

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AROMA360, LLC,

Petitioner,

v.

AIR ESSSENTIALS, INC.,

Patent Owner.

Case IPR 2025-00707
U.S. Patent No. 10,092,918

PATENT OWNER'S
PRELIMINARY RESPONSE

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

I. INTRODUCTION

Pursuant to 35 U.S.C. § 313 and 37 C.F.R. § 42.107, Air Essentials, Inc. (“Patent Owner”), submits its Preliminary Response (“POPR”) in opposition to the Petition for *Inter Partes* Review of claims 1 and 3-8 of U.S. Patent No. 10,092,918 filed by Aroma360, LLC (“Petitioner”) (the “Petition”). Petition (Paper 2). For reasons set forth herein, institution of *inter partes* review should be denied.

As will be demonstrated, the Petition is procedurally and substantively flawed. It fails to establish the threshold requirement of demonstrating a reasonable likelihood that Petitioner will prevail with respect to at least one challenged claim, as required under 35 U.S.C. § 314(a). Among other deficiencies, the Petition mischaracterizes key claim limitations of U.S. Patent No. 10,092,918 (the “’918 Patent”) and distorts the cited references in an effort to create the appearance that the alleged prior art discloses the invention in claims 1 and 3-8 (the “challenged claims”). In reality, the cited prior art falls well short of teaching or suggesting the full scope of the challenged claims, and fails to demonstrate anticipation or obviousness under 35 U.S.C. §§ 102 and 103, warranting denial of institution under § 314(a). *See generally* 35 U.S.C. § 311(b).

II. RESPONSE TO GROUND 1

A. Claims 1 and 5

Petitioner asserts that claims 1 and 3–8 of U.S. Patent No. 10,092,918 (“the ‘918 Patent,” Ex-1001) are unpatentable under 35 U.S.C. § 103 as obvious over French Patent Publication No. 2886160 (“Goubet,” Ex-1016). Paper 2, Pages 25–46. Petitioner contends that Goubet discloses the claimed diffusion unit, diffusion assembly, atomizer assembly, a fluid dispersion generated within the diffusion chamber, upper and lower chambers, an atomizer exhaust aperture, and operative engagement of the components. These assertions mischaracterize Goubet’s disclosures, conflate its passive droplet control mechanisms with the claimed integrated, active assembly, and fail to demonstrate that Goubet teaches or suggests the structural and functional features of the challenged claims.

Petitioner identifies Goubet’s diffuser head (reference numeral 4), comprising venturi cone (reference numeral 7), vaporization means (reference numerals 12, 13, 14), and diffusion chamber (reference numeral 5), as allegedly corresponding to the claimed diffusion unit, diffusion assembly, and atomizer assembly. Paper 2, Pages 28–37. Petitioner cites Goubet’s disclosure that compressed air enters the diffuser head, mixes with oil, and forms droplets that circulate through a tortuous path before being discharged into the surrounding air. Ex-1016, Page 6; Paper 2, Page 32. According to Petitioner, the vaporization means

and baffles in Goubet break up the droplets into microdroplets and direct them outward, allegedly satisfying the claim elements requiring “a diffusion assembly disposed in operative engagement with said diffusion unit” and “wherein said diffusion assembly comprises an atomizer assembly.” Paper 2, Pages 33–36.

This interpretation mischaracterizes Goubet. Goubet describes its vaporization means as “two concentric circular enclosures which define a passage that constitutes the baffle.” Ex-1016, Page 6. This structure forces the atomized mist to follow a tortuous path through the baffle before discharge, with the purpose of passively reducing droplet size “as much as possible” and controlling their dispersion into ambient air. This differs from the claimed configuration, in which the diffusion assembly and atomizer assembly are integrated and actively generate a properly conditioned fluid dispersion within the diffusion chamber prior to discharge. Ex-1001, col. 12, lines 27–32.

Specifically, the '918 Patent recites an atomizer assembly integrated within the diffusion chamber and disposed between an upper chamber and a lower chamber, with a defined air inlet, fluid inlet, mixing chamber, and atomizer exhaust aperture configured to generate a fluid dispersion before it exits through a discharge port. Ex-1001, Col. 12, Lines 1–18, Lines 27-32, and Fig. 1. Goubet describes droplets circulating along a confined tortuous path imposed by baffles during and after discharge, where droplet reduction and diffusion occur as a downstream, passive

process. The claimed invention achieves a controlled, properly conditioned fluid dispersion within the diffusion chamber itself, without relying on downstream paths or baffles to passively correct the spray. The below figures can be used for further context.

