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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN TUOZHU TECHNOLOGY CO., LTD.	§ Petition for Inter Partes § Review of U.S. Patent No. § 9,421,713
Petitioner,	§
VS.	§
STRATASYS, INC.,	§ Case No. IPR2025-00321
Patent Owner.	§
	§

ORAL AND ZOOM DEPOSITION OF
GARY LARSON, Ph.D.
NOVEMBER 12, 2025
Ref. 56224-0005IP1

The Oral and Zoom Deposition of GARY
LARSON, Ph.D., produced as a witness at the instance of
the Petitioner, and duly sworn, was taken in the
above-styled and numbered cause on NOVEMBER 12, 2025,
from 9:06 a.m. to 12:28 p.m., before Nicole A. Hatler,
CSR No. 11275 in and for the State of Texas, reported by
machine shorthand, in their respective locations via
Zoom, pursuant to the Texas Rules of Civil Procedure.

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GARY LARSON, Ph.D.

sworn as a witness

testified as follows:

MR. BISENIUS: We are here today regarding
IPR proceeding IPR 2025-00321, regarding US Patent
Number 9421713.

Q. EXAMINATION BY MR. BISENIUS: Is there any
reason that you cannot give truthful and accurate
testimony today?

A. No.

Q. To ensure clarity, I will define a few terms
that will be used throughout the deposition. When you
use the terms "patent owner" or "Stratasys," I'm
referring to Stratasys Inc., the patent owner in this
proceeding.

Do you understand?

A. Yes.

Q. When I use the term "petitioner" or "Shenzhen
TuoZhu," I'm referring to Shenzhen TuoZhu Technology
Company ETD.

Do you understand?

A. Yes.

Q. When I use the term "the '713 patent," I'm
referring to US Patent Number 9421713.

Do you understand?

1 A. Yes.

2 Q. When I use the phrase "this IPR" or "this
3 proceeding," I'm referring to IPR proceeding number IPR
4 2025-00321 filed against the '713 patent.

5 Do you understand?

6 A. Yes.

7 Q. You understand that the '713 patent is
8 Exhibit 1001 in this proceeding; is that correct?

9 A. Correct.

10 Q. You have submitted two declarations in this
11 proceeding; is that correct?

12 A. Yes.

13 Q. Your most recent declaration in this proceeding
14 is Exhibit 2014, signed on September 8th, 2025; is that
15 correct?

16 A. Yes.

17 Q. When I use the term "your declaration," I'm
18 referring to your most recent declaration, Exhibit 2014,
19 in this proceeding.

20 Do you understand?

21 A. Yes.

22 Q. Can you, please, describe how you prepared for
23 today's deposition?

24 A. Well, yesterday, we had a preparation meeting
25 with myself, Brian Oaks, and Asheesh Kapadia.

1 Q. Approximately, how much time did you spend
2 preparing for today's deposition?

3 A. I would say it was roughly eight hours.

4 Q. As part of your preparation to testify today,
5 did you communicate with anyone besides Mr. Kapadia and
6 Mr. Oaks??

7 A. No.

8 Q. What documents did you review in preparation to
9 testify today?

10 A. My -- my declaration was pretty much the extent
11 of the documents that we looked at.

12 Q. When did you first become an employee of
13 Stratasys?

14 A. 1991. Sometime in 1991.

15 Q. What was your role when you first became
16 employed by Stratasys?

17 A. My role when I joined Stratasys was as an
18 applications engineer.

19 Q. Are you still currently employed by Stratasys?

20 A. No.

21 Q. When did you leave Stratasys?

22 A. I retired about four and a half years ago or
23 so.

24 Q. What was your role at the time of your
25 retirement?

1 A. I was principle research engineer.

2 Q. Do you own a financial stake in Stratasys?

3 A. I own some shares.

4 Q. Approximately, what percentage of the company
5 do you own?

6 A. Minuscule. It's probably less than 200 shares
7 at this point.

8 Q. You are a named inventor of the '713 patent,
9 correct?

10 A. Correct.

11 Q. When is the last time that you read the entire
12 '713 patent?

13 A. I would -- I guess when I was first approached
14 about this -- this deposition. So several months ago.

15 Q. In your declaration, you assert that you
16 conceived of a purge operation that included printing
17 one or more purge towers by September of 2010.

18 What was your role at Stratasys in
19 September of 2010?

20 A. I was working at the Skunk Works facility,
21 which is in Minneapolis, and my role there was as a
22 printer integration. My role was to do printer
23 integration.

24 Q. Did you own a financial stake in Stratasys in
25 September of 2010?

1 A. Yes.

2 Q. Was your financial stake greater or less than
3 the current financial stake in Stratasys in September of
4 2010?

5 A. Greater.

6 Q. Without revealing any privileged
7 communications, can you please describe the process by
8 which you prepared your declaration?

9 For example, did you write every word
10 throughout the entire process, did counsel for the
11 patent owner prepare first drafts that you revised, or
12 did something else happen?

