

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN TUOZHU TECHNOLOGY CO., LTD.,

Petitioner

v.

STRATASYS, INC.

Patent Owner.

PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,886,774

Case No. IPR2025-00611

PATENT OWNER'S SUR-REPLY

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Cases

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884 F.3d 1370 (Fed. Cir. 2018) 5

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Statutes

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35 U.S.C. § 316.....1

Other Authorities

37 C.F.R. § 42.22 1

37 C.F.R. § 42.23 1

EXHIBIT LIST

Exhibit No.	Description
2001	Docket Navigator – Judge Rodney Gilstrap Motion Success for Stay Pending IPR and Time to Milestones
2002	United States District Courts — Judicial Caseload Profiles for Eastern District of Texas (Sept. 30, 2024 and Dec. 31, 2024), available at https://www.uscourts.gov/data-news/reports/statistical-reports/federal-court-management-statistics
2003	Minute Entry for proceedings held before District Judge Gilstrap on Nov. 7, 2024, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG (E.D. Tex. Nov. 14, 2024)
2004	Discovery Order, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG, Dkt No. 35 (E.D. Tex. Dec. 2, 2024)
2005	Protective Order, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG, Dkt No. 36 (E.D. Tex. Dec. 3, 2024)
2006	e-Discovery Order, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG, Dkt No. 41 (E.D. Tex. Dec. 19, 2024)
2007	Invalidity and Ineligibility Contentions, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG, (E.D. Tex. Jan. 30, 2025)
2008	Transcript of Hearing on the Nomination of Howard Lutnick, of New York, to be Secretary of Commerce (Jan. 29, 2025)
2009	Order Denying Defendants’ Motion to Dismiss for Failure to Join Indispensable Party, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG, Dkt. No. 53 (E.D. Tex. May 29, 2025)
2010	Plaintiff’s Unopposed Motion to Consolidate Case No. 2:25-cv-00465-JRG with Case Nos. 2:24-cv-00644-JRG and 2:24-cv-00645-JRG, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG, Dkt. No. 54 (E.D. Tex. May 30, 2025)
2011	Lex Machina, Patent Litigation Report 2024 (Feb. 2024)
2012	U.S. District Court, Eastern District of Texas [Live] Calendar Events Set for 6/1/2026-8/1/2026
2013	Declaration Pro Hac Vice of Dexter Hamilton

2014	Declaration of Dr. Denis Cormier
2015	Transcript of the Deposition of Dr. Michael Hickner

I. INTRODUCTION

Pursuant to 35 U.S.C. § 316 and 37 C.F.R. § 42.23, Stratasys, Inc. (“Stratasys” or “Patent Owner”) hereby submits this Sur-Reply to Petitioner’s Reply (“Reply”) to Patent Owner’s Response (“Response” or “POR”) to the Petition for *inter partes* review (“Petition” or “Pet”) filed by Shenzhen Tuozhu Technology Co., Ltd. (“Petitioner”).

Petitioner’s Reply ignores the plain language of the claims, which recite determining the target printer and then querying the target printer. Under a proper understanding of the claims, Petitioner’s grounds fail to show that any of the challenged claims are unpatentable. Even under Petitioner’s flawed understanding, the grounds fail to show unpatentability for several additional reasons. Further, Petitioner’s attempts to inject wholly new theories at this late stage of briefing should be rejected, and, regardless, those arguments fail on the merits as well.

II. EVANS AND KISSLICER ARE NOT PRIOR ART

Petitioner attempts to gloss over its failure to show that Evans and KISSlicer are prior art. Reply, 22-26. Following Petitioner’s reasoning, the statutory requirements and regulations are advisory and need not be followed. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. § 42.22. Under its view, it is “unduly strict” for Petitioner to explain why the references it asserts are prior art, supported by citations to evidence in the record. Reply, 24. Instead, Petitioner suggests when it satisfies a

subjective “plainly evident” standard, it should be permitted to simply submit copies of the references themselves and wait for responsive argument before providing any explanation. This is wholly improper.