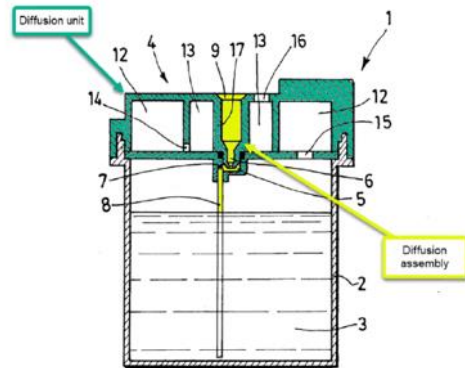


FIG. 1

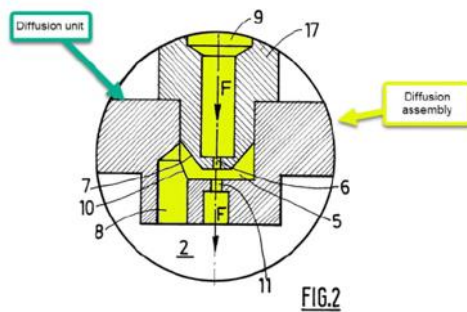


FIG. 2

Ex-1016, Figures 1 and 2

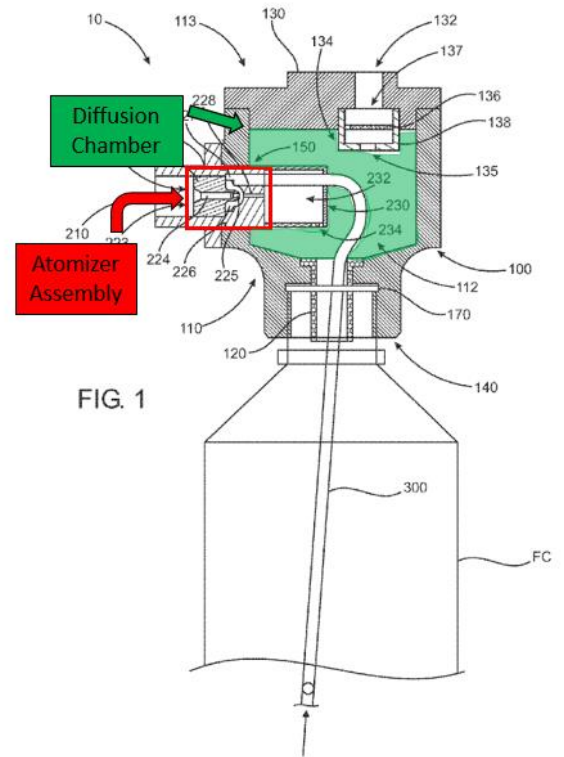


FIG. 1

Ex-1001, Figure1

Accordingly, Petitioner asserts that Goubet teaches an atomizer assembly comprising an atomizer air inlet channel, fluid inlet, mixing chamber, and atomizer exhaust aperture. Paper 2, Pages 42–46. Goubet describes air and oil entering and circulating through the diffuser head and exiting via outlet 11, but it does not disclose an atomizer assembly with the claimed components integrated within the diffusion

chamber and configured to generate the fluid dispersion therein before discharge. *See* Ex-1016. Goubet's reliance on baffles and vaporization means to passively control droplets during discharge does not meet the claimed integrated, active configuration.

Petitioner further asserts that Goubet's diffuser head satisfies the limitations of upper and lower chambers and that the atomizer assembly is disposed therebetween. Paper 2, Pages 30–31. Goubet does not disclose an atomizer assembly, let alone one disposed between upper and lower chambers within the diffusion chamber. Instead, Goubet describes concentric enclosures guiding droplets along a path imposed by baffles to reduce droplet size and discharge them, rather than an integrated atomizer assembly disposed between upper and lower chambers within a diffusion chamber. *Cf.* Ex-1016; Ex-1001, Col. 12, Lines 38–40. For these reasons, Goubet should not be considered to obviate claims 1 and 5.

