

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AROMA360, LLC,
Petitioner,
v.
AIR ESSSENTIALS, INC.,
Patent Owner.

Case IPR2025-00707
Patent 10,092,918

**PETITIONER'S SUR-REPLY TO PATENT OWNER'S REPLY
IN SUPPORT OF PATENT OWNER'S REVISED CONTINGENT
MOTION TO AMEND**

I. INTRODUCTION

Patent Owner's Reply in support of its Revised Motion to Amend ("Reply" or "PO Reply") admits the claim-recitation column did not match its Claim Appendix and then attempts to replace that column in its Reply. PO Reply 1-2 & App. 16-19. A claim listing may appear in an appendix, but the motion still must clearly show the amendments and set forth written-description support for each substitute claim; a reply may only respond to the opposition and is not an opportunity to provide support in the first instance. 37 C.F.R. §§ 42.121(b), 42.23(b). The Board should deny the Revised MTA.

On the merits, three issues control. First, for claim 16, Patent Owner asserts that the "opening laterally" limitation "clearly refers" to the orientation of the aperture. However, despite Patent Owner's explanation, the limitation remains anything but clear when considered in view of the written specification. Second, for claim 17, Patent Owner's arguments related to the dictionary definition of the term "define" introduce more confusion than they clarify. Third, the claim 16 and claims 17 (collectively the "Substitute Claims") remain invalid over the prior art because Patent Owner's whole-conduit graphics do not rebut the local orientation at the opening of the fluid inlet as mapped to Goubet and Gao-2 in Petitioner's Opposition. Pet. Opp. at 11-24.

II. THE REVISED MTA REMAINS PREJUDICIAL AND DEFICIENT

The mismatch was substantive. For example, claim 16, set forth in the Revised MTA's Appendix includes an added requirement that the inlet channel define a compressed-air flow path through the atomizer assembly. Revised MTA at 6-9, 17-18. Likewise, claim 17 recites a lateral-exhaust limitation in the body, while the Appendix recites a perpendicular fluid-inlet limitation. Yet, the Reply's replacement chart combines various limitations of both versions of the substitute claims to propose entirely new substitute claims in its Reply.

In addition, Patent Owner retains the same support citations even though Patent Owner admits that the substitute claims are now different in scope from those for which support was provided. Revised MTA at 9-11, 18-19; Reply at 1-2, 18-19. Even assuming the provided support was sufficient for the claims set out in the Revised MTA, Patent Owner has failed to provide written description support for the new limitations added in its Reply and thus once again failed to comply with the rules requiring Patent Owner to provide this support. *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 7-9 (PTAB Feb. 25, 2019) (precedential); 37 C.F.R. § 42.121(b)

Petitioner's Opposition attempted to address both versions where space permitted. However, Petitioner primarily addressed the proposed substitute claims set forth on pages 6-10 of the Revised MTA "because those are the claims for which Patent Owner attempts to establish written description support." Pet. Opp. at 4 n.1.

Despite this, Patent Owner now asserts that its Revised MTA did not prejudice Petitioner because Petitioner “proceeded with its Opposition, rather than contact PO for clarification.” Reply at 2. Patent Owner cannot blame Petitioner for its own mistakes.

Patent Owner does not dispute that *Lectrosonics* requires a claim listing that clearly shows the changes and written-description support in the motion for each substitute claim as a whole. *Lectrosonics*, IPR2018-01129, Paper 15 at 7-9; 37 C.F.R. § 42.121(b). Rule 42.23(b) likewise requires the arguments for the requested relief to appear in the motion and limits a reply to responding to the opposition. 37 C.F.R. § 42.23(b). As such, the Reply cannot function as a new motion to amend (which would be the third motion to amend in this proceeding) after Petitioner responded to the conflicting versions. 37 C.F.R. § 42.121(f)(3); Pet. Opp. at 1-3.

Patent Owner has had two opportunities to provide a motion to amend that complies with the rules and failed to do so on both occasions. Patent Owner provides no basis for the Board to give it a third opportunity to do so.

