

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN TUOZHU TECHNOLOGY CO., LTD.,
Petitioner,

v.

STRATASYS, INC.,
Patent Owner.

IPR2025-00321

Patent 9,421,713

PATENT OWNER'S PRELIMINARY SUR-REPLY TO
PETITIONER'S PRELIMINARY REPLY

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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	U.S. Patent No. 6,645,412 (“ <i>Priedeman-412</i> ”)
2010	Declaration of Gary Larson
2011	Declaration of Paul Leavitt
2012	Complaint, <i>Stratasys, Inc. v. Shenzhen Tuozhu Technology Co. Ltd.</i> , No. 2:24-cv-00644-JRG, Dkt No. 1 (E.D. Tex. Aug. 8, 2024)

I. INTRODUCTION

Petitioner has failed to show that the '713 Patent was not reduced to practice before the critical dates of the *RepRap Article*, *RepRap Video*, and *Boyer* references (“challenged references”). Applying the wrong standard for corroboration, Petitioner ignores the testimony of both an inventor and a corroborating witness, as well as the accompanying documentary evidence, clearly showing prior invention and reduction to practice. Petitioner’s attorney arguments misapprehending the evidence should also be rejected. As detailed in Patent Owner’s Preliminary Response (“POPR”, Paper 6), the Board should decline to institute review, amongst other reasons, because the inventions of the '713 Patent were reduced to practice before the challenged references.

II. INVENTOR AND WITNESS TESTIMONY ARE PROPER EVIDENCE SUPPORTING PATENT OWNER’S ARGUMENTS IN ITS PRELIMINARY RESPONSE

Patent Owner presented its arguments on prior reduction to practice (“RTP”) in its POPR and provided specific citations to testimony. *See* POPR at 38-39. Contrary to the assertions in Petitioner’s Preliminary Reply (“PPR” or “Reply”, Paper 8), Petitioner cannot avoid addressing these arguments by recasting the evidence submitted as argumentation. *See* PPR at 1-3. As the Board has recognized, incorporation of *evidence* does not amount to incorporation of *arguments*. *See Mylan Pharm. Inc. v. Regeneron Pharm., Inc.*, IPR2021-00881, Paper 94, at 60 (PTAB Nov. 9, 2022) (“[a]rguments must not be incorporated by

reference”) (quoting 37 C.F.R. § 42.6(a)(3)) (emphasis in original).

The POPR explained that conception occurred in 2010 “during [] research into a new dual-extruder 3-D desktop printer” (POPR at 38) and that “subsequent development of the printer” led “the inventors with their colleagues” to reduce “the invention to practice” in 2011 (POPR at 38-39). These activities included “studying the implementation details,” “creating binary (CBM) files” that represent instructions “to build purge towers,” and “creating purge tower parts” that “were printed in a manner that practiced each of the challenged claims” and that “worked for their intended purpose”—“to support purge operations that enabled continued product development of the printer.” *Id.* at 38-39. Each argument is supported by specific citations to evidence, as opposed to bare assertions, “without explanation or identification of the relevant portions,” as Petitioner claims. PPR at 2.

Moreover, Petitioner appears to have understood and replied to Patent Owner's argument and the relevant portions of evidence. This further indicates that Patent Owner did not simply provide evidence without explanation or identification but rather cited supporting testimony and documentary evidence.

III. PETITIONER'S STANDARD FOR CORROBORATION SHOULD BE REJECTED

Petitioner repeatedly argues that certain corroborating witness testimony is not further corroborated by evidence. *See* PPR at 4 (“no corroborating evidence to support Leavitt's assertions [for] switching deposition lines”), 5 (that “the blue

path in the CMB file represents a ‘support structure’”), and 6 (similar assertion for support structure). Similarly, Petitioner argues that the inventor and corroborating witness testimony are not further corroborated by evidence for the “print order within each layer” in the CMB file. PPR at 7; *but see infra* §IV.D. However, the standard for corroboration does not require *absolute* corroboration as Petitioner demands. Under Petitioner’s standard, every corroborating witness needs corroborating evidence itself, which in turn requires further corroboration, resulting in an endless endeavor. By contrast, the appropriate “rule of reason” standard considers the evidence “as a whole” to determine if inventor testimony has been corroborated. *Price v. Symsek*, 988 F.2d 1187, 1195-96 (Fed. Cir. 1993). Corroboration can be satisfied by “sufficient circumstantial evidence of an independent nature” (*Cooper v. Goldfarb*, 154 F.3d 1321, 1330 (Fed. Cir. 1998)), such as corroborating witness testimony or documentary evidence. The corroborating witness does not need further corroboration; “[o]nly the inventor’s testimony requires corroboration.” *Price*, 988 F.2d at 1195; *see also Cooper*, 154 F.3d at 1330 (“evidence of corroboration must not depend solely on the inventor himself”). Further, “corroboration of every factual issue” is not required. *In re Jolley*, 308 F.3d 1317, 1328 (Fed. Cir. 2002).