A. Claims 3, 4, and 6-8

Dependent claims 3–8 also fail for the same reasons. Claim 3 recites that the atomizer exhaust aperture is disposed in a communicating relation between the mixing chamber and the lower chamber to facilitate transfer of the fluid dispersion. Ex-1001, Col. 12, Lines 23–27. Goubet does not disclose such a configuration; its outlet merely discharges droplets after they traverse the tortuous path. Claim 4 describes that the diffusion chamber facilitates formation of the fluid dispersion prior

to discharge. Ex-1001, Col. 12, Lines 28–32. Goubet describes passive droplet reduction during and after discharge, not within the chamber prior to discharge. Claims 6 and 7 recite an atomizer assembly comprising an atomizer air inlet, fluid inlet, mixing chamber, and exhaust aperture, with the air inlet connected to the compressed air source and the fluid inlet connected to the operative fluid container such that they mix in the mixing chamber to form the fluid dispersion. Ex-1001, Col. 12, Lines 49–59. Goubet does not disclose an integrated structure with these components in the claimed configuration. Claim 8 describes the diffusion chamber to facilitate formation of the fluid dispersion before discharge through the discharge port. Ex-1001, Col. 12, Lines 60–64. Goubet again fails to disclose such an arrangement.

In summary, Goubet discloses a passive droplet control mechanism operating during discharge, not an integrated, active atomizer and diffusion assembly producing a properly conditioned fluid dispersion within a diffusion chamber before discharge. Petitioner conflates these distinct mechanisms and does not demonstrate that Goubet teaches or suggests the structural and functional limitations of claims 1 and 3–8. Accordingly, institution of *inter partes* review should be denied as to Ground 1.

III. RESPONSE TO GROUND 2

Petitioner asserts that claims 1 and 3–8 of the '918 Patent are unpatentable under 35 U.S.C. § 103 as obvious over Goubet in view of Sebastian Kaiser et al., *The Electrospray and Combustion at the Mesoscale*, 51 J. Mass Spectrom. Soc. Jpn. 42–49 (2003) (“Kaiser”) [Ex-1014]. Paper 2, Pages 47–48. Petitioner contends that Goubet discloses the claimed diffusion unit, diffusion assembly, atomizer assembly, fluid dispersion, and operative engagement of the components, while Kaiser purportedly supplies the “substantially uniform” droplet limitation. These assertions mischaracterize Goubet’s disclosures, conflate its passive droplet control mechanisms with the claimed integrated, active assembly, and fail to demonstrate that either reference teaches or suggests the structural and functional features of the challenged claims.

Petitioner relies on the same disclosures of Goubet identified in Ground 1, asserting that Goubet’s diffuser head (reference numeral 4), venturi cone (reference numeral 7), vaporization means (reference numerals 12, 13, 14), and diffusion chamber (reference numeral 5) correspond to the claimed diffusion unit, diffusion assembly, and atomizer assembly. Paper 2, Pages 47–48. Petitioner cites Goubet’s disclosure that compressed air enters the diffuser head, draws oil into the diffusion chamber, and produces microdroplets that circulate through a tortuous path imposed by baffles before being discharged into the surrounding air. Ex-1016, Page 6;

Paper 2, Page 47. Petitioner argues that this meets the limitations of “a diffusion assembly disposed in operative engagement with said diffusion unit” and “wherein said diffusion assembly comprises an atomizer assembly.”

This reading of Goubet mischaracterizes its disclosures and disregards the explicit requirements of the claims. Goubet describes its vaporization means as “two concentric circular enclosures which define a passage that constitutes the baffle,” intended to create a tortuous path through which the mist circulates. Ex-1016, Page 6. The baffles passively reduce droplet size “as much as possible” and control their dispersion during and after discharge. By contrast, the ’918 Patent recites an integrated diffusion assembly and atomizer assembly configured to actively generate a properly conditioned and substantially uniform fluid dispersion within the diffusion chamber prior to discharge. *Cf.* Ex-1016; Ex-1001, Col. 12, Lines 38–40. Ultimately, and as set forth above, Goubet should not render claims of the ’918 Patent obvious.

Accordingly, Petitioner notes that “Goubet does not explicitly disclose that its microdroplets are ‘substantially uniform’ in diameter.” Paper 2, Page 47. For this reason, Petitioner attempts to rely on Kaiser, to argue that “it was well known in the field at the time of the invention that droplets of greater uniformity result in uniform droplet evaporation.” Paper 2, Page 47 (citing Ex-1014, pg. 43 (“critical to uniform evaporation and burning is a good control of the size distribution of the resulting

aerosol.”). A close reading of Kaiser reveals that the reference is a Yale research paper on electrospray injection for mesoscale combustion systems, where a high-voltage electric field is used to disperse liquid fuel into fine, charged droplets via a “cone-jet” mode. These droplets are directed into a compact catalytic combustor, enabling clean, efficient combustion with minimal emissions. The system is designed for small-scale power generation—such as micro-turbines or portable energy devices—and showcases how precise droplet control can improve fuel-air mixing, evaporation, and thermal efficiency in confined environments.

Therefore, Petitioner concludes its argument by noting that “if Goubet does not teach a ‘fluid dispersion,’ (*e.g.*, substantially uniform droplets) as presently configured, a POSITA would have been motivated to modify Goubet to include additional enclosures to further reduce the size (diameter) of the droplets—for the reasons described above [in Goubet and Kaiser] and to improve droplet uniformity, which will in turn create a more uniform, and less harsh, scent as the oil droplets evaporate in the surrounding airspace” Paper 2, Page 64 (citing Ex-1002, ¶ 167).

However, Patent Owner contends that a person of ordinary skill in the art (POSITA) would not have been motivated to combine Goubet and Kaiser because the references are directed to fundamentally different problems in distinct technical domains—namely, scent dispersion in consumer enclosures versus combustion dynamics in mesoscale power generation. Under *Virtek Vision Int’l ULC v. Assembly*

Guidance Sys., Inc., 97 F.4th 882 (Fed. Cir. 2024), it is not enough that two systems were merely “known”; there must be a reason a skilled artisan would have made the specific substitution or combination. *Virtek Vision Int’l ULC v. Assembly Guidance Sys., Inc.*, 97 F.4th 882, 886-87 (Fed. Cir. 2024). Here, Petitioner fails to articulate any reason—let alone one grounded in design need, technical compatibility, or market demand—that would have led a POSITA to look to high-voltage electrospray injection designed for fuel atomization in a catalytic combustor as a modification to Goubet’s essential oil diffuser. Ex-1014; Ex-1016. Further, Petitioner’s reliance on the Declaration of Christopher White, Ph.D [Ex-1002] is nonetheless persuasive. A close reading of the exhibit does not articulate a cognizable **reason** why a skilled artisan or POSITA would have made the combination of Goubet and Kaiser. *See Virtek Vision Int’l UCL*, 97 F.4th 882,886-87 (Fed. Cir. 2024) (finding it is not enough that two systems were merely “known,” and there must be a **reason** a skilled artisan would have made a specific substitution or combination) (emphasis added).

Moreover, as *Palo Alto Networks, Inc. v. Centripetal Networks, LLC*, 122 F.4th 1378 (Fed. Cir. 2024), makes clear, it is legal error for the Board—or a Petitioner—to rely on isolated disclosures in the references without bridging the rationale for their integration in a way that satisfies the claimed limitations. *See Palo Alto Networks, Inc. v. Centripetal Networks, LLC*, 122 F.4th 1378, 1384-86 (Fed. Cir. 2024). Petitioner’s assertion that a POSITA “would have modified Goubet” in

view of Kaiser is precisely the kind of conclusory, unsupported combination that fails under *Palo Alto Networks* and *Virtek*. Without a clear articulation of why the combination would have been made—the Petition lacks the “necessary bridge” to establish obviousness under § 103. *Id.*

IV. RESPONSE TO GROUND 3

A. Gao-2 Does Not Qualify as Prior Art against the Challenged Claims

Under Ground 3 of the Petition (Paper 2, Pages, 49-66), Petitioner attempts to argue that Chinese Utility Model Patent No. 204072864 (“Gao-2”) renders the challenged claims obvious under 35 U.S.C. § 103. However, Gao-2 does not qualify as prior art against the ‘918 Patent. The Petition asserts that the earliest date the challenged claims find support is in the specification of the ‘918 Patent itself, filed on November 17, 2016, because its claims rely on the terms “upper chamber”, “lower chamber,” and “atomizer exhaust aperture” which were not *in haec verba* used in Patent Owner’s earlier specifications. *See* Paper 2, Page 10. However, this is not the correct standard. As demonstrated below, these terms are fully supported by Patent Owner’s prior filings which predate Gao-2. Petitioner appears to concede that all other elements of the ‘918 Patent claims find support in Patent Owner’s earliest application, filed on August 29, 2012.