III. THE SUBSTITUTE CLAIMS STILL FAIL § 112

A. Claim 16 Lacks Written-Description Support

Petitioner’s Opposition challenged support for a single limitation, namely:

said atomizer exhaust aperture spaced from said discharge port and opening laterally from said mixing chamber into said lower chamber along an exhaust path transverse to a direction in which the operative fluid enters said mixing chamber through said fluid inlet.

Opp. at 4-7.

While *Ariad* does not require *in haec verba* disclosure, it does require the specification demonstrate possession of the claimed invention and holds that disclosure merely rendering the claim obvious is insufficient. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc). The Reply's quoted "immediately discern" formulation comes from *Purdue Pharma* and likewise asks what the original disclosure conveys to a POSITA. *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000).

In its Reply, Patent Owner confusingly argues claim 16 has sufficient support because the embodiments shown in figures 1 and 6 "both demonstrate a key limitation of the amended claim language, namely that 'the compressed-air flows across said fluid inlet.'" Reply at 3. While this limitation is recited verbatim in claim 17, it is not present in claim 16 in either the Appendix of the Revised MTA or the Reply intended to clarify Patent Owner's intent of claim 16. Revised MTA at 17-18; Reply at 16-18. Notably, the Reply does not specifically address the single limitation Petitioner has alleged as lacking support in claim 16. Even more bewildering is that the Appendix of the Reply contends that the limitation Petitioner argues is lacking support is supported by figures 2, 3 and 5 (and is silent as to figures 1 and 6). Reply at 17.

This limitation remains unsupported for each of the reasons set forth in Petitioner's Opposition. Pet. Opp. at 4-7. Specifically, the atomizer exhaust 228 of

figures 1-2 opens into a suppression chamber 232 not the diffusion chamber 112, much less the lower diffusion chamber 114", which is only illustrated in FIG. 6. Ex. 1001, Figs. 1-2. The atomizer exhaust 228 of figure 5 opens into an upper portion of modified diffusion chamber 112' (*e.g.*, the first axial portion 114). Ex. 1001, Fig. 5. Although the atomizer exhaust 228 of figure 6 opens into the lower diffusion chamber 114", neither the written description nor figure 6, convey the meaning of "opening laterally." Ex. 1001, Fig. 6; Pet. Opp. at 4-7.

Showing mutually exclusive embodiments where air flows by fluid inlet 227 in figure 1 and over fluid inlet 227 in figure 6 (in the mixing chamber) does not disclose the orientation of the atomizer exhaust 228 located downstream thereof. Reply at 3; Ex. 1001, 5:39-63, 10:15-45; Ex. 1052 ¶¶ 86-92. *Parus* affirmed a lack of written-description support where substantial evidence showed that teachings drawn from separate embodiments were not interchangeable or combinable. *Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1373-74 (Fed. Cir. 2023).

B. Claim 16 Is Indefinite

Treating the Claim Appendix as operative cures at most the antecedent-basis issue. Claim 16 separately requires the aperture to open "laterally" and also requires that the exhaust path be "transverse" to fluid entry. Revised MTA at 17-18. Patent Owner's assertion that "laterally" clearly refers to the "orientation of the aperture" gives no further meaning to orientation of the term "laterally." PO Reply at 4. Moreover, it remains unclear if the "orientation of the aperture" refers to the plane

in which the aperture lies or the direction of fluid flow through the aperture. Figure 6 illustrates this ambiguity: operative fluid moves upward through inlet 227, compressed air entrains it horizontally in mixing chamber 226, and the dispersion exits downward through aperture 228" into lower chamber 114", with the direction of fluid flow through the exhaust-aperture being parallel to the inlet axis (*e.g.*, not transverse). Ex. 1001, Fig. 6, 10:15-45, 10:58-11:4; Ex. 1052 ¶¶ 91-92.

The claim thus produces different results depending on whether the “direction in which the operative fluid enters” means movement through the inlet opening or movement after compressed-air entrainment, and neither the claim nor specification selects the governing direction. Ex. 1052 ¶¶ 91-92. That absence of objective boundaries fails reasonable certainty. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014); *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371-74 (Fed. Cir. 2014). If the Board resolves the phrase by measuring the direction locally as fluid passes through the inlet opening into the mixing chamber, that same local reference governs the existing Goubet and Gao-2 mappings discussed below. Ex. 1001, 5:39-63, 10:25-45 & Figs. 1-2, 6; Pet. Opp. at 13-15, 18-19.

C. Patent Owner’s Corrected Support Was Not Properly Presented

The Revised MTA paired its support citations with materially different claim language, and the Reply changes the claim-recitation column only after Petitioner filed its Opposition. PO Rev. MTA at 9-11, 18-19; PO Reply to Rev. MTA at 1-2, App. 18-19. Patent Owner cannot use the Reply to present new support for the

corrected claim language while preserving the same citations. 37 C.F.R. §§ 42.121(b), 42.23(b); *Lectrosonics*, IPR2018-01129, Paper 15 at 7-9

D. Patent Owner’s “Defines” Construction Does Not Save Claim 17

Patent Owner argues, first, that the atomizer air inlet channel “defin[es]” the compressed-air flow path “*through*” the atomizer assembly because the channel’s circumference and orientation allegedly provide the path’s initial boundary and direction. Patent Owner’s dictionary definition confirms the defect in the compressed-air-flow-path term, where Patent Owner says “define” means “to fix or mark the limits of.” Reply at 5. But claim 17 defines the “atomizer assembly” as a multi-component structure including the atomizer air inlet channel, fluid inlet, mixing chamber, and atomizer exhaust aperture. *Id.* at 18-19. Thus, the compressed-air flow path “through said atomizer assembly” must extend through that multi-component assembly, not merely through the inlet channel. Patent Owner identifies no disclosure showing that the inlet channel fixes or marks the path after air leaves the inlet channel and travels through the rest of the atomizer assembly. Ex. 1052 ¶41.

If “defines” merely means that the inlet channel establishes the initial boundaries and direction of the compressed-air path (rather than the path through the entire assembly), Goubet’s channel 9/inlet 6 and Gao-2’s channel 311/holes 3215 do the same. Ex. 1016, 4:15-24 & Fig. 2; Ex. 1042 ¶¶ [0036]-[0040] & Figs. 7, 10.

IV. THE REPLY DOES NOT DISTINGUISH THE ASSERTED GROUNDS

Magnum requires specific obviousness reasoning grounded in record evidence. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Petitioner’s Opposition supplied limitation-by-limitation mappings, reference passages and figures, flow relationships, distinct upstream and final outlets, and supporting expert analysis. Revised MTA at 11-25; Ex. 1047 ¶¶ 41, 46; Ex. 1052 ¶¶ 94-100. Patent Owner’s Rule 42.65(a) objection fails because Dr. White identifies the specific structures, passages, figures, and technical reasoning underlying his opinions. 37 C.F.R. § 42.65(a); Ex. 1047 ¶¶ 41, 46; Ex. 1052 ¶¶ 94-100. Petitioner’s Opposition phrase “as best understood” refers to Patent Owner’s conflicting claim sets and indefiniteness, not a gap in the proof. Pet. Opp. at 1-3, 11.

A. Grounds 1 and 2: Goubet and Goubet-Kaiser Render Proposed Substitute Claim 16 Obvious

Patent Owner imports an unrecited requirement that the lower chamber be isolated from the operative-fluid container. Reply at 6-7. Claim 16 requires only that the diffusion unit “at least partially defin[e]” the lower chamber. Revised MTA at 17-18. Petitioner’s Opposition mapped Goubet’s region below diffuser head 4 and downstream of outlet 11 as the lower chamber; which is consistent with the claim’s partial-definition language even though the region communicates with reservoir 2. Pet. Opp. at 13-16; Ex. 1016, 3:24-4:2, 4:23-28 & Figs. 1-2; Ex. 1052 ¶ 95. Droplets exit chamber 5 through outlet 11 toward reservoir 2, enter outer enclosure 12 through inlet 15, traverse passage 14 into inner enclosure 13, and proceed to final outlet 16.

Ex. 1016, 4:23-5:7 & Figs. 1-3. Thus, outlet 11 and outlet 16 remain distinct upstream and final outlets in the mapped path. Pet. Opp. at 13-16. That reading does not collapse the container and lower chamber. Separately recited structures need not be wholly separate where the claim language permits overlap. *Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1231-32 (Fed. Cir. 2011).

Patent Owner also treats Goubet's downward-facing outlet 11 as dispositive but does not address the horizontal-sidewall modification relied on in Petitioner's Opposition. Reply at 6-7; Pet. Opp. at 14-16. Reorienting outlet 11 sideways would leave Goubet's chamber 5, venturi operation, reservoir-side downstream region, inlet 15, baffled path, and final outlet 16 intact, while increasing residence time and the wall interactions Goubet uses to reduce droplet size. Ex. 1016, 4:23-5:16 & Figs. 1-3; Ex. 1052 ¶¶ 94-97. Dr. White explains why that change would require no undue experimentation and would predictably preserve Goubet's existing downstream path. Ex. 1052 ¶ 97.

Kaiser supplies only the unchanged fluid-dispersion teaching, whereas Goubet supplies the added atomizer geometry and flow relationships. Pet. Opp. at 12, 16; Ex. 1014, 42-43, 47. Obviousness turns on what the combined teachings would have suggested, not whether Kaiser also discloses a limitation already supplied by Goubet. *In re Mouttet*, 686 F.3d 1322, 1332-33 (Fed. Cir. 2012).

B. Grounds 3 and 4: Gao-2 and Gao-2-Goubet Render Claim 16 Obvious

Gao-2 expressly overcomes Patent Owner's container-only argument. Reply at 7-9. Gao-2 teaches that Partition plate 314 forms a lower chamber, atomization core 32 is located within that lower chamber, and spray outlet 3231 sprays mist into the lower chamber and bottle mouth before the mist rises through passage holes 315. Ex. 1042 ¶ [0031] & Fig. 5. Gao-2 separately identifies an upper chamber above partition plate 314 and final mist outlet 351 downstream of the upper chamber and noise-reduction structures. Ex. 1042 ¶¶ [0032]-[0034] & Fig. 5. The fact that the lower chamber is fasted about the outer surface of the bottle mouth does not erase Gao-2's express lower-chamber disclosure. Ex. 1042 ¶¶ [0030]-[0031].

Gao-2 brings the airflow and essential oil together in the volume between rotating core 322 and cap 323 upstream of spray outlet 3231. Ex. 1042 ¶¶ [0035]-[0040] & Figs. 5, 9-10; Ex. 1052 ¶¶ 98-100. Outlet 3231 then transfers the atomized mixture into the lower chamber, while outlet 351 is the separate final discharge port. *Id.* Petitioner's Opposition separately mapped fluid entry through channel 3216/hole 3224, airflow through holes 3215 and grooves 3225, and exit through outlet 3231 under the same directional theory advanced in the Opposition. Pet. Opp. at 17-19; Ex. 1042 ¶¶ [0036]-[0038] & Figs. 7, 9-10. Patent Owner's observation that outlet 3231 opposes hole 3224 does not erase those separately mapped paths or Gao-2's express disclosure that outlet 3231 sprays into the lower chamber. PO Reply to Rev. Mot. to Amend 7-9; Ex. 1042 ¶¶ [0031], [0036]-[0040].

C. Grounds 1 and 2: Goubet and Goubet-Kaiser Render Claim 17 Obvious

Patent Owner's assertion that Petitioner ignored the operative claim 17 is incorrect. Reply at 9-11. Section IV(C)(2) quoted the Appendix limitation and mapped Goubet's oil inlet 10, compressed-air path, vacuum operation, and Figure 2; the following subsection separately addressed the conflicting body-chart language. Pet. Opp. at 20-22. Addressing both versions was not an election to ignore the Appendix. Pet. Opp. at 1-3 & FN. 1, 20-22.

Claim 17 identifies the operative location for the comparison, namely that the fluid inlet "comprises an opening into said mixing chamber," and perpendicularity is assessed as the compressed air flows across said opening. Revised MTA at 18-19. Patent Owner's graphic instead colors the entire dip tube, but Goubet identifies upper end 10 - the opening into chamber 5 - as the oil inlet. Ex. 1016, 3:31-4:2 & Fig. 2. Air through channel 9 and inlet 6 creates vacuum at that opening and draws oil into chamber 5. Ex. 1016, 4:15-22; Ex. 1047 ¶ 41. The orientation of a remote upstream tube segment does not negate the mapped relationship at the opening where suction and mixing occur. Pet. Opp. at 20-21. The Board preliminarily agreed that Figure 2 depicts the substantially perpendicular inlet/airflow relationship. Board Preliminary Guidance 12-13. Under Patent Owner's broad reading of "defines," channel 9/inlet 6 also establishes the initial boundary and direction of Goubet's compressed-air path. Ex. 1016, 4:15-24 & Fig. 2.

D. Grounds 3 and 4: Gao-2 and Gao-2-Goubet Render Claim 17 Obvious

Petitioner's Opposition likewise quoted the operative claim 17 and mapped tube 33, connector 325, channel 3216, and hole 3224, with high-speed air creating negative pressure at hole 3224's outlet. Pet. Opp. at 23-24; Ex. 1042 ¶¶ [0035]-[0038] & Figs. 7, 10. The outlet of hole 3224 is the local opening where airflow from holes 3215 and inclined grooves 3225 draws essential oil into the airflow and atomizes it before outlet 3231. Ex. 1042 ¶¶ [0036]-[0038], [0040] & Figs. 7, 9-10; Ex. 1047 ¶ 46. The Board preliminarily found Gao-2's Figure 7 inlet structure perpendicular to the airflow path. Board Prelim. Guidance at 16-18.

Patent Owner's coloring of the entire upstream conduit does not answer that local opening relationship. Reply at 11-12; Revised MTA at 18-19. Under Patent Owner's broad "defines" construction, air inlet channel 311 and holes 3215 establish the initial boundary and direction of the compressed-air path before the air reaches the opening at hole 3224. Ex. 1042 ¶¶ [0031], [0036]-[0040] & Figs. 7, 10. Ground 4 does not substitute a new mapping: Goubet reinforces Gao-2's existing suction-based atomizer architecture and local inlet/airflow relationship, as Petitioner's Opposition stated, and Patent Owner offers no separate response. Pet. Opp. at 25; Ex. 1016, 3:31-4:2, 4:15-22 & Fig. 2; Reply at 12.

V. CONCLUSION

Petitioner respectfully requests that the Board deny the Revised Contingent Motion to Amend and find proposed substitute claims 16 and 17 unpatentable.

Dated: July 23, 2026

Respectfully submitted,

/James P. Murphy/

James P. Murphy (Reg. No. 55,474)
Polsinelli PC
1000 Louisiana Street, Suite 6400
Houston, Texas 77002

William A. Di Bianca (Reg. No. 58,653)
Jordan T. Riviello (Reg. No. 72,515)
Polsinelli PC
600 Third Avenue, 42nd Floor
New York, NY 10016

Joshua L. Rayes (Reg. No. 74,645)
Polsinelli LLP
Three Embarcadero Center, Suite 2400
San Francisco, CA 94115

Counsel for Petitioner

CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6(e)(4)

The undersigned hereby certifies that a copy of the foregoing Petitioner's Sur-Reply to Patent Owner's Reply in Support of Patent Owner's Revised Contingent Motion to Amend has been served on July 23, 2026, via electronic mail directed to the following counsel of record for Patent Owner:

Peter A. Matos
pmatos@malloylaw.com

W. John Egan
johnegan@malloylaw.com

Victor Bruzos
vbruzos@malloylaw.com

Rafay Asrar
rasrar@malloylaw.com

Tyler Litwak
tlitwak@malloylaw.com
litigation@malloylaw.com

Dated: July 23, 2026

/Ericka McNeil/
Ericka McNeil
Polsinelli PC
1000 Louisiana Street
Suite 6400
Houston, Texas 77002