It is undisputed that the Petition provided a conclusory assertion regarding the alleged publication dates of the references (for Evans, 2012, and for KISSlicer, Jan.-2012) and left it up to the factfinder to hunt for evidence (EX1015, EX1016), without providing *any* explanation or citation (save for a wholesale citation to EX1015). Pet. 2. Such a showing is clearly deficient and does not require Patent Owner to show prejudice. *See* Reply, 23.

Armed with nothing to rely upon from the Petition, Petitioner resorts to citing to the Institution Decision and presenting, for the first time in its Reply, its argument. Reply, 22-26. It contends that the burden of production now shifts to Patent Owner and then boldly attacks Patent Owner for not contesting its untimely argument. *See* Reply, 26. According to Petitioner, this means the prior art statuses are undisputed.

Petitioner's approach is fundamentally flawed. It is not Patent Owner's responsibility to speculate why Petitioner believes the references to be prior art and then rebut those speculations. Nor is it appropriate for Petitioner to introduce explanations of its rationales in its Reply. Petitioner suggests it had space in its

Petition to address these issues¹, but it never explains why it delayed providing them. *See* Reply, 24.

As Patent Owner explained in its Response, Petitioner failed to provide any arguments why the references were disseminated or otherwise made available to interested persons exercising reasonable diligence. POR, 36, 38. Petitioner's Reply asserts categorically that books and freely downloadable software are disseminated to interested persons. Reply, 23-24. But mere attorney argument cannot be used as evidence. It remains undisputed that the record lacks evidence that Evans and KISSlicer were disseminated or otherwise made available to interested persons exercising reasonable diligence.

Because Petitioner cannot establish Evans and KISSlicer are prior art, Grounds 2A to 2E are improper grounds for *inter partes* review.

III. THE '774 PATENT CLAIMS DETERMINING A TARGET PRINTER AND THEN QUERYING THE TARGET PRINTER

Patent Owner expressly demonstrated in its Response that the '774 Patent's claims recite determining a target printer to fabricate the object and then querying the target printer for configuration information of the target printer. POR, 13-15. Although there is no presumption of order in method claims, a tribunal "will find

¹ The words of EX1015 and EX1016 total nearly three times the number of additional words that the Petition could have included.

that the claim requires an ordering of steps when the claim language, as a matter of logic or grammar, requires that the steps be performed in the order written.”

TALtech Ltd. v. Esquel Apparel, Inc., 279 F. App'x 974, 978 (Fed. Cir. 2008) (citing *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369–1370 (Fed. Cir. 2003)).

In its Reply, Petitioner ignores the claim language itself and points to the specification, which permits querying other printers to determine the target printer. *See* Reply, 1-3 (citing EX1001, 19:5-14). But the plain language of the claim is clear. Patent Owner does not rely on disclaimer or disavowal as Petitioner suggests. Further, the fact that other printers may be queried does not change the plain language of the claims, which recite determining a target printer and then querying the target printer.

Petitioner also states that a group of printers could perform nearly all steps of claim 1 before a target printer is ultimately determined. *See* Reply, 3. But doing so would ignore the plain language of the claims. Claim 1 recites “the” target printer in the querying step to refer back to “a” target printer in the determining step. It also makes it clear that the querying step calls for “configuration information of the target printer relevant to creation of a printable model for fabrication of the object on the target printer.” Again, these references in the claim plainly indicate that the target printer is queried after it is determined.

By contrast, Petitioner interprets “querying the target printer,” such that querying any printer is sufficient as long as that printer is later determined to be a target printer. But such an interpretation would rewrite the claim to recite “querying the printer,” which would improperly render the word “target” meaningless. *See In re Power Integrations, Inc.*, 884 F.3d 1370, 1376–77 (Fed. Cir. 2018) (rejecting board’s construction that “render[ed] claim language meaningless”). Doing so would require a strained interpretation of “target printer” itself, a term that Petitioner does not propose for construction. Claim 1 makes it clear what a “target printer” is. It is “to fabricate the object” that is “from a three-dimensional model.” Consistent with this understanding, the target printer is queried for configuration information of the target printer that is relevant to “fabrication of the object on the target printer.” *See* Claim 1. Thus, the target printer to fabricate the object is already determined when the querying step is performed.

Under an appropriate understanding of the claim, Petitioner’s grounds fail to show unpatentability.

IV. GROUND 1A DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS

A. Douglas-Mark Does Not Teach Or Suggest Limitations [1.2] and [1.3]

As established above, the claims of the ’774 Patent require an order where the determining step is performed before the querying step. Petitioner claims

Douglas still renders these claim limitations obvious because data tag receipt is not a prerequisite for printer selection (Reply, 3-4) and because Douglas purportedly discloses embodiments with printer selection prior to querying (Reply, 4-6). As to the first issue (data tag receipt), Petitioner relies on automatic printer selection criteria and argues that it does not depend on tag data. Reply, 4. However, Petitioner fails to explain how the evaluation of these criteria does not also depend on querying before determining a target printer. The printer's location (for geographical proximity), capabilities, print queue, and fees all describe information from a printer. EX1005, ¶[0032]. Indeed, Petitioner concedes that the print server communicates "periodically" with the printer, which indicates that the target printer is queried before (and not after) the determining step. Reply, 4. Thus, Petitioner has failed to show the combination teaches the claim under a proper understanding that the determining step (determining the target printer) is performed before the querying step (querying the target printer for configuration information of the target printer).

As to the second issue (printer selection embodiments), Petitioner attempts to introduce a new theory for the determining step. Whereas the Petition clearly states that Douglas' "print server 208" would determine a target printer, Petitioner's Reply shifts to embodiments of Douglas in which a user performs the

selection. Reply, 4-6. It is improper for Petitioner to introduce a new theory in reply.

Petitioner's user-selection theory is also flawed. Indeed, Petitioner conflates the Board's discussion of paragraphs 60 and 73 in Douglas with the user-selection theory. *See* Reply, 4 (citing DI, 13-14; EX1005, ¶[0073]). Those paragraphs in Douglas concern a "remote client device," and not the Petition's "print server." Petitioner also relies on Dr. Hickner's brief reference to the print server's "virtual workspace." Reply, 4-6 (citing EX1003, ¶49; EX1005, ¶[0043]). But that refers to a user of "print server 208" performing tasks. *See also* EX1005, ¶[0074] (the "print server 208" may store queried information and make it "available to users of the print server"). There is no teaching in Douglas of the print server (or the print server's virtual workspace user) determining a target printer before querying the target printer.

Petitioner ignores Douglas and instead presents attorney argument as to what "a POSITA would understand" from Douglas's teachings. Reply, 5. Nothing in Douglas describes the "virtual workspace" as a physical device, much less a "client device" as separately described in Douglas. *See* EX1005, ¶¶[0030], [0043]. To the contrary, Douglas clearly explains that the "virtual workspace" is provided by the print server. *See id.* Moreover, nothing in Douglas indicates that the "print server"

is a “client device.” *See* Pet., 5 (showing EX1005, Fig. 2 (separate print server 208 and client devices 206)).

Finally, Petitioner misinterprets Patent Owner's arguments in asserting a further narrowing of the “target printer.” Reply, 6 (citing POR, 16). The issue isn't disavowal or whether claim elements [1.1] and [1.2] can be performed simultaneously, it is whether there is any teaching in the combination, as presented in the Petition, for the print server to determine a target printer if the request already specifies the target printer. Petitioner failed to explain why there is such a teaching (there is not one), whether considering the Petition or Reply.

B. Douglas-Mark Does Not Teach Or Suggest Limitation [1.4]

For limitation [1.4], Petitioner's positions are irreconcilable. It contends “how the data tag is provided is irrelevant” and yet admits the '774 Patent describes a dictionary by the format of what “may be provided.” Reply, 7 (citing EX1001, 22:37-48). While a specific organization is not required, the claims require a dictionary and not just configuration information or properties. The Petition mapped the need to show some organization to Douglas' “accumulated data tag 304.” Pet., 14. But Petitioner failed to explain why this data is a collection of configuration information, which Petitioner asserts is a dictionary. POR, 17; Pet., 14-15. Douglas does not describe the organization of data itself or teach how its data is provided or received by the print server. POR, 17-19; EX2014, ¶¶83-84.

Finally, Petitioner introduces a new theory in its Reply, asserting that the data tag is “read and transmitted as a collection.” Reply, 9 (citing EX1005, ¶¶[0085]–[0087]). The Petition does not cite to or discuss paragraphs 85 to 87 of Douglas for claim limitation [1.4]. *See* Pet., 14-15. Petitioner should not be permitted to introduce new theories or rely on embodiments of Douglas that it failed to address in its Petition. Moreover, Petitioner arguments are attorney argument as to what Douglas teaches. As discussed above and in the Response, Douglas does not teach or suggest transmitting data tag data as a collection. *See* POR, 17-19; EX2014, ¶¶83-84.

C. Douglas-Mark Does Not Teach Or Suggest Limitation [1.5]

Patent Owner addressed Petitioner's flawed combination in its Response and addressed the combined teachings as presented by Petitioner. POR, 20-23, 23-25. Petitioner responds by purportedly relying on the plain meaning of “fabrication profile.” Reply, 9-10. Petitioner's rationales for this claim element lack citations to evidence and explanation in the Petition. *See id.* They are also hindsight. *See* POR, 20-23; EX2014, ¶¶88-91. Petitioner also ignores the teachings of the references. *See* POR, 20-21, 21-22, 22-23. For example, Douglas does not discuss better transmission, printing efficiency, data compilation, organization, storage, etc. *See* POR, 20-23; EX2014, ¶¶88-91. Indeed, Petitioner's expert tacitly admits to

performing an analysis motivated by hindsight. *See* EX2015, 27:5-8 (admitting to performing no analysis of better or more efficient transmission).

Petitioner claims that Patent Owner has misinterpreted the combination. Reply, 10-11. But Patent Owner addressed Petitioner's own assertions. The Petition contends "a POSITA would have recognized and found obvious to organize Douglas' operational parameters into a 'profile'" and provided three rationales: "organizing these parameters in such a data structure facilitates the use of these parameters for the generation of toolpaths/G-code, and provide better storage and computational efficiency, and allow easier rendering of such operational parameters for user view in a user interface (as purportedly disclosed in Mark)." Pet., 19. Patent Owner explained that the references effectively teach away from such a combination. POR, 24-25. Douglas sends parameters to the printer for the printer's use and not for the generation of toolpaths. EX1005, ¶[0073]. By contrast, Mark's printer receives G-code but it is not involved in generation of G-code and does not receive parameters like those in Douglas. EX1006, Fig. 6; *see also id.*, Figs. 5 and 20; EX2014, ¶92.

The fact that Douglas' parameters can then combined with "print job information," as Petitioner asserts (Reply, 11), only confirms that Douglas teaches that *the printer* decides how to fabricate an object according to its parameters, which stands in contrast to Mark's solution, which *tells* the printer what

instructions to perform. *See* EX1005, ¶¶[0073]–[0074]; EX2014, ¶90 (explaining the Douglas teaches sending the operational parameters to the printer rather than using them to generate toolpaths); *see also* POR, 22-23 (clarifying that the Petition does not assert that the *printer* uses parameters for the generation of toolpaths); Pet., 17-19. Thus, the very function of Douglas teaches away from organizing Douglas' operational parameters as Petitioner asserts based on Mark. This is precisely why Petitioner's rationales and Dr. Hickner's analysis of the combination is incorrect. *See* Reply, 12 (acknowledging that “the Petition and Dr. Hickner” assumed a separate toolpath generator to generate instructions and ignored Douglas's teaching of sending the operational parameters to the printer); Pet., 9; EX1003, ¶42.

Finally, whether slicers were generally known is irrelevant. Petitioner fails to meaningfully dispute the fact that Douglas sends its parameters to the printer rather than using them in a slicer. *See* Reply, 11-12. Petitioner cannot ignore Douglas' teachings by relying on its expert to describe slicers generally.

V. GROUND 1B DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS

Ground 1B adds a third reference (Dahlin) to the combination of Ground 1A. Ground 1B does not separately challenge claim 1, from which all other challenged claims depend. Therefore, Ground 1B fails to teach or suggest claims 6, 7, 9, and

10 for at least the reasons provided above for Ground 1A. Ground 1B also fails to teach or suggest claims 6 and 7 for the additional reasons discussed below.

A. Douglas-Mark-Dahlin Does Not Teach Or Suggest Claim 6

In reply, Petitioner raises two arguments regarding claim 6. First, Petitioner contends that Patent Owner ignored the theories presented in the Petition and improperly require bodily incorporation. Reply, 14-15. But Petitioner's argument completely ignores portions of the Response. In particular, the Response made clear that Douglas and Douglas-Mark do not cure the deficiencies in Dahlin. POR, 27-28. Namely, Douglas and Mark do not disclose automatically detecting a hardware reconfiguration and then incorporating that detection into the profile-based generation of a machine-ready representation. *See id.*; *see also* EX2014, ¶100. Patent Owner does not require or even suggest bodily incorporation. Whether considered individually or as a combination, Douglas, Mark, and Dahlin do not teach claim 6.

Second, Petitioner claims that Patent Owner is reading features of claim 1 into claim 6 regarding hardware reconfiguration. *See* Reply, 15. While claim 1 does not modify the scope of claim 6, claim 6 depends from claims 1 and 4. Specifically, claim 6's automatic detection of hardware reconfiguration is the hardware configuration of claim 4, which is the one or more properties of the target printer in claim 1. Claim 1 also recites creating a fabrication profile based on the

one or more properties. Accordingly, claim 6 requires creating a fabrication profile based on an automatically detected hardware reconfiguration, which is not disclosed in the Douglas-Mark-Dahlin combination. POR, 27-28.

Petitioner incorrectly argues that the fabrication profile is only based on “the one or more” properties instead of every one of the “properties” of the dictionary. It is unclear why Petitioner believes there are multiple sets of properties in claim 1 that would support its interpretation. Moreover, nothing in Petitioner’s citations to the ’774 patent specification indicates that the language of the claims should be interpreted in the manner that Petitioner asserts. Reply, 15-16.

B. Douglas-Mark-Dahlin Does Not Teach Or Suggest Claim 7

In its reply, Petitioner attempts to distinguish “automatically detected” from “automatically specified” because a property can be automatically detected and manually specified. Reply, 16-17. However, Petitioner overlooks that a property can be automatically detected and used to manually perform a task and yet be automatically specified. As Patent Owner explained, unlike claim 7’s requirement for a “manually specified” hardware reconfiguration, Dahlin teaches, whether alone or in the combination, manual performance of an automatically specified material to replace. POR, 29-30; EX1008, ¶[0023]. Petitioner fails to meaningfully address this distinction.

VI. GROUND 1C DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS

Ground 1C adds a third reference (Batchelder) to the combination of Ground 1A. Ground 1C does not separately challenge claim 1, from which all other challenged claims depend. Therefore, Ground 1C fails to teach or suggest claim 8 for at least the reasons provided above for Ground 1A. Ground 1C also fails to teach or suggest claim 8 for the additional reasons discussed below.

A. Douglas-Mark-Batchelder Does Not Teach Or Suggest Claim 8

For Ground 1C, Petitioner improperly seeks to place the burden on Patent Owner to show no motivation to combine. Reply, 17. It is always Petitioner's burden to show a motivation to combine with a reasonable expectation of success. The testimony of Petitioner's expert, Dr. Hickner, confirms that the claim is not obvious over the combination. He only considered how the references might or could be combined. POR, 32; EX2015, 68:19-69:1, 69:5-11. That is insufficient for obviousness.