The question of whether an asserted claim of a patent-in-suit is entitled to a priority filing date of an earlier parent application, depends on whether the written

description in that earlier application supports the later-filed claim. *See e.g., Tech Licensing Corp. v. VideoTek*, 545 F.3d 1316, 1327 (Fed. Cir. 2008). To comply with the written description requirement, the patentee may demonstrate that the parent disclosure conveys with reasonable clarity to a person of ordinary skill in the art that the inventor was in possession of the claimed invention at the time of the earlier application. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The test for "reasonable conveyance" is a flexible one, "requir[ing] an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art" to determine whether, by reading the original disclosure, that person could "immediately discern the limitation at issue in the claims." *Id*; *see also Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000). Importantly, however, *in haec verba* disclosures using the same language of the claim are not required. *Ariad Pharms, Inc.*, 598 F.3d at 1352. Moreover, the application "does not have to describe exactly the subject matter claimed." *See Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 2000). Rather, the requirement is met if a person of ordinary skill in the art would find it is "reasonably clear what the invention is and that the patent specification conveys that meaning." *All Dental Prodx, L.L.C. v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779 (Fed. Cir. 2002). Finally, and perhaps most notably, drawings alone may satisfy the written description requirement. *See, e.g., Vas-Cath*, 935 F.2d at 1565.

a. Upper Chamber and Lower Chamber

The terms “upper chamber” and “lower chamber” were first used, *in haec verba*, in the ‘918 Patent in connection with the description of Figure 6. “[T]he modified diffusion chamber **112**” comprises a lower chamber **114**” which is disposed below and adjacent to the discharge of a fluid dispersion through the atomizer exhaust aperture **228**. An upper chamber **115**” of the diffusion chamber **112**” is disposed above the diffusion assembly **200**, as shown in FIG. 6, substantially opposite to the direction of flow of a fluid dispersion from atomizer exhaust aperture **228**.” Ex-1001, Col. 10, Lines 57-67. As such, the upper chamber and lower chamber are established as regions or areas of the larger diffusion chamber.¹ This is an inherent property of the diffusion chamber, and was inherently present in the disclosure since the provisional application that was filed on August 29, 2012. *See, e.g. Yeda Research & Dev. Co. v. Abbott GmbH & Co. KG*, 837 F.3d

¹ While at first glance, it may appear in Figure 6 that upper chamber **115**” and lower chamber **114**” are closed off from one another due to the diffusion assembly **200**, this is due to the Figure being a cross-section that bisects the diffusion assembly **200**. The accompanying description demonstrates that air is free to flow from the lower chamber **114**” to the upper chamber **115**”, by way of example, around the diffusion assembly **200**. *See, e.g., ‘Ex-1001, Col. 10, Lines 57-67, Col. 11, Lines 22-28.*

1341, 1345 (Fed. Cir. 2016) ("Under the doctrine of inherent disclosure, when a specification describes an invention that has certain undisclosed yet inherent properties, that specification serves as adequate written description to support a subsequent patent application that explicitly recites the invention's inherent properties.")

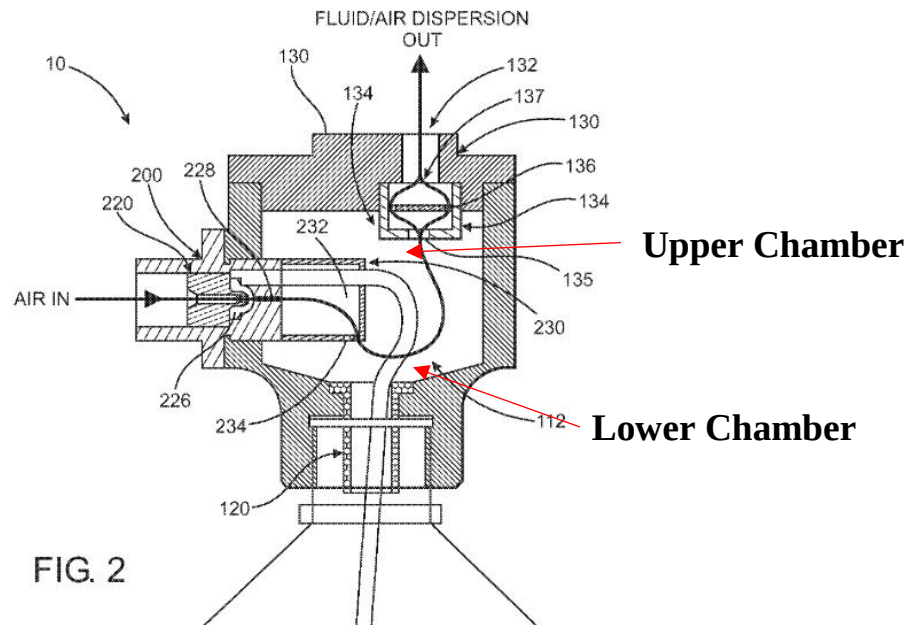
Even beyond the inherency doctrine, the purpose and function of the upper and lower chamber are encompassed by the same inventive concept as other structures that were disclosed in patent filings to which the '918 Patent claims priority, which is the concept of exhausting fluid flow from the atomizer assembly in one direction, and then redirecting it in another direction, which provides the benefit of suppressing or dampening sound waves. Even the earliest iterations of the invention depicted in the provisional application [Ex-1006] show that the fluid flow is first exhausted into a lower region of the diffusion chamber, before being redirected into an upper region of the diffusion chamber. This is perhaps most clearly demonstrated by comparing the description of Figure 5, which was included in the '215 Parent Patent, to the description of Figure 6, which was included in the '918 Patent.

Description of Figure 5 from '215 Parent Patent	Description of Figure 6 from '918 CIP Patent
More importantly, the fluid dispersion discharged from the atomizer assembly	More importantly, the fluid dispersion discharged from the atomizer assembly

220 through atomizer exhaust channel 228 into diffusion chamber 112' is interrupted and redirected by virtue of axial portion 114 and transverse portion 115 therein. The interruption and redirection of flow in the modified diffusion chamber 112' during operation of the fluid dispersion assembly 10 in accordance with the present embodiment, serves to suppress or dampen sound waves generated therein, in a similar manner as the suppression chamber 232 of previously disclosed embodiments. Further, the restricted discharge from the transverse portion 115 of the modified diffusion chamber 112' may serve to further suppress or dampen sound waves, thus reducing the noise generated during operation to an even greater extent.	220 through atomizer exhaust aperture 228" into diffusion chamber 112" is interrupted and redirected by virtue of lower chamber 114" and upper chamber 115" therein. The interruption and redirection of flow in the modified diffusion chamber 112" during operation of the fluid dispersion assembly 10 in accordance with the present embodiment, serves to suppress or dampen sound waves generated therein, much like the suppression chamber 232 of previously disclosed embodiments. Further, the restricted discharge from the upper chamber 115" of the modified diffusion chamber 112" serves to further suppress or dampen sound waves, thus reducing the noise generated during operation to an even greater extent
'094 Patent, Exhibit 1005, Page 17, Lines 13-25.	'918 Patent, Exhibit 1001, Column 11, lines 1-14.

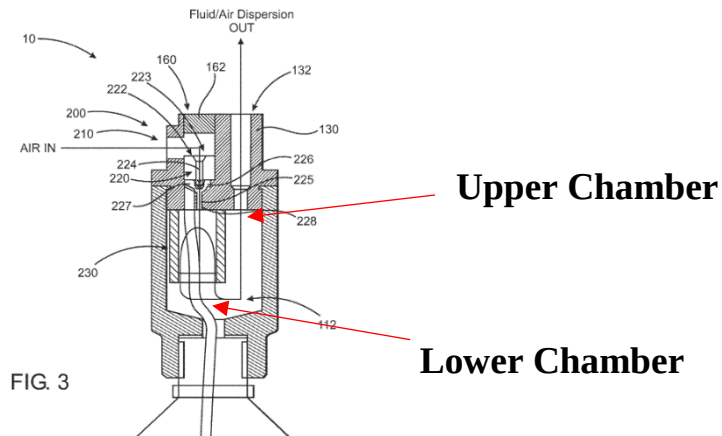
As can be seen, the description of the “axial portion” and “transverse portion” of Figure 5 is nearly identical to the description of the “upper chamber” and “lower chamber” of Figure 6. The descriptions go so far as to use the same reference numerals because “[l]ike reference numerals refer to like parts throughout the several views of the drawings.” Ex-1001, Col. 3, Lines 1-2. Additionally, the same concept can be seen in Figures 1-4, which were first introduced in the provisional patent application [Ex-1006]. Referencing Figure 2 as an example (copy below,

annotated), the fluid flow is first directed downwardly into a lower chamber (or a lower region of the diffusion chamber 112) before being redirected toward the upper chamber (or an upper region of the diffusion chamber 112).



Ex-1001, Figure 2.

Referencing Figure 3 as yet another example (copy below, annotated), the fluid flow is first directed downwardly into a lower chamber (or a lower region of the diffusion chamber 112) before being redirected toward the upper chamber (or an upper region of the diffusion chamber 112).



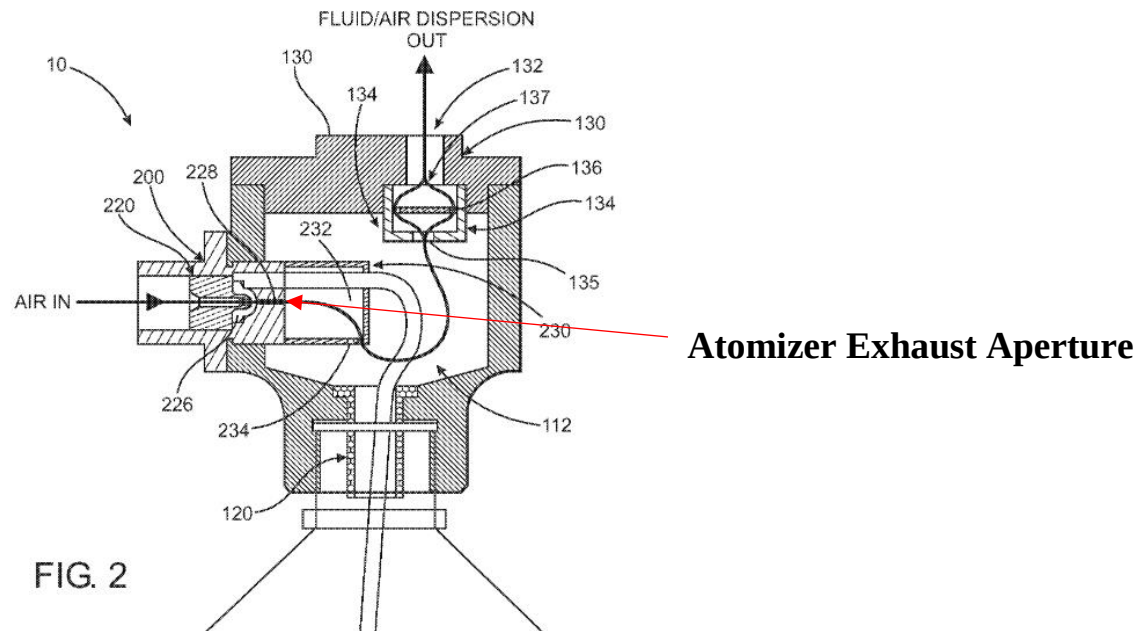
Ex-1001, Figure 3.

Accordingly, and because they stem from the same inventive concept, the inventors had “possession” of the “upper chamber” and “lower chamber” concepts at least as early as the time of filing the earliest parent application, March 15, 2013, if not as early as the provisional patent application, filed on August 29, 2012. *See* Ex-1006.

b. Atomizer Exhaust Aperture

The atomizer exhaust aperture is inherently required for the functionality of the atomizer exhaust, and is explicitly depicted in all Figures, even if not labeled in all Figures. Patent Owner has annotated Figure 2 of the ‘094 Patent (first included in the provisional application, [Ex-1006, Page 14] to demonstrate the location of the atomizer exhaust aperture. As for written support, column 5, lines 31-35 demonstrate that “the compressed air flowpath extends horizontally through the air inlet **210**, atomizer air inlet channel **222**, mixing chamber **226**, and out through the atomizer

exhaust 228.” The compressed air could not flow “out through” the atomizer exhaust if there were no aperture (i.e., an opening or passageway). Thus, the written description requirement is also satisfied for “atomizer exhaust aperture.”



Accordingly, the Claims of the ‘918 Patent are entitled to the priority date of the provisional application, filed August 29, 2012, and Gao-2 does not qualify as prior art because it was not published until January 7, 2015. Accordingly, institution of *inter partes* review under Ground 3 should also be denied.

VII. RESPONSE TO GROUND 4

In introducing Ground 4, Petitioner maintains that Gao-2 alone renders obvious claims 1 and 3-8, including by asserting that Gao-2 “discloses a diffusion unit (*e.g.*, a cylindrical body 310) that generates fine mist and quietly disperses the

mist into the air.” Paper 2, Page 66 (citing Ex-1042, ¶¶ 30, 32). However, Patent Owner maintains that, as described above, Gao-2 does **not** qualify as prior art against the ’918 Patent. Accordingly, Petitioner’s arguments under should Ground 4 fail to satisfy the threshold requirement of demonstrating a reasonable likelihood of prevailing on the claims challenged based on Petitioner’s reliance on Gao-2.

As explained above, Petitioner relies on Gao-2 for most of the claim limitations but acknowledges that Gao-2 does not explicitly disclose that the mist droplets are “substantially uniform” in diameter. To address this, Petitioner turns to Goubet, asserting that its disclosure of a diffusion unit producing particularly fine microdroplets satisfies the claimed “substantially uniform” fluid dispersion. Paper 2, Pages 66–67.

This reliance on Goubet mischaracterizes its teachings. Goubet describes a diffuser head (reference numeral 4) comprising a venturi cone (reference numeral 7), vaporization means (reference numerals 12, 13, 14), and a diffusion chamber (reference numeral 5) bounded by baffles. Ex-1016, Page 6. According to Petitioner, these baffles and the tortuous path they impose result in microdroplets that meet the “substantially uniform” limitation.

However, Goubet’s disclosure does not support this conclusion. Goubet explicitly states that the baffles are designed to reduce droplet size “as much as possible” and control their dispersion into ambient air. Ex-1016, Page 6. The

mechanism described is a passive one, in which droplets travel along a tortuous path imposed by the baffles before discharge, progressively reducing in size through repeated collisions with the walls of the enclosures. There is no indication that this process produces droplets of substantially uniform size, nor does Goubet characterize the resulting mist as having any particular degree of uniformity.

The '918 patent, by contrast, claims an active, integrated diffusion assembly and atomizer assembly that generates a properly conditioned, substantially uniform fluid dispersion within the diffusion chamber prior to discharge. Ex-1001, col. 12, lines 28–32. Goubet does not disclose such an integrated structure, nor does it teach or suggest that the mist created in its device achieves the claimed substantially uniform droplet distribution. Instead, Goubet focuses on reducing droplet size to the extent possible before discharge without specifying or implying uniformity of the resulting dispersion.

For these reasons, Goubet does not remedy the deficiencies of Gao-2 with respect to the “substantially uniform” limitation. Its disclosure of baffles and a tortuous path merely describes a mechanism for progressive droplet size reduction and diffusion at the point of discharge — a fundamentally different approach than the claimed active generation of a substantially uniform fluid dispersion within the diffusion chamber. Petitioner’s reliance on Goubet to supply this limitation is therefore misplaced.

VIII. CONCLUSION

In view of the foregoing, the Petition fails to meet the threshold requirement of demonstrating a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, as required under 35 U.S.C. § 314(a). That said, should the Office institute this proceeding, Patent Owner expressly reserves the right to supplement these arguments and present additional positions as necessary, and nothing herein should be considered limiting. Accordingly, Patent Owner respectfully requests that the Petition be denied and that *inter partes* review not be instituted.

CERTIFICATE OF COMPLIANCE WITH WORD COUNT LIMIT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this Patent Owner Preliminary Response (the “POPR”) contains 4214 words, excluding the parts of the POPR exempted by 37 C.F.R. § 42.24(a)(1), as determined by the word count function of the word-processing program used to prepare this document.

Dated: July 14, 2025

Respectfully submitted,

/s/W. John Eagan

W. John Eagan

Lead Counsel

johneagan@malloylaw.com

PTO Registration No.: 80,479

Peter A. Matos

pmatos@malloylaw.com

PTO Registration No.: 37,884

Victor A. Bruzos

vbruzos@malloylaw.com

PTO Registration No.: 82,370

Rafay M. Asrar

rasrar@malloylaw.com

PTO Registration No.: 76,683

MALLOY & MALLOY, P.L.

2800 SW 3rd Ave

Historic Coral Way

Miami, Florida 33129

Telephone: 305-858-8000

Counsel for Patent Owner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of Patent Owner's Preliminary Response (the "POPR") has been served in its entirety on July 14, 2025, by causing the POPR and accompany documents (if any) to be electronically mailed to the following attorneys of record for the Petitioner:

Dated: July 14, 2025

Respectfully submitted,

/s/W. John Eagan

W. John Eagan

Lead Counsel

johneagan@malloylaw.com

PTO Registration No.: 80,479

Peter A. Matos

pmatos@malloylaw.com

PTO Registration No.: 37,884

Victor A. Bruzos

vbruzos@malloylaw.com

PTO Registration No.: 82,370

Rafay M. Asrar

rasrar@malloylaw.com

PTO Registration No.: 76,683

MALLOY & MALLOY, P.L.

2800 SW 3rd Ave

Historic Coral Way

Miami, Florida 33129

Telephone: 305-858-8000

Counsel for Patent Owner