13 A. Counsel prepared the drafts.

14 Q. What percentage of the words in your
15 declaration did you write in this case as opposed to
16 merely reviewing words written by someone else?

17 A. I'm not sure I understand the question.

18 Q. In your declaration, what percentage of the
19 words did you write yourself as opposed to words written
20 by someone else that you reused -- that you reviewed and
21 approved?

22 A. I would say that almost all or all of the words
23 were by counsel.

24 Q. As part of your work in preparing your
25 declaration or preparing for today's deposition, did you

1 ever communicate in any way with Paul Leavitt?

2 A. No.

3 Q. Are you aware that Paul Leavitt also submitted
4 two declarations in this proceeding?

5 A. I was aware that he submitted a declaration.

6 Q. Did you review any versions of Mr. Leavitt's
7 declarations for this proceeding?

8 A. No.

9 Q. Do you know if you drafted your declaration
10 first or if Mr. Leavitt drafted his declaration first?

11 A. I do not know.

12 Q. Your declarations includes long stretches of
13 text that are word for word identical to that --
14 Mr. Leavitt's declaration.

15 Can you explain the overlap between the two
16 declarations?

17 A. No.

18 Q. Approximately, when did you begin working on
19 your declaration for this proceeding?

20 A. I couldn't say for sure, but it was several
21 months ago.

22 Q. Other than counsel for the patent owner, did
23 you have anyone, such as an assistant, helping you with
24 preparing your declaration for this proceeding?

25 A. No.

1 Q. Are you currently aware of any errors that
2 exist in your -- in your declaration?

3 A. No.

4 Q. Have you ever been deposed before?

5 A. Yes.

6 Q. Approximately, how many times?

7 A. Two times.

8 Q. Were both of these in association with your
9 employment at Stratasys?

10 A. Yes.

11 Q. Have you ever testified as a witness in court?

12 A. No.

13 Q. All right. I'd like to talk about your
14 declaration, Exhibit 2014. I put it in the chat. I
15 think you said you also have a hard copy there?

16 A. Uh-huh.

17 Q. Do you have any notes on your copy of your
18 declaration?

19 A. No.

20 Q. I'd like to start at paragraph 12 of your
21 declaration.

22 A. All right.

23 Q. In paragraph 12, on page 5 --

24 MR. KAPADIA: Counsel, are you planning on
25 adding the exhibit to the chat?

1 MR. BISENIUS: Oh, maybe I added it before
2 you got in. I can put it back in.

3 MR. KAPADIA: I presently do not see it.

4 MR. BISENIUS: Okay. That should be added.
5 This is the same Exhibit 2014 that's already of record
6 in this proceeding.

7 You want to let me know when you're ready,
8 Counsel?

9 MR. KAPADIA: Give me a moment. Okay. I
10 have it up.

11 Q. BY MR. BISENIUS: So we're discussing paragraph
12 12. It starts on page 4 and continues on for a few more
13 pages. I want to talk about page 5 in paragraph 12.
14 Here, there's an image labeled "photograph showing
15 solo's print heads and deposition lines."

16 How many print heads did the solo printer
17 have?

18 A. As the picture indicates, two.

19 Q. Did the print heads operate independently of
20 each other?

21 A. Yes. The -- they moved in tandem in X and Y,
22 when you -- but the support head toggled up and down.
23 So it moved in that sense.

24 Q. I want to continue forward to paragraph 14 of
25 your declaration. This starts on page 7.

1 A. All right.

2 Q. In the second sentence of paragraph 14, it
3 states, quote, "The purge operation comprised printing
4 purge towers in a layer-by-layer manner where the layers
5 of the purge towers were printed from the print head
6 deposition line switch to the operating mode," end
7 quote.

8 What does it mean to print in a
9 layer-by-layer manner?

10 A. Well, the -- our process is based on printing
11 layers. So you always print it in a layer-by-layer
12 method.

13 Q. So would printing one layer of an object on top
14 of another layer of an object be printing in a
15 layer-by-layer manner?

16 A. Yes.

17 Q. Continuing on to paragraph 15, which is on page
18 8, here you mentioned a, quote, "coordinate machine
19 binary," end quote, file, or CMB file. And then you
20 show several screenshots of a specific CMB file in
21 paragraph 16.

22 Do you see that?

23 A. I do see that.

24 Q. Were all of the CMB file screenshots in your
25 declaration taken from the same CMB file?

1 A. I believe so.

2 Q. Did you take the screenshots included in your
3 declaration or did someone else take the screenshots?

4 A. I did not take those screenshots. Someone else
5 did.

6 Q. In preparing your declaration, did you review
7 the CMB file itself or only the screenshots provided in
8 your declaration?

9 A. Only the screenshots.

10 Q. Did you create the CMB file shown in the
11 screenshots in paragraph 16?

12 A. I cannot say for sure if I did. I -- that was
13 a long time ago. It's possible that I did, but I cannot
14 say for sure.

15 Q. Are there other Stratasys employees at the time
16 who may have created this file?

17 A. Yes.

18 Q. Who are those Stratasys employees that may have
19 created this file?

20 A. Could have been Bill Swanson, it could have
21 been Dominic Manilla, and it -- you know, it's possible
22 there might have been a couple of other people, as well.