Petitioner cannot cast aside its expert's admission and state that Petitioner established separate motivations to combine. Each of those motivations is subject to Dr. Hickner's admission and impacts Petitioner's analysis of obviousness as a whole, including Petitioner's motivations to combine and a reasonable expectation of success or predictable results. Batchelder's teachings and Dr. Hickner's testimony make clear that Petitioner has failed to establish obviousness. *See* POR,

31-32; *see also* EX1007, ¶¶0054], EX2015, 66:14-15, 68:19-69:1, 69:5-11; EX2014, ¶¶110-11.

VII. GROUND 1D DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS

Ground 1D adds a third reference (Pax) to the combination of Ground 1A. Ground 1D does not separately challenge claim 1, from which all other challenged claims depend. Therefore, Ground 1D fails to teach or suggest claim 19 for at least the reasons provided above for Ground 1A. Ground 1D also fails to teach or suggest claim 19 for the additional reasons discussed below.

A. Douglas-Mark-Pax Does Not Teach Or Suggest Claim 19

Petitioner incorrectly asserts again that Patent Owner has only addressed the reference(s) in isolation, instead of the combination. Reply, 18. Patent Owner specifically addressed the combination, including why the teachings of Pax and Douglas do not support Petitioner's assertions. POR, 33. In reply, Petitioner mistakenly asserts that a later-introduced exhibit (EX1041) was cited in the Petition. *See* Pet., 39-40. It appears that Petitioner may have intended to cite to paragraph 41 of Douglas (EX1005), but that portion of Douglas relates to "metadata concerning print jobs" does not teach generating metadata. *See* POR, 33. Thus, Petitioner does not meaningfully address Patent Owner's arguments and Ground 1D fails to teach claim 19.

VIII. GROUND 2A DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS**A. Hamilton-Evans-KISSlicer Does Not Teach Or Suggest Limitation [1.1]**

The Petition asserts that the Hamilton-Evans combination teaches limitation 1.1, citing to Hamilton. Pet., 51-53. Patent Owner explained that Hamilton does not teach receiving a request to fabricate an object from a three-dimensional model. POR, 39-40. Petitioner does not meaningfully engage in Hamilton's shortcomings. Instead, it relies on the testimony of Dr. Cormier that printing processes typically began with a model and asserts that slicers (which convert models into machine-ready code) have advantages. Reply, 18-19. But Petitioner's arguments miss the mark. It ignores that Dr. Cormier was not testifying about Hamilton's design specifically. Hamilton's designs already include instructions for the 3D printer and assembly of the product. EX1010, ¶[0019]. There is no rationale for starting with a model in Hamilton's solution or using a slicer when instructions for 3D printing (machine-ready code) are already available.

B. Hamilton-Evans-KISSlicer Does Not Teach Or Suggest Limitations [1.2] and [1.3]

For claim limitations [1.2] and [1.3], Petitioner contends in Reply that the steps need not be performed in order. As discussed above, this interpretation is contrary to the plain meaning of the claims. *Supra*, Section III.

Petitioner also contends that the target printer in the combination is determined by the user and system before querying. Reply, 19-20. However, Petitioner ignores Hamilton's teachings about the user. As discussed in the Response, Petitioner asserts that the "attached printer" in Hamilton would have been the target printer because the system waits for the user to ensure the printer is attached and ready. POR, 43 (citing Pet., 54). When responding regarding printer attachment, the user in Hamilton does not know which object is to be fabricated from a three-dimensional model. As discussed for claim element [1.1], the combination fails to teach receiving a request to fabricate an object from a three-dimensional model. Indeed, all the user knows is the product. *See* EX1010, Fig. 2, ¶[0020]; *see also id.*, Fig. 5, ¶[0023] (illustrating method for assembling fabricated parts to make a whole product). The user does not know the design, design requirements such as materials needed, accuracy of printer needed for the design, or parts to fabricate. *See id.* Thus, Hamilton's user, who confirms the attached printer is ready, is unaware of the object to be fabricated from a three-dimensional model. *See* EX2014, ¶¶124-25. Accordingly, the user cannot determine a target printer to fabricate the object from the three-dimensional model.

C. Hamilton-Evans-KISSlicer Does Not Teach Or Suggest Limitation [1.4]

Similar to Ground 1A, Petitioner asserts that Patent Owner is narrowly interpreting the term “dictionary” and that the combination teaches the claim limitation. Reply, 20. However, it is undisputed that “there is no support for the rationale that adds Evan’s ‘additional information’ to Hamilton’s accuracy and material capabilities.” POR, 47 (citing EX2014, ¶128); *see also id.*, 45-46. Thus, Petitioner’s reliance on the combination is deficient, like the references themselves.

Again, Petitioner tacitly concedes that the dictionary of configuration information has some organization. It asserted that Hamilton’s information is a collection of properties that defines the printer capabilities. Pet., 56. However, Hamilton merely sends its accuracy and material capabilities. EX1010, ¶[0021]. It does not teach whether those capabilities are sent and received as a collection of information, as Petitioner asserts. *See* EX2014, ¶127. In fact, Petitioner’s assertions are contradicted by its own expert, who testified that the information is sent in “some unspecified manner.” EX2015, 55:10-18. Thus, Petitioner has failed to show “receiving, from the target printer, a dictionary of configuration information containing one or more properties from the target printer that affect fabrication capabilities of the target printer.”

D. Hamilton-Evans-KISSlicer Does Not Teach Or Suggest Limitation [1.5]

In its Response, Patent Owner addressed why the combination does not teach a slicer to create a fabrication profile upon receiving printer properties. POR, 47-49. Petitioner responds by asserting printer instructions must be generated and the combination includes Evans and KISSlicer. Reply, 20.

However, Petitioner ignores Hamilton's teachings that do not require first generating printer instructions. Hamilton clearly explains that its designs already include printer instructions. EX1010, ¶¶[0019], [0021], [0022], Fig. 4; EX2014, ¶132; POR, 48. That is, the machine-ready instructions for the printer are already available in Hamilton's system. *See id.* Thus, there is no motivation to use a slicer in Hamilton's solution, whether considered alone or in the combination, to generate printer instructions by creating a fabrication profile upon receiving printer properties. *See id.*

Petitioner also faults Patent Owner for addressing certain parameters that are manually measured or entered. *See* Reply, 20-21. However, these parameters, such as nozzle and filament diameters, are the ones that the Petitioner identified. *See* Pet., 57. Indeed, Petitioner concedes that the printer capabilities in KISSlicer were user entered. *See* POR, 48-49; Reply, 20-21. Accordingly, the parameters Petitioner identified are not from the target printer (or created based on properties

from the target printer) but are manually entered into the slicer. EX1011, 66-68; EX1012, 3; EX2014, ¶133.

Similarly, Petitioner faults Patent Owner for not addressing multiple slicer applications. Reply, 21. But Petitioner's arguments regarding the functionality of those slicer applications are merely attorney argument. The Petition does not discuss automatically determining print settings. Moreover, Petitioner's attorney argument conflicts with Evans' disclosure. Evans discloses that its desired "print settings" are manually input instead of being automatically determined. *See* EX1011, 46 (cited in Reply, 21) ("inputting only a few parameters about your printer, the filament, and the desired print settings"). Thus, Evans does not support automatically determining print settings as Petitioner asserts.

Tacitly recognizing Evans' deficiencies, Petitioner asserts that Hamilton teaches receiving accuracy and material capabilities that obviate the need for a user to input measured printer characteristics. Reply, 21. However, Petitioner does not present any rationale or evidence for obviating the need for the user to input measured printer characteristics. All Petitioner provides is attorney argument. For example, neither Petitioner nor Dr. Hickner explain how to avoid the measurement of nozzle and filament diameters, which are expressly manual inputs in Evans. Further, as discussed above for claim limitation 1.4, it is undisputed that "there is no support for the rationale that adds Evan's 'additional information' to Hamilton's

accuracy and material capabilities.” POR, 47 (citing EX2014, ¶128); *see also id.*, 45-46. Thus, Evan’s additional information is not sent from the target printer. In addition, the Hamilton-Evans-KISSlicer combination does not generate a machine-ready representation by creating a fabrication profile based on the one or more properties received from the target printer. As discussed above, Hamilton’s designs already have machine-ready representations available prior to the availability of Hamilton’s accuracy and material capabilities. *See* POR, 48; EX2014, ¶132.

Thus, the combination fails to teach or suggest claim limitation 1.5.

E. Hamilton-Evans-KISSlicer Does Not Teach Or Suggest Limitation [1.6]

For claim limitation 1.6, Petitioner merely points back to claim limitation 1.1 and the purported necessity to generate printer instructions. Reply, 21. As discussed in the Response, like claim elements [1.1] and [1.5], Petitioner ignores the teachings of Hamilton, whether considered alone or in the combination. POR, 49-50. Before the target printer is determined or queried, or any configuration information is received, Hamilton teaches that his designs exist along with the printer instructions on how to fabricate a 3D object. *See id.* Consistent with this understanding of Hamilton, Petitioner’s expert acknowledges that Hamilton does not discuss slicing. EX2015, 50:15, 53:17. Further, as addressed for claim element [1.1], the combination fails to teach the existence of a model, which would be

necessary to generate a machine-ready representation of said model. EX2014,

¶135. Thus, Ground 2A fails to teach claim 1 for these additional reasons.

F. Hamilton-Evans-KISSlicer Does Not Teach Or Suggest Claims 2-5, 9-10, and 12-13

For the reasons discussed above, the Hamilton-Evans combination, with or without KISSlicer, fails to teach or suggest claim 1. For at least these reasons, Ground 2A also fails to teach or suggest claims 2-5, 9-10, and 12-13 of the '774 Patent.

IX. GROUND 2B DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS

Ground 2B adds a third (or fourth) reference (Pax) to the combination of Ground 2A. Ground 2B does not separately challenge claim 1, from which all other challenged claims depend. Therefore, Ground 2B fails to teach or suggest claims 6, 7, and 19 for at least the reasons provided above for Ground 2A.

X. GROUND 2C DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS

Ground 2C adds a fourth (or fifth) reference (Pettis) to the combination of Ground 2B. Ground 2C does not separately challenge claim 1, from which all other challenged claims depend. Therefore, Ground 2C fails to teach or suggest claim 19 for at least the reasons provided above for Ground 2A.

XI. GROUND 2D DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS**A. Hamilton-Evans-KISSlicer-Batchelder Does Not Teach Or Suggest Claim 8**

Ground 2D adds a third (or fourth) reference (Batchelder) to the combination of Ground 2A. Petitioner refers back to its discussion for Ground 1C, which also includes Batchelder, and does not separately respond to Ground 2D with substantive arguments. Therefore, Ground 2D fails to teach or suggest claim 8 for at least the reasons provided above for Ground 2A (for claim 1) and for Ground 1C (regarding Batchelder and claim 8). *Supra* Section VI; *see also* POR, 51.

XII. GROUND 2E DOES NOT RENDER THE CHALLENGED CLAIMS OBVIOUS

Ground 2E adds a third (or fourth) reference (Wang) to the combination of Ground 2A. Ground 2E does not separately challenge claim 1, from which all other challenged claims depend. Therefore, Ground 2E fails to teach or suggest claim 20 for at least the reasons provided above for Ground 2A.

XIII. CONCLUSION

For the foregoing reasons, Patent Owner submits that all the challenged claims are patentable.

Respectfully submitted,

Dated: May 20, 2026

/s/ Brian W. Oaks

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I certify that this Sur-Reply complies with the type-volume limits of 37 C.F.R. § 42.24(c)(4) because it contains 4,897 words, excluding the parts that are exempted by 37 C.F.R. § 42.24(a), according to the word processing system used in preparation of this Sur-Reply.

Dated: May 20, 2026

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on May 20, 2026, a complete copy of the foregoing Patent Owner's Sur-Reply was served on Lead and Back-up Counsel for Petitioner at the service address provided in Petitioner's Mandatory Notices:

Email: IPR56224-0013IP1@fr.com

Dated: May 20, 2026

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