Patent Owner has provided inventor testimony (EX2010) of RTP, that is corroborated by non-inventor testimony (EX2011) confirming the RTP and by

documentary evidence contemporaneous with the RTP that is addressed by both the inventor and non-inventor. *See* Exs. B-G to Exs. 2010, 2011. The corroborative evidence does not rely solely on the inventor and includes independent circumstantial evidence from a corroborating witness and documentary evidence. This evidence more than meets the “rule of reason” standard.

Further, the Board is more than capable of addressing the issues at this stage. Petitioner has not requested cross-examination at this stage nor produced rebuttal evidence, despite improperly asking for “a full PTAB trial.” *See* PPR at 1; *cf. LG Elecs., Inc. v. Wi-LAN Inc.*, IPR2018-00704, Paper 4 at 14 (PTAB Sept. 5, 2018) (“institution decisions without . . . cross-examination” are routine).

IV. PATENT OWNER HAS ESTABLISHED AN EARLIER REDUCTION TO PRACTICE FOR CLAIM 1

Petitioner does not substantively contest that the invention would work for its intended purpose or that there was an earlier RTP for any element of a dependent claim. *See* PPR at 3. Instead, Petitioner argues there was not an earlier RTP for independent claims 1 and 16. As discussed below, Petitioner has failed to carry its burden to show that institution is warranted as the challenged references post-date the RTP of the challenged claims.

A. The dual-extruder developmental printer was used to print purge tower parts using “multiple print heads or deposition lines”

The dual-extruder developmental printer (Solo) was used to print purge

tower parts in a manner that satisfied the challenged claims. *See* POPR at 38-39.

Petitioner's argument that Solo did not include "multiple print heads or deposition lines" ignores undisputed facts in evidence and advances mere attorney argument.

Petitioner's arguments that the supporting photographs show "different printers" and that there is "no evidence ... that the CMB file was compatible with Solo"

ignores the evidence itself. PPR at 3-4. Both photos show the same printer. The

March 16, 2010 photo shows the Solo printer in early development with a platform

installed (e.g., for a laptop) and the November 20, 2011 photo shows the Solo

printer later in development without the platform. Petitioner does not dispute that

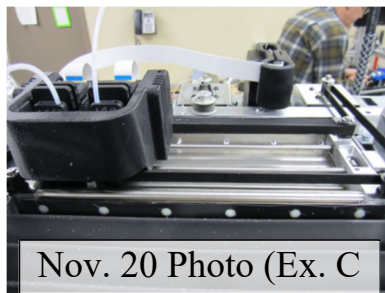
the November 2011 photograph shows a printer with multiple print heads and

deposition lines. Nor does Petitioner dispute testimony that the printer in this photo

resembles the printer illustrated in Figure 1 of the '713 Patent.



Excerpt of Mar. 16
Photo (Ex. B to Exs.
2010 and 2011)



Nov. 20 Photo (Ex. C
to Exs. 2010 and 2011)

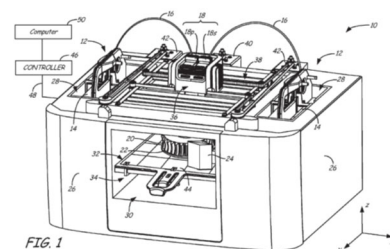


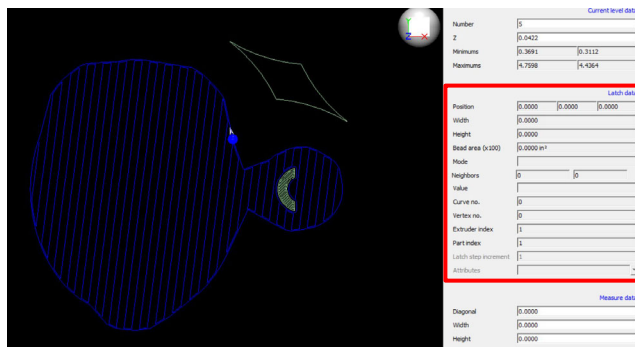
FIG. 1

Fig. 1 of '713 Patent

EX2010, ¶12; EX2011, ¶12. Nor does Petitioner dispute the witness testimony, supported by documentary evidence, that the CMB file was used to print purge tower parts during Solo's development. EX2010, pp. 7-9; EX2011, pp. 8-10.

Additionally, Petitioner incorrectly assumes that the "Extruder index"

indicates which head or deposition line was used. PPR at 4. However, there is no evidence that this field indicates what Petitioner argues. As shown in the screenshots (Ex. E to Exs. 2010 and 2011), all “Latch data” fields, including the “Extruder index” field, do not reflect actual values because the view is not latched to particular point.

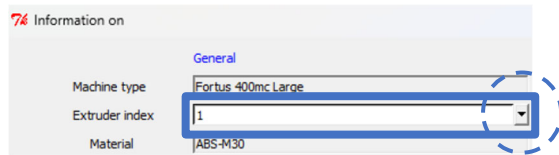


Ex. E at 5 (showing no position, width, height, etc.). Thus, Petitioner’s arguments relying on the “Extruder index” field are misleading and

unsupported, in contrast to the sworn testimony of two different witnesses.

B. The printer used part and support material for purge tower parts

Similar to Petitioner’s misleading argument for the “Extruder index,” Petitioner’s argument that a single material was used for each layer is misleading because nothing in the record “identifies only a single material” for the CMB file. PPR at 4. Petitioner ignores witness testimony explaining that the documentary evidence (CMB file) illustrates both part material (in green) and support material (in blue). *See, e.g.*, EX2010, ¶16; EX2011, ¶16. Moreover, there is no evidence that the “Material” field on the “Information” view represents all materials printed, as Petitioner argues. As shown by the blue annotation below, the “Material” field only corresponds to the extruder chosen using the arrow.



Excerpt of Ex. E at 2; *see, e.g.*, EX2010,

p.8. Petitioner's complaint that there is no

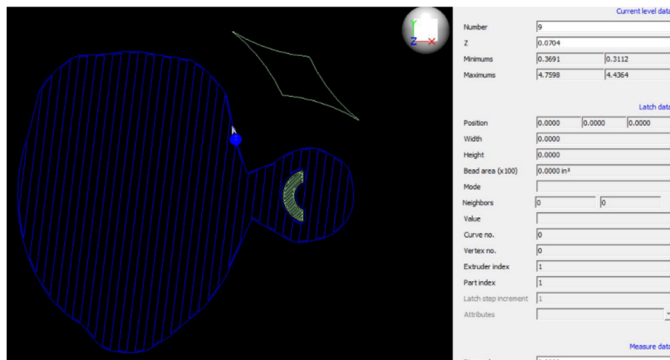
screenshot of the "Information" view for another extruder amounts to an improper requirement for absolute corroboration. *Supra* § III.

Further, Petitioner's reliance on the October 2012 photo of a *different* purge tower to infer the materials of the purge tower corresponding to the 2011 CMB file is misleading. PPR at 4-5. Petitioner ignores witness testimony explaining that the October 2012 purge towers represent *further* research and development of Solo including other various shapes of purge towers. EX2011, ¶25; *see also* Ex. F to EX. 2011 (showing two purge towers). A later build in 2012 with multiple purge towers, each with a single material, does not change the sworn testimony and other evidence of an earlier purge tower in November 2011 that used one material for the part and another for the support structure.

C. The printer was used for printing a "support structure"

Petitioner's argument that there is no corroboration of the inventor's testimony that the blue path in the CMB file represents a "support structure" (PPR at 5) also ignores the corroborating witness testimony that the Solo printer printed layers of a part and a support structure and that the blue lines of the CMB file indicate support material. *See* EX2010, ¶¶11, 16; EX2011, ¶¶11, 16. And, accompanying documentary evidence shows that the support material (blue)

surrounds and thus supports the part material (green):



Ex. E at 8 (to Exs. 2010, 2011); *see* EX2011 at ¶20 (“The blue tool paths *surrounding* the green tool paths . . . [for] layers 9-11 correspond to the support structure.”).

D. The printer was used to perform “a purge operation for each print head or deposition line switched to the operating mode”

Petitioner also misapprehends the use of the term “layer” to argue that there is no evidence as to the print order for each layer. *See* PPR at 5-8; *see also* PPR at 4 (seeking to distinguish “stand-by from operating mode”). Petitioner appears to present a new claim interpretation argument (i.e., that each layer of the part, support structure, and purge tower must be printed in a specific order) for the first time in its Reply. PPR at 5. Petitioner fails to explain why it could not have presented its argument earlier, nor does it provide support for its interpretation.

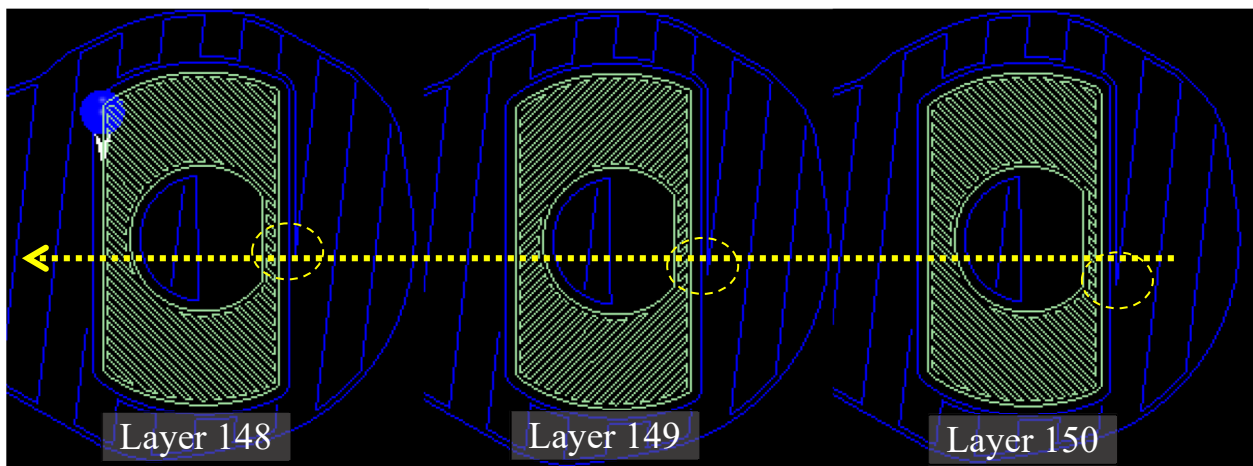
Even under Petitioner’s belated claim interpretation, the testimony of the witnesses, as well as the documentary evidence, indicate that the layers *of the purge tower* were printed in an interleaved manner with “alternating layers between part and support material.” EX2010, ¶16. Multiple layers *of the CMB file* show this functionality. For example, file layer 9 shows a support structure in support material (blue), a layer of the purge tower in part material (green), and then

a layer of the part in part material (green). *See* EX2010, pp. 6, 15-16; EX2011, pp. 7, 16-17. The next file layer (10) prints another layer of the part in part material (green), followed by a layer of the purge tower in support material (blue) and then a layer of the support structure in support material (blue). EX2010, pp. 7, 16; EX2011, pp. 7, 17. This interleaved procedure continues, as shown in layer 11 of the CMB file. EX2010, pp. 7, 17; EX2010, pp. 8, 18. Thus, when switching the material being printed within a layer *of the CMB file*, each material begins with printing a layer *of the purge tower* followed by printing a layer *of the part or support structure*. *See* EX2010, ¶21 (“each layer would begin with printing the layer of the purge tower”); *see also* EX2010, ¶¶13-14 (performing purge operation by printing a layer of a purge tower when switching a Part/Support Print Head / deposition line to the operating mode), ¶6 (purge operations bring a head/deposition line from stand-by “to a known operating state for printing the next layer”); EX2011, ¶¶6, 13-14; *see also* EX2011, ¶12 (showing dual-extruder Solo with multiple heads/deposition lines that are switched between stand-by and operating modes), ¶17 (explaining that Ex. E shows switching between stand-by and operating modes).

V. PATENT OWNER HAS ESTABLISHED AN EARLIER REDUCTION TO PRACTICE FOR CLAIM 16

For claim 16, Petitioner also repeats its flawed argument that only a single material is used. *See* PPR at 8; *supra* ¶IV.B. In addition, Petitioner selectively

chooses portions of the record to assert that there is no showing of printing a second layer of the support structure on at least a portion of the first layer of the part. PPR at 9-10. Petitioner identifies two regions of the CMB file on page 9, but then, without explanation, ignores the rightmost region entirely on page 10 to reach its erroneous conclusion. Had Petitioner reviewed the rightmost region, it would have seen that the location of the part material (green) shifts toward the left as the layers increase, from layer 148 to 150. As shown by the yellow annotations below, the support material (blue) extends as the layers increase and thus, for example, the support material (blue) for layer 150 is on at least a portion of the underlying part material (green) for layer 149:



EX2010, ¶22; EX2011, ¶22; *see also* Ex. E to Exs. 2010 and 2011. Thus, the evidence shows that a second layer of the support structure (in blue) is printed on at least a portion of the first layer of the part (in green).

Respectfully submitted,

Dated: May 9, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on May 9, 2025, a complete copy of the foregoing Patent Owner's Preliminary Sur-Reply was served on Lead and Back-up Counsel for Petitioner at the service address provided in Petitioner's Mandatory Notices:

Email: IPR56224-0005IP1@fr.com

Dated: May 9, 2025

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