Pesant, reproduced below, illustrates

"a means of drop diffusion" (*Id.* at 5:41-42):

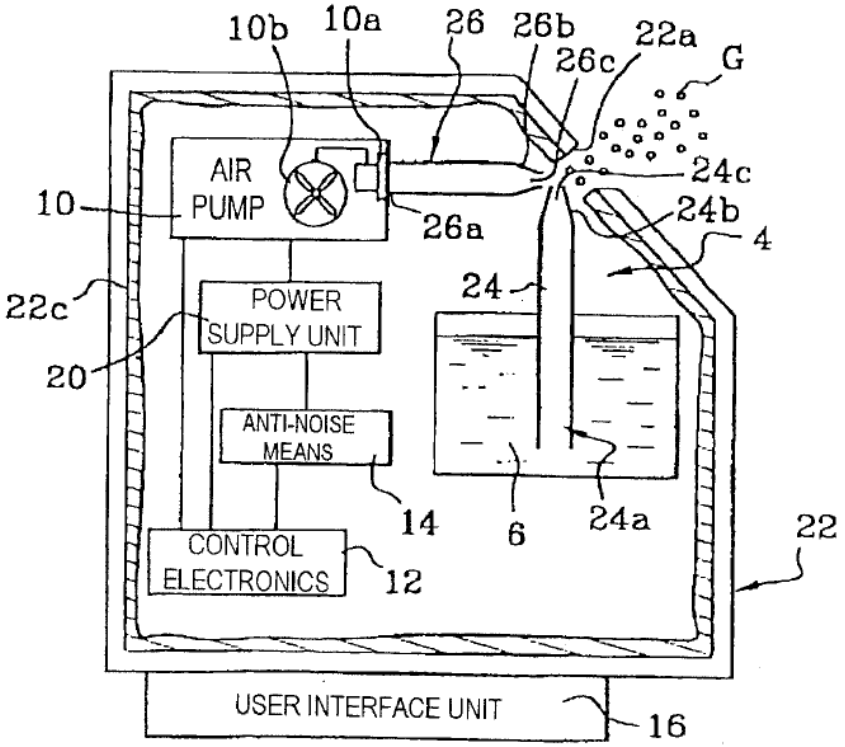

FIG.2

Figure 2 of Le Pesant illustrates drop diffusion means 22 according to one embodiment of the invention. The drop diffusion means includes first tube 24 connected to a tank containing liquid to be diffused 6, and second tube 26 connected to air pump outlet 10a. *Id*. at 7:6-9. Both tubes have tapered sections 24b, 26b that converge toward smaller section outlets 24c, 26c. *Id*. at 7:10-19. The tubes are arranged at right angles so that a jet of air from mouth 26c of the second tube passes over mouth 24c of the first tube. *Id.* at 7:23-24. Le Pesant

notes that the "jet of air, by a Venturi effect, draws the liquid into the first tube and projects it in fine droplets G." *Id*. at 7:25-27.

Le Pesant discloses that the system includes control electronics 12 that control the air pump 10, thereby permitting control of the flow of droplets G from the diffusion means. *Id*. at 7:40-46. The control electronics also can determine intervals between successive emissions of the device. *Id*. at 13:1-6. According to Le Pesant, the emission cycles are "calculated to take into consideration the saturation and de-saturation time of the olfactory nervous system." *Id*. at 3:38-41.

The control electronics of Le Pesant comprise a central processing unit that includes a microprocessor that may be programmed by the user to perform various sequences of operation of the diffusion device. *Id*. at 11:24-31. Alternatively, Le Pesant discloses that the device may be operated according to a pre-established program instead of a user-set program. *Id*. at 7:42-46. The examples of Le Pesant disclose modes of operation of the device appropriate for various applications, such as waking a user from sleep (Example 1) or from a coma (Example 2), or assisting in smoking cessation (Example 3). *Id*. at 13:35-15:17. Example 5 of Le Pesant discloses programming the device to emit a combination of odors using various emission times and internals, in order to prevent scent fatigue. *Id*. at 15:25-55.

2. Privas

Privas discloses a fumigation device for fluid products, such as deodorizers or air fresheners. Ex. 1012, 1.[4] The fumigation device comprises a microprocessor, which determines the activation frequency for the product pump such that "the quantity of gaseous product distributed by the air conditioning system into the treated area is directly determined in relation to a real, representative parameter." *Id*. at 12. In one embodiment, this determination is performed by incorporating a set point value that represents the air circulation in the area being treated. *Id*. at 14. In a second embodiment, a "lookup table" may accompany the device, which determines the set point value according to "the volume and the nature of the room being treated." *Id*.

C. Obviousness Over Le Pesant

There is no material dispute between the parties regarding whether most of the limitations of claims 1 and 24 are disclosed by Le Pesant. For example, Prolitec does not contend that Le Pesant fails to disclose a reservoir of liquid and a means of diffusing that liquid into a space, or that the diffusion means does not include a venturi. Nor does Prolitec dispute whether any of the limitations of the dependent claims is disclosed by Le Pesant. Given the evidence before us that Le Pesant discloses these elements, we find that ScentAir has shown by a preponderance of the evidence that these elements are present in Le Pesant.

[4] Exhibit 1012 contains page numbers at both the top and bottom of several pages. Our citations herein are to the upper page numbers.

The parties' dispute centers on whether Le Pesant teaches *control schemes*, and whether a person of ordinary skill in the art would have found it obvious to modify Le Pesant to select a control scheme based on the volume of the space to be treated. We address these issues in turn below.

1. Le Pesant Teaches Control Schemes

According to ScentAir, Le Pesant discloses a device that includes a microprocessor programmed to perform various sequences for operating the diffusion means. Pet. Reply 4. In particular, Le Pesant states that the device may be operated "according to established programming chosen by the user . . . or to a pre-established program." Ex. 1005 7:44-46. In ScentAir's view, it is these "various sequences"—which control the flow rate and timing of the diffusion means—that correspond to the claimed plurality of control schemes. Pet. Reply 4.

ScentAir also directs our attention to the examples of Le Pesant, contending that the various applications described therein constitute a plurality of control schemes. Tr. 15-16. For instance, Example 1 discloses an embodiment of the device that is programmed to wake the user from sleep, whereas Example 5 discloses a set of programming for preventing scent fatigue. Ex. 1005 13:40-15:54. ScentAir notes that Prolitec's witness, Dr. Shedd, conceded that Example 5 of Le Pesant "relates to one complicated control scheme." Pet. Reply 5 (citing Ex. 2001 ¶ 56).

Prolitec, by contrast, describes the control electronics and programming of Le Pesant as "simple programmable electronics" that are "akin to a programmable alarm clock." PO Resp. 15. "Just because a device has programmable inputs,"

reasons Prolitec, "does not mean that it provides more than one control scheme for a user to choose from." *Id*. at 16. This distinction between the control schemes of the '068 patent and the programmable device of Le Pesant was further clarified by Prolitec's counsel at oral argument:

> MR. BAISH: [] The '068 device comes with a plurality of control plans within the device as opposed to a device that can just function on a range that is programmed by the user, and I think that distinction is critical to the difference between the '068 and the prior art.

Tr. 33-34. In other words, according to Prolitec, the control schemes of the '068 patents come pre-installed on the device, whereas the programming of the Le Pesant device is performed by the user. Prolitec further contends that the device of Le Pesant comes with, at most, a "singular, pre-established program." *Id*. at 35 (citing Ex. 1005, 7:40-46).

Based on our evaluation of the parties' arguments and our review of the record, we find that Le Pesant discloses control schemes, as that claim term is properly construed. The device of Le Pesant adjusts its control programming according to the liquid to be diffused and the level of treatment desired, as required by claim 1. Ex. 1005, 3:44-49, 15:43-47. The device also specifies the flow rate, emission times, and intervals, as required by claims 1 and 24. *Id*. at 7:42-46, 13:1-6. A user may choose the programming that controls the device. *Id*. at 7:40-46. The programming of Le Pesant is, therefore, a plurality of *control schemes* as we have construed the term: a system of correlations between particular inputs and particular outputs for controlling the diffusion means, which permits a user to select a particular relationship based on user criteria.

We do not find Prolitec's arguments to the contrary persuasive, for at least two reasons. First, the broadest reasonable interpretation of *control scheme* does not require that the schemes be pre-installed on the device, rather than programmed by a user. The specification does not set forth any such requirement that would justify deviating from the ordinary meaning of control schemes as used in the context of the claims. Regardless of whether the relationship between inputs and device output is programmed into the device of Le Pesant by the manufacturer or the end user, it is a *control scheme* within the meaning of the '068 patent.

Second, assuming *arguendo* that the *control schemes* must be programmed before the device reaches the end user, Le Pesant would not exclude such an embodiment. Prolitec's reliance on a "singular, pre-established program" (Tr. 35) in Le Pesant demonstrates a misinterpretation of the reference. Le Pesant discloses that the device is controlled "according to established programming chosen by the user . . . or to a pre-established program," not a "singular" program as argued by Prolitec. Le Pesant permits the inclusion of multiple pre-established programs on the device, although the user is limited to selecting one pre-established program (or a user-established program) at a time. The '068 patent requires nothing else in this regard.

2. Le Pesant Does Not Suggest Selection of a Control Scheme Based On Volume

ScentAir concedes that Le Pesant does not teach "selecting one of the control schemes based on the volume of the space to be treated" (Claim 1) or "control schemes corresponding to a particular volume within the space" (Claim 24). Pet. 14. However, ScentAir contends that Le Pesant states that its diffusion

device can be used to treat rooms of various sizes, "typically containing air volumes of between 30 and 100 cubic meters." *Id*. (citing Ex. 1005, 10:6-10).

ScentAir further relies on the declaration of Dr. Garris for the proposition that "it would have been desirable to one of skill in the art to tailor one or more of the pre-established programs in Le Pesant to a given volume." *Id.* (citing Ex. 1004 ¶¶ 21-22). In his declaration, Dr. Garris states that "[i]t is common sense and well-known in the field of fluid machinery, mass transfer and associated control that the concentration of the diffused liquid within a space is affected by the volume of the space." Ex. 1004 ¶ 22. "One of skill in the art could have readily . . . specif[ied] a flow rate and timing for a given pre-established program that achieves the desired treatment for the corresponding volume." *Id*.

Dr. Shedd, Prolitec's witness, agreed that "volume is a fundamental parameter in determining concentration," a statement relied on heavily by ScentAir. Pet. Reply 7; Ex. 1019 ¶ 22 (citing Ex. 2001 ¶ 32). When read in the context of Dr. Shedd's entire statement, however, he concluded that "volume is only one parameter that is relevant to estimating the amount of scent or liquid to be effective in a given area." Ex. 2001 ¶ 32.

Upon review of Le Pesant and the declaration testimony of Dr. Garris and Dr. Shedd, ScentAir has not carried its burden of proving that Le Pesant would have suggested to one with ordinary skill in the art selecting a control scheme based on the volume of the space to be treated. Le Pesant's only discussion of volume is in the context of diffused droplet size. The reference discusses the use of a droplet size that results in a "dry fog," and states that "[m]eans of diffusing very small droplets in high numbers like this are well suited to the volume of

residential rooms and meeting rooms, typically containing air volumes of between 30 and 100 cubic meters." Ex. 1005, 10:5-10. Contrary to ScentAir's interpretation, however, this statement does not disclose that the device of Le Pesant may be used in 30-100 cubic meter rooms. Rather, Le Pesant is stating diffusion means which result in a "dry fog" *droplet size* are suitable for such volumes.

Nor does Le Pesant disclose that the programming of its device should be adjusted according to the volume of the room; Le Pesant merely suggests that its device is suitable for various volumes. The reference is silent as to whether adjustments to the programming of the device are necessary for the device to operate in these various volumes.[5] Le Pesant, therefore, does not suggest selecting a control scheme based on volume.

Nor does Dr. Garris' testimony that it is "common sense" that concentration of diffused liquid is affected by volume (Ex. 1004 ¶ 22) provide the necessary reason to modify Le Pesant. A known relationship between concentration and volume does not provide a reason to modify the device to take advantage of that relationship, especially when at least one interpretation of Le Pesant suggests that no modification is necessary. ScentAir has not articulated a persuasive reason

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[5] *See* Tr. 20-21 ("JUDGE CRUMBLEY: I can read [Le Pesant] the way you take it, which is you would need to adjust it in some way to make it operate differently depending on the size of the room, but you could also read it as this device without any interference from the user is suitable for treating a room with a range from 30 to 100 cubic meters. One of those presents you with a need for volume based control. The other one doesn't. MR. POND: Yes, Your Honor.")

that—based on the disclosure of Le Pesant alone—a skilled artisan would have sought to modify the device of Le Pesant to include volume-based control. For this reason, ScentAir has not shown by a preponderance of the evidence that Le Pesant renders obvious the subject matter of claims 1, 3-5, 9-13, 15, 22-24, 26, 28, and 33, as it fails to teach or suggest the selection of a control scheme based on the volume of the space to be treated.

D. Obviousness Over Le Pesant in Combination with Privas

Again, the parties' dispute regarding the combination of Le Pesant and Privas focuses on a few particular issues. There is no material dispute that the combined disclosures teach most of the limitations of the independent claims, such as diffusion means including a venturi. Nor does Prolitec contend that any of the limitations of the dependent claims is not disclosed by the combined references. As before, we find that ScentAir has met its burden of demonstrating by a preponderance of the evidence that these claim elements are disclosed by the combination of Le Pesant and Privas.

Turning to the disputed elements, Prolitec argues that the combined disclosures do not teach *control schemes* or selecting a control scheme based on the volume of the space to be treated. Prolitec also argues that it would not have been obvious to combine Le Pesant and Privas, because Privas is nonanalogous art and teaches away from the claimed invention. Regarding Prolitec's first argument, we found above that Le Pesant discloses *control schemes*. We address Prolitec's further arguments below.

1. Privas Teaches Selection of a Control Scheme Based on Volume

As noted above, Privas discloses controlling a fumigation system using a microprocessor that incorporates a "set point value" representing the air circulation in the area being treated. Ex. 1012, 14. Prolitec contends that this does not constitute selecting a control scheme based on the volume of the space to be treated, as required by the challenged claims. PO Resp. 26-27. Prolitec's argument emphasizes that Privas' "set point" represents air circulation, not volume, and may be determined empirically.[6] *Id.* at 28-29. Prolitec urges, therefore, that Privas' "set point value" is not the "equivalent of volume." *Id.*

The claims before us, however, do not require selection of a control scheme based exclusively on volume or an "equivalent" of volume. Rather, claim 1 and its dependent claims require "selecting one of the control schemes based on the volume of the space to be treated," whereas claim 24 and its dependent claims require "each of the control schemes corresponding to a particular volume within the space." Indeed, the specification of the '068 patent explicitly contemplates other factors, such as the nature of the liquid being dispersed, as having an impact on the control scheme selected. Ex. 1001, 4:12-17; *see also* Tr. 44 ("MR. BAISH: [] [T]he specification talks about there might be multiple settings appropriate to a

[6] As ScentAir notes, Privas discloses two embodiments of its device: an "industrial" one, which uses an aeraulic probe to empirically determine air circulation, and a simpler "household" embodiment, which uses a lookup table to determine the set point. Ex. 1012, 14.

given volume. . . . [B]ut the settings are all premised on the adjustment of volume. It's not to say other factors don't come into place, personal taste of course.").

Privas discloses selecting a set point based on, or corresponding to, the volume of the space to be treated, by providing a lookup table that determines the set point according to the "volume and the nature of the room being treated." Ex. 1012, 14. This set point is, therefore, a control scheme that is selected based on the volume of the space to be treated, the sole limitation of the '068 claims we have not found disclosed by Le Pesant. Thus, we find that Le Pesant and Privas together disclose all elements of independent claims 1 and 24, as well as those of dependent claims 3-5, 9-13, 15, 22-23, 26, 28, and 33, for which Prolitec has not presented additional arguments.

2. Reason To Combine Le Pesant and Privas

ScentAir relies on the testimony of Dr. Garris to support the combination of Le Pesant with Privas. In addition to noting that both Le Pesant and Privas disclose liquid diffusion devices, Dr. Garris states that:

> Based on the knowledge about concentration and volume coupled with Le Pesant's stated desire to treat rooms of varying volumes (rooms between 30 and 100 cubic meters), it would have been desirable to one of skill in the art to include Privas' volume based control into the control programs of Le Pesant. One of skill in the art could have readily done so, for example, by having pre-established programs that specify a flow rate and timing "as determined by the volume" of a room as taught by Privas so as to achieve the desired treatment for the corresponding volume. A user of Le Pesant could then properly treat a room of a given volume by easily selecting the pre-established program for that volume.

Ex. 1004 ¶ 42.

Prolitec argues that this rationale fails to provide a reason to combine the references, contending that Le Pesant does not express a "desire" to treat various volumes and that Privas does not disclose volume-based control. PO Resp. 36. We disagree with the latter argument, as we have already found that Privas discloses selecting a "set point" based—at least in part—on the volume of the space to be treated. With respect to the former argument, we find that Le Pesant discloses treating rooms of varying volumes, at least ranging between 30 and 100 cubic meters. Ex. 1005, 10:8-10. As discussed above, this does not provide a reason to modify Le Pesant to include volume-based control, but we conclude that it provides sufficient reason to combine Le Pesant with Privas, which discusses volume-based control. A person of ordinary skill in the art seeking to use the liquid diffusion device of Le Pesant in rooms of varying volumes would have reason to incorporate the volume based-control of Privas' liquid diffusion device.

Prolitec makes two additional arguments regarding the combination of Le Pesant and Privas, neither of which we find persuasive. First, Prolitec contends that Privas is non-analogous art and should not be considered. PO Resp. 30-32. Second, Prolitec argues that Privas teaches away from the '068 patent. *Id*. at 32-34. We address each argument in turn.

a. Privas is Analogous Art

A prior art reference is considered to be analogous if it is either: 1) from the same field of endeavor, regardless of the problem addressed; or 2) reasonably pertinent to the particular problem with which the inventor is concerned, regardless of the field of endeavor. *See In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). "A

reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *Id.* at 659. The determination of whether a prior art reference is analogous is a factual one. *Id.* at 658.

We find that Privas is analogous art, as it is from the "same field of endeavor" as the '068 patent. Prolitec argues that Privas is directed to fumigation devices, whereas the '068 patent is directed to atomizers. PO Resp. 30-31. Prolitec cites the testimony of Dr. Shedd, who notes that the two devices operate under different principles of diffusion. *Id*. ("In an atomizer like the '068 patent device, fluid is diffused in a liquid state but in Privas it is diffused in a gaseous state.") (citing Ex. 2001, ¶¶ 44, 82).

ScentAir asserts that Privas is from the same field of endeavor as the '068 patent, noting that the Privas fumigation device contains both an atomizer *and* an evaporator. Pet. Reply 10. ScentAir cites Dr. Garris' testimony that the Privas device is "structurally and functionally akin to the subject matter of the '068 patent—but with an additional diffusion means." *Id*. (citing Ex. 1019 ¶ 35).

We do not consider the additional evaporator of Privas as somehow removing Privas from the same field of endeavor as the '068 patent. Both devices are used treat the air within a space using diffusion means that comprise an atomizer. Prolitec has not pointed us to any functional difference that would distinguish the devices in a meaningful way. Tr. 48 ("JUDGE CRUMBLEY: At least some portion of [Privas'] operation is the same as ScentAir's. MR. BAISH: That's true, yes."). Indeed, the devices of Privas and the '068 patent have

significant structural similarities, including the reservoir of liquid and the atomizer/venturi. These structural and functional similarities would have led one of ordinary skill in the art working in the field of atomizing devices, such as those of the '068 patent, to consider similar devices, such as the fumigator of Privas. *See In re Bigio*, 381 F.3d 1320, 1325-26 (Fed. Cir. 2004).

Having found that Privas and the '068 patent pertain to the same field of endeavor, we need not reach the "reasonably pertinent to the particular problem" test. We simply note that both Privas and the '068 patent address the problem of maintaining a constant level of odor within the space being treated. *Compare* Ex. 1001, 1:36-38, 10:22-26 (level of treatment within the space is substantially constant) *with* Ex. 1012, 2 (device capable of maintaining a constant level of odor in the space).

b. Privas Does Not Teach Away

Prolitec also argues that the skilled artisan would not have combined Le Pesant with Privas, because "Privas actually teaches away from the invention in the '068 patent." PO Resp. 32-34. Privas teaches that atomizers are useful for small spaces, but "when treating vaster areas, this technique is unsuitable, resulting in poor dispersion of the product throughout the room." Ex. 1012, 4. Prolitec argues that the '068 patent, by contrast, "is suitable for treating spaces larger than those disclosed or taught by Le Pesant." PO Resp. 33.

A reference teaches away from a combination when, for example, a person of ordinary skill in the art would be discouraged from following the path set out in the reference, or would be led in a direction divergent from that chosen by the

inventor. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). "[I]n general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *Id*.

At the outset, we note that Prolitec frames its analysis as "Privas [] teaches away from *the invention in the '068 patent*" (PO Resp. 32) (emphasis added), whereas the proper inquiry is whether the reference teaches away from the *combination* with Le Pesant. Prolitec's arguments comparing the spaces contemplated by Privas with the spaces treated in the '068 patent are, therefore, beside the point.

In any event, we are not persuaded that Privas teaches away from the combination with Le Pesant. Privas states that atomizers are suitable for "localized treatments," but does not quantify what volume would be considered "a small area of space." Ex. 1012, 1. Prolitec has presented no evidence that Privas' "small area of space" would not overlap with Le Pesant's spaces of 30-100 cubic meters. There is insufficient evidence before us to conclude that Privas teaches away from a combination with Le Pesant.

III. CONCLUSION

We have considered the scope and content of the prior art; the differences between the prior art and the challenged claims; the level of ordinary skill in the art; and the objective indicia of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 18-19 (1966). We conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 3-5, 9-13, 15, 22-24, 26, 28, and 33 of

the ’068 patent are unpatentable under 35 U.S.C. § 103, as they would have been obvious over the combined disclosures of Le Pesant and Privas.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that claims 1, 3-5, 9-13, 15, 22-24, 26, 28, and 33 of U.S. Patent No. 7,930,068 are *unpatentable*; and

FURTHER ORDERED that, because this is a final decision, parties 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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