23 Q. What is the object that is being fabricated as
24 depicted in the CMB file shown in the screenshots in
25 paragraph 16?

1 A. Well, it's just a -- basically a random part or
2 piece of geometry that wasn't proprietary. Most of the
3 files that we -- or a lot of the files we used were
4 possibly originated from a customer, but they would need
5 to be not proprietary in any way. So we were free to
6 use them. And it also -- it could have been a part that
7 we needed for our own development work, something that
8 we designed. I don't recall what it was.

9 Q. You said that you may have created this CMB
10 file, but you're not sure. Did you create other CMB
11 files during the 2010 to 2011 time frame?

12 A. Yes. Many.

13 Q. Did you ever receive CMB files from persons
14 outside of Stratasys during that time frame?

15 A. No.

16 Q. So you never received CMB files from customers
17 during that time frame?

18 A. Not for the solo project. No. They -- we were
19 the only ones that would have been able to create CMB
20 files for that project.

21 Q. During this 2010 to 2011 time frame, how did
22 you create the CMB files?

23 For example, did you use one or more
24 software applications to generate the CMB files?

25 A. We used Insight for generating those CMB files.

1 Q. Are the layers shown in this CMB file generated
2 from a CAD model of the object being fabricated?

3 A. The original geometry, the original solid model
4 you're referring to?

5 Q. Yes.

6 A. Yes.

7 Q. Would that model be saved as an STL file?

8 A. Yes.

9 Q. Did you use the Insight software that you just
10 mentioned to convert STL files to CMB files?

11 A. Yes.

12 Q. Are you aware of any other associated files
13 that were used to generate the CMB files depicted in the
14 screenshots in paragraph 16?

15 A. Could you repeat that question, please?

16 Q. Are you aware of any other associated files
17 that were used to generate the CMB file depicted in the
18 screenshots in paragraph 16?

19 A. Any other files and -- do you mean any other
20 STL files or --

21 Q. If you can recall any other files, in general,
22 whether they be STL files or -- was this a composite of
23 multiple files?

24 Was it generated from a single file?

25 A. Well --

1 MR. KAPADIA: Objection. Form.

2 THE WITNESS: Do I still have to answer?

3 MR. KAPADIA: You may answer.

4 THE WITNESS: Okay. Well, the -- the purge
5 tower would be one file, and then the part would be
6 another file.

7 Q. BY MR. BISENIUS: And would those two files be
8 STL files or would they be CMB files?

9 A. Well, they would start as STL files, and then
10 once they're processed, they're converted into a CMB
11 file.

12 Q. Did you review any of those input files when
13 preparing your declaration for this proceeding?

14 A. No.

15 Q. Are you aware of who would have generated those
16 input STL files for the purge tower and the part to
17 generate the CMB file?

18 A. Well, it's likely that I generated the -- the
19 solid model for the purge tower, but it's -- I couldn't
20 tell you who generated the -- the original file for the
21 part.

22 Q. Do you know what a --

23 A. More -- more -- most likely, it wasn't me.

24 Q. Do you know if Bill Swanson or Ronald
25 Schloesser would have developed the input file for the

1 object reflected in the CMB files?

2 A. Well, it certainly wouldn't have been Ryan. It
3 could have possibly been Bill.

4 Q. Do you know what a G-code file is?

5 A. Yes.

6 Q. What is the difference -- what is the
7 difference between a CMB file and a G-code file?

8 MR. KAPADIA: Objection. Beyond the scope.

9 THE WITNESS: Well, a CMB file is specific
10 to our process, our controller software, where a G-code
11 file is a little more generic, I guess.

12 Q. BY MR. BISENIUS: Did your process for printing
13 objects using the solo printer in the 2010 to 2011 time
14 frame include generation of G-code files?

15 MR. KAPADIA: Objection. Scope.

16 Q. BY MR. BISENIUS: I'm sorry. Did you answer
17 the question? I don't believe I heard an answer.

18 A. I said no.

19 Q. I want to talk about the screenshot on page 9
20 of your declaration. Can you identify any portions of
21 this screenshot that indicates support material?

22 A. Yes.

23 Q. Which portions indicate support material?

24 A. The blue.

25 Q. How do you know that the blue portions indicate

1 support material?

2 A. Well, the -- I can just tell by the geometry,
3 for one. And also, in the viewer, the support material
4 has been color -- the color is blue.

5 Q. Can you identify any portions of the screenshot
6 that indicate part material?

7 A. Yes.

8 Q. Which portions of the screenshot indicate part
9 material?

10 A. Those are the portions that are the light green
11 color.

12 Q. How do you know that the light green portions
13 are part material?

14 A. The part material is set to that color in CMB
15 view.

16 Q. Did you ever, personally, execute this CMB file
17 on a three-dimensional printer?

18 A. I could not say for certain.

19 Q. Are you aware of anyone else at Stratasys that
20 would have executed the CMB file on a three-dimensional
21 printer?

22 A. Yeah, there could have been several people
23 that -- that could have done that.

24 Q. Can you identify the persons who may have
25 executed this CMB file on a three-dimensional printer?

1 A. There again, I -- it's possible it could have
2 been Bill Swanson. It could have been Dominic Manilla.
3 And, you know, there's probably other folks, as well,
4 that could have actually executed it on a printer, but I
5 don't recall who all those folks would be.

6 Q. Do you recall, personally, witnessing anyone
7 execute this CMB file on a three-dimensional printer?

8 A. No. I mean, not this specific one.

9 Q. During this time frame, how did a
10 three-dimensional printer use the CMB file to execute a
11 print operation?

12 A. Well, you -- once you processed the file and
13 created the CMB, it was downloaded to the controller
14 software on the machine, and from there, it was executed
15 by the machine.

16 Q. Did the software on the machine convert the CMB
17 file to any other file type before executing it?

18 A. It's possible. I guess I don't know for
19 certain if it actually converted it, but it -- it -- it
20 does take the data and have to process it and create its
21 own internal commands for motion, for extrusion control,
22 temperature.

23 Q. What type of information does the printer
24 obtain from the CMB file?

25 For example, does the CMB file provide

1 precise instruction for moving the print head?

2 A. Yes. X, Y, and Z, precise instructions, and
3 also velocities. It gets the bead area so it can
4 extrude the correct volume. It gets the information
5 whether it's part or support.

6 Q. Does the CMB file provide precise instructions
7 for extruding material?

8 A. It provides -- as I mentioned, it provides the
9 bead area, so it knows -- it tells the system the bead
10 area, so it knows the volume. And then the -- the
11 controller on the machine is the one that actually
12 controls the -- the volume output. You know, it depends
13 on your velocity, and it's -- it's not a constant
14 velocity system, so it's constantly profiling.

15 Q. Does the CMB file provide an extrusion rate to
16 the printer?

17 A. Not a specific rate. Again, it provides the
18 bead area, and the machine is a -- not a constant
19 velocity system, so the velocity is always ramping up,
20 ramping down, slowing down, stopping, starting, and that
21 all is computed on the machine itself.

22 Q. Does the CMB file instruct the printer when to
23 switch materials?

24 A. Yes. Well, it -- it -- it defines whether or
25 not the tool path is part or material or if it's a -- we

1 call the glueless move, which can also be turned to
2 rapid move where there's no extrusion. But what the
3 system does is it will -- if it's on part material, for
4 example, it's looking ahead to know when it needs to
5 switch from part to support or vice versa. So it's
6 looking ahead and then it -- it prepares in advance for
7 the switch.

8 Q. You mentioned preparing in advance for the
9 switch. Were the specific actions taken to prepare for
10 the switch included as instructions in the CMB file or
11 is that functionality already present in the
12 three-dimensional printer?

13 A. That functionality is in the three-dimensional
14 printer.

15 Q. Does the CMB file instruct the printer when to
16 switch between different liquefier tips?

17 A. No. As I stated, it only -- it -- the CMB
18 tells the system whether the tool path that it's about
19 to build is part or support. The rest of it is all done
20 on the machine, itself.

21 Q. Does the CMB provide calibration commands for
22 the three-dimensional printer?

23 A. Calibration commands. What type of calibration
24 are you referring to?

25 Q. Calibrating the position of the liquefier tips.

1 A. No. That is a process that's done within the
2 system itself.

3 Q. Does the CMB file provide temperature control
4 commands for the three-dimensional printer?

5 A. No. It defines -- I mean, there -- no. All it
6 does is define the material type, if -- and if it's a
7 multi -- if the system is capable of running more than
8 one or two or three materials, it makes sure there's a
9 match. But other than that, the temperature control is
10 all done on the machine itself.

11 Q. Does the CMB file provide material feeding and
12 restriction commands for the three-dimensional printer?

13 A. No.

14 Q. Continuing with paragraph 16, I'd like to move
15 to page 10 of your declaration. Here, it states, quote,
16 "The material field indicates that the material is SR30,
17 which is a type of support materials," end quote.

18 Do you see that?

19 A. Yes.

20 Q. Is SR30 a breakaway-type support material or a
21 soluble-type support material?

22 A. It's a soluble-type support material.

23 Q. I'm going to jump ahead to paragraph 20 of your
24 declaration. This is -- starts on page 27.

25 A. Okay.

1 Q. In the second sentence of paragraph 20, it
2 states, quote, "The solo printer used Stratasys'
3 software called Insight to generate the tool path
4 instructions for printing the layers of the
5 three-dimensional part and support structure," end
6 quote.

7 Do you see that?

8 A. Yes.

9 Q. How does the Insight software generate the tool
10 path instructions for printing layers from the CMB file?

11 A. Could you repeat that?

12 Q. How does the Insight software generate the tool
13 path instructions for printing layers from the CMB file?

14 A. The Insight software creates the CMB file.

15 Q. So are the tool path instructions part of the
16 CMB file itself?

17 A. Yes.

18 Q. Are the tool path instructions for the CMB file
19 different or the same as G-code?

20 MR. KAPADIA: Objection. Beyond the scope.

21 THE WITNESS: Well, they're different. I
22 mean, they're similar in some ways, but they're
23 different. They're very -- they're specific to our
24 process.

25 Q. BY MR. BISENIUS: Sticking with paragraph 20, a

1 few sentences later, it states, quote, "These CMB files
2 were packed together using Stratasys' software called
3 Control Center, an application within Insight. The
4 resulting combined CMB file contain the tool path
5 instructions for the three-dimensional part, the support
6 structure, and the purge towers," end quote.

7 Do you see that?

8 A. I do.

9 Q. How did Control Center function to combine the
10 different CMB files together?

11 A. Well, that's one of the functions of the
12 Control Center, is to be able to accommodate multiple
13 CMB files that were -- where the tool paths were
14 individually generated and then -- we called it packing.
15 You put those in, and then Control Center, essentially,
16 goes through and creates a new CMB file that contains
17 the individual CMBs within it.

18 Q. Here, you state that you provided the purge
19 tower CMB files. How did you ensure that the purge
20 tower CMB files were compatible with the
21 three-dimensional object files developed by others at
22 Stratasys?

23 A. Well, they had to be for the same -- they had
24 to be sliced at the same interval, and they had to be of
25 the same compatible system. That's about it.

1 Q. What does it mean for the CMB files to be
2 sliced at the same interval?

3 A. Well, on solo, and on most of our other
4 products at that time, you couldn't combine CMB files
5 that were originally created at different slice heights.
6 So you couldn't have a seven-slice part and a ten-slice
7 part within the same build. They had to be the same.

8 Q. You said they had to be for the same compatible
9 system. Does that mean that, for example, both the
10 purge tower file and the object file would need to be
11 for the Fortis 400, for example?

12 A. Correct.

13 Q. Looking at the screenshot in paragraph 20, was
14 the CMB file depicted here generated by combining
15 multiple CMB files?

16 A. It could be. Because in Insight, you also have
17 the capability to bring in multiple files and create
18 one. So it could have been done within Insight or it
19 could have been done in CM -- or in Control Center. In
20 this particular case, I guess I couldn't say for certain
21 which -- which way that was.

22 Q. Did you design the purge tower depicted in this
23 image?

24 A. Yes.

25 Q. Did you design the object depicted in this

1 image?

2 A. Not that I recall. No.

3 Q. Are you aware of who designed the objects
4 printed in -- depicted in this image?

5 A. No.

6 Q. Were you involved in any way in developing the
7 Insight or Control Center software?

8 A. Yes.

9 Q. What was your role in developing the Insight
10 and/or Control Center software?

11 A. So the -- we call it the front-end software
12 group. We worked very closely with them. As -- as we
13 were developing our technology -- Insight needed to
14 constantly evolve as we developed and found new ways to
15 improve our part quality, whether it was fill patterns
16 or the way supports are made. So it -- we were
17 constantly providing feedback to the front-end software
18 group on features and ideas for improving the -- the
19 process. So we work very closely with -- with that
20 group.

21 Q. So were the fill patterns and support
22 structures automatically generated by the Insight
23 software?

24 A. Yes.

25 Q. So in the process of generating one of these

1 CMB files, would you provide an STL model of just the
2 object and then the Insight software would develop the
3 fill patterns and the support structure; is that
4 correct?

5 A. That is correct.

6 Q. Did the Insight software automatically generate
7 the purge tower or did you need to provide that as part
8 of the STL file?

9 A. Well, the -- during development, we would use
10 an STL file. But once the geometry for the purge part
11 was stabilized or finalized, then it, basically, just
12 resided within Control Center and you can -- when you're
13 packing -- you bring your part in there and you add the
14 purge tower and it -- and in Control Center, it would
15 bring it in. So every time you -- you didn't have to
16 slice a purge tower every time. The Control Center
17 would handle all of that for you.

18 Q. Is the Insight software still in use today?

19 A. To the best of my knowledge.

20 Q. Can you identify which Stratasys printers are
21 compatible with the Insight software?

22 MR. KAPADIA: Objection. Beyond the scope.

23 THE WITNESS: Well, for certainly -- all
24 the Fortus systems, for sure. And I think there were
25 some systems at the time where you could -- it was an

1 upgrade if you wanted the Insight software. You know,
2 you would get, like -- I think they called it GrabCAD or
3 something at the time, which was a very basic processing
4 software, where Insight has just an incredible amount of
5 ability -- it gives the operator a tremendous amount of
6 ability to modify and customize things.

7 So, you know, it -- as far as, like, today,
8 I have no idea what -- how they distribute it or if it's
9 for all the platforms or just still for just Fortis
10 or -- or what.

11 Q. BY MR. BISENIUS: Did you or any of your
12 co-inventors use or incorporate any open source code in
13 developing the purge tower feature?

14 MR. KAPADIA: Objection. Beyond the scope.

15 THE WITNESS: Not that I'm aware of.

16 Q. BY MR. BISENIUS: Did you or any of your
17 co-inventors ever contribute to any open source code
18 related to use of a purge tower in three-dimensional
19 printing?

20 MR. KAPADIA: Objection. Beyond the scope.

21 THE WITNESS: I -- I know I didn't.

22 Q. BY MR. BISENIUS: When developing the purge
23 tower functionality described in the '713 patent, did
24 you read or participate in any online discussion forums
25 discussing purge towers?

1 A. Not that I recall.

2 Q. I'd like to continue on to paragraph 21 of your
3 declaration, which starts on page 29.

4 A. All right.

5 Q. Here it states, quote, "The purge tower would
6 be packed first in Control Center so that each layer
7 would begin with printing the layer of the purge tower,"
8 end quote.

9 Do you see that?

10 A. Uh-huh.

11 Q. So are you saying that when each layer is
12 printed, such as layers 9, 10, and 11 of the CMB file
13 shown above, the printer first prints a layer of the
14 purge tower and then prints a layer of the object?

15 A. If -- if it -- if you've just switched
16 materials, that is correct.

17 Q. I want to go back to talking about the
18 screenshot on page 9.

19 A. All right.

20 Q. So in -- based on what we just discussed from
21 paragraph 21 in this specific layer here -- well, first
22 off, this screenshot on page 9 is showing layer 9 of the
23 CMB file; is that correct?

24 A. That is correct.

25 Q. So based on what we just discussed in paragraph

1 21, in this screenshot of layer 9, is it showing that a
2 layer of support material is printed on the purge tower
3 before the support material and part material are
4 printed on the object?

5 A. No. In this picture, you can see that the
6 purge tower is printed with the part material. If we're
7 looking at the same page -- page 9.

8 Q. That's the part material in green on page 9; is
9 that correct?

10 A. Yep. Yep.

11 Q. So is it printing this layer of the purge tower
12 in part material before it prints the layer of support
13 material and part material for the object shown in this
14 layer?

15 A. What I would -- it looks -- it appears to me
16 that the support layer has already been printed, okay,
17 and the -- and then we switched to part material, you
18 printed the purge part, and then we presented the
19 section of the part.

20 MR. BISENIUS: We've been going for almost
21 an hour, and I'm about to switch a line of questioning.
22 So right now might be a good time for a break.

23 Go off the record.

24 (A recess was held from 9:55 a.m. to 10:06 a.m.)

25 MR. BISENIUS: Back on the record.

1 Q. BY MR. BISENIUS: I want to move to page 19 of
2 your declaration.

3 In the first full sentence on page 19, it
4 states, quote, "The images above show that when
5 switching the material being printed within each layer
6 of the CMB file, each print head/deposition line part
7 support material begins with printing the layer of the
8 purge tower, followed by printing the respective layer
9 of the support structure," end quote.

10 Do you see that?

11 A. I do.

12 Q. When you say that the three-dimensional printer
13 begins with printing the layer of the purge tower
14 followed by printing the respective layer of the part or
15 is support structure, do you mean that the purge tower
16 is printed first for every layer of the CMB file?

17 A. No.

18 Q. When is the purge tower printed in each of
19 these layers?

20 A. So on layer -- on number -- layer 11 that
21 you're seeing there, the purge tower is being printed in
22 part material, and then the part -- the part material
23 will be printed.

24 Q. This paragraph goes on to state, quote, "Early
25 on in the solo project development, CMB for files for

1 the Fortis 400MC were repurposed for the smaller solo
2 printer," end quote.

3 How are --

4 MR. KAPADIA: Objection. Misstates
5 evidence.

6 MR. BISENIUS: Oh, sorry. Did I read that
7 incorrectly? Let me read that again.

8 Q. BY MR. BISENIUS: In this paragraph, you state,
9 quote, "However, early on in the solo project
10 development, CMB files for the Fortis 400MC were
11 repurposed for the smaller printer," end quote.

12 How are CMB files repurposed for the
13 smaller solo printer?

14 A. Not really too much needed to be done. What --
15 the important thing was that the build envelope was set
16 to 5 by 5 by 5 rather than the Fortis 400, which was I
17 think -- I can't remember exactly, but it was, like, 20
18 by -- 24 by 24 by 24 or something. So you -- you just
19 had to define define the build envelope as 5 by 5 by 5.
20 And then on the solo side, even though it was a file
21 that was generated for a 400MC, we would accommodate it
22 on the solo side.

23 Q. Was repurposing the CMB files a process that
24 had to be done manually, or was it done automatically
25 using software?

1 A. Automatically. Once that build envelope was
2 set, that was pretty much all you had to do. It was
3 pretty straightforward from the Insight side.

4 Q. So you used the Insight software to repurpose
5 the CMB files for use on the solo printer; is that
6 correct?

7 A. Well, we used the Insight software to generate
8 the CMB files.

9 Q. Which software did you use to change the build
10 envelope for the CMB file?

11 A. That's a --

12 MR. KAPADIA: Objection. Leading.

13 THE WITNESS: That's a parameter within
14 Insight that can be -- of course, it's -- it's not
15 something that a customer could do, but it's -- there's
16 a parameter file that we can edit and restrict that
17 build size.

18 Q. BY MR. BISENIUS: Did any other edits other
19 than the build envelope need to be made to the CMB file
20 in order to execute it on the solo printer?

21 A. Not that I recall. The -- all the -- you know,
22 the slice heights and the material types and all those
23 things that we were using on solo were -- were already
24 available within Insight.

25 Q. Did the Fortis printer have any relevant

1 features or functionality that were not present in the
2 solo printer?

3 MR. KAPADIA: Objection. Scope.

4 THE WITNESS: Yeah, it had a lot. I mean,
5 it had a bigger build envelope, it had the ability to
6 run multiple materials, it could -- it had an on-board
7 drying system for keeping material dry. I mean, it had
8 a significant amount of features that the solo printer
9 did not. Solo was designed to be a cheap -- very cheap,
10 cost-effective, small print -- benchtop printer.

11 Q. BY MR. BISENIUS: Other than the different
12 size, did the solo printer have any features or
13 functionality that were not present in the Fortis 400?

14 A. I mean, there were things about it that were
15 different, but, you know, there -- it wasn't a feature
16 that wasn't available in the 400. Yeah. It certainly
17 didn't have any advantages over the 400 other than its
18 size and cost.

19 Q. Did you, personally, repurpose the CMB file
20 depicted in the screenshots in paragraph 16 for use with
21 the solo printer?

22 A. Not that I recall. There's -- no. I don't
23 know.

24 Q. Are you aware of any specific Stratasys
25 employees repurposing the CMB file depicted in paragraph

1 16 of your declaration for use with the solo printer?

2 A. There -- there's -- you know, it could possibly
3 be Bill Swanson or Dominic Manilla in it -- there were
4 other people involved running the machine. So, you
5 know, it could be one of multiple people, I guess.

6 Q. Do you have personal specific knowledge of
7 someone at Stratasys having repurposed the CMB file
8 depicted in paragraph 16 of your declaration for use
9 with the solo printer?

10 A. No.

11 Q. Did you ever execute the CMB file depicted in
12 the screenshots in paragraph 16 on a Fortis 400MC
13 printer?

14 A. Not that I recall.

15 Q. Did the solo printer operate using the same
16 Insight software as the Fortis 400MC printer during this
17 2010 to 2011 time frame?

18 A. It -- it used files that were processed with
19 Insight during that time frame, yes.

20 Q. How many print heads did the Fortis 400MC
21 printer have?

22 A. Two, part and support.

23 Q. Did the Fortis 400MC and solo printer have the
24 same deposition nozzle dimensions?

25 MR. KAPADIA: Objection. Scope.

1 THE WITNESS: Well, the -- as I recall, at
2 that time we were using a -- what we called 1 T - T12
3 tip, which was designed for optimum 7,000 slice. And,
4 you know, the Fortis systems also had that, as well. So
5 it was the same diameter nozzle, but the rest of the --
6 you know, the geometry, the shape, the design, all those
7 other elements of it were different. Only the diameter
8 was similar.

9 Q. BY MR. BISENIUS: When you say "diameter," are
10 you referring to the internal diameter of the nozzle?

11 A. Yes. The ID of the nozzle.

12 Q. Did the Fortis 400MC and solo printers have the
13 same spacing between deposition nozzles?

14 A. No.

15 Q. Did the CMB file need to be altered to account
16 for the difference in nozzle dimensions or spacing
17 between the two devices?

18 A. No.

19 Q. How did the solo printer account for the
20 different nozzle spacing when executing a CMB file
21 generated for the Fortis 400?

22 A. Well, there's -- there's a -- like the -- the
23 file generated for -- in Insight for the Fortis 400, it
24 doesn't -- those offsets -- tip offsets aren't in there.
25 That's something that when you calibrate the machine,

1 those values are stored on the machine itself.

2 Q. Would it be necessary to adjust the nozzle
3 offset to execute the CMB file on the solo printer?

4 A. No.

5 Q. Did the Fortis 400MC and solo printers have the
6 operating temperatures for the extruder nozzles and
7 oven?

8 A. No.

9 Q. Did the CMB file need to be adjusted to account
10 for the different temperatures for the Fortis 400MC and
11 solo printers?

12 A. No.

13 Q. I want to move to Exhibit A in your
14 declaration. This starts on page 54.

15 A. All right.

16 Q. Starting on page 55, you have included a claim
17 chart in your declaration. Did you generate this claim
18 chart?

19 A. No.

20 Q. Are you aware of who did generate this claim
21 chart?

22 A. Counsel did.

23 Q. There's a picture on page 55. What is being
24 shown in this picture?

25 A. It's a couple tables with four solo systems on

1 it. Those are -- are prototype systems. And there's a
2 person standing there typing on a keyboard, it appears.

3 Q. There's another picture on page 56. What is
4 being shown on this picture?

5 A. That's the top view, basically, of the printer
6 showing the print heads and the deposition lines.

7 Q. Did you take either of these pictures?

8 A. I did not.

9 Q. Do you know who took these pictures?

10 A. I do not.

11 Q. Were these pictures taken at the Stratasys
12 facility?

13 A. It appears so. Yes.

14 Q. Is the printer depicted in the image on page 56
15 the same model as the four printers shown in the image
16 on page 55?

17 A. It's very -- it's difficult to say. If it's
18 not, it's very close. And there were several iterations
19 of the design as we went along, but it appears to be
20 fairly -- very similar.

21 Q. Why do you say that it's difficult to say if
22 they're the same model printer?

23 A. Well, because on page 56, it's a closeup. I
24 don't -- I can't see the entire system. And then on
25 page 55, it's from a long ways away. So -- but I --

1 I -- in terms of functionality, I'm sure they're very
2 similar, if not the same.

3 Q. Looking at the image on page 56, this shows a
4 head cartridge extending from the top of the printer; is
5 that correct?

6 A. The head cartridge? Well, the -- yeah. Yeah,
7 pretty much. I -- that's a fair statement.

8 Q. And there are two tubes extending from the head
9 cartridge in this image; is that correct?

10 A. It is correct.

11 Q. Are those two tubes supply lines for supplying
12 build material to the print heads?

13 A. Yes.

14 Q. There's a white ribbon extending along the
15 printer near the top of the image. What is that white
16 ribbon?

17 A. That's -- we call that the head cable. So that
18 provides -- that's all the electric -- electronic
19 connection between the systems, basically, the computer
20 and the head for controlling temperature and everything
21 associated with the head.

22 Q. Looking back at the image on page 55, why do
23 these printers not have the head cartridge, the material
24 supply lines, and the head cable shown extending from
25 the top of the printers as they are in the image on page

1 56?

2 MR. KAPADIA: Objection. Leading.

3 THE WITNESS: I -- I guess I'd have to zoom
4 in. It's pretty hard to tell. Let me see if I can.

5 Q. BY MR. BISENIUS: Maybe I can ask that a
6 different way.

7 In the image on page 55, can you see the
8 head cartridge for any of these printers in that image?

9 A. I -- only on the one to the very right, and it
10 only has one -- you can only see one deposition line.
11 So that would be the -- on the support side. The other
12 one, there is no material because the support was on the
13 left, model -- or part was on the right.

14 So the one on the very far right has
15 support material loaded -- well, I guess I don't know if
16 it's loaded, but it's up to the head, and the rest of
17 them do not. So there is no -- there's no material on
18 those, and it -- so yeah. I'd say that's the only one
19 that has a print head in it, and it appears it's only
20 the support one and not -- not model or part.

21 Q. I want to go all the way back to paragraph 6,
22 which is on page 2 of your declaration.

23 Here, it states that the solo printer was,
24 ultimately, adapted for the release to the public as the
25 Mojo 3D printer.

1 Approximately, when was the Mojo 3D printer
2 released?

3 A. I do not know.

4 Q. Was there any major changes that were made to
5 the solo printer between September 2010 and when it was
6 eventually released to the public as the Mojo 3D
7 printer?

8 MR. KAPADIA: Objection. Beyond the scope.

9 THE WITNESS: What do you mean by "major,"
10 significant?

11 Q. BY MR. BISENIUS: Were there changes to the
12 physical structure of the printer, such as the print
13 heads, were there changes to the software, things like
14 that?

15 A. I'm sure there were changes, but in terms of
16 how significant or -- they were, I have no idea. I know
17 the -- the basic design and functionality was all there,
18 but -- you know, I'm sure there were -- as always, there
19 was probably -- there were probably subtle changes to
20 certain things for manufacturability or cost.

21 Q. When it was released to the public, did the
22 Mojo 3D printer operate using the same software as the
23 solo printer?

24 A. There again, I'm sure it was, essentially, the
25 same. I mean, software is always -- is always being

1 updated or improved. So there, you know, very possibly
2 could have been subtle changes there, as well.

3 Q. Was the Insight software mentioned in your
4 declaration used as the work station software to operate
5 the Mojo 3D printer when it was released?

6 A. No.

7 MR. KAPADIA: Objection. Beyond the scope.

8 Q. BY MR. BISENIUS: What software was used as the
9 work station software when the Mojo 3D printer was
10 released?

11 MR. KAPADIA: Objection. Beyond the scope.

12 THE WITNESS: Yeah, I'm not sure what
13 they -- what they called it, but it was a very basic
14 processing software. You didn't -- they weren't -- you
15 did not get the full functionality of Insight when you
16 bought the Mojo printer.

17 Q. BY MR. BISENIUS: Was Insight software used as
18 the work station software for operating the solo printer
19 in the 2010 to 2011 time frame?

20 A. Yes.

21 Q. Was the solo printer compatible with other
22 three-dimensional printing software other than Insight?

23 A. Well, it was compatible with the -- the
24 processing software package that was created for the
25 commercial release of Mojo. Whether or not subsequent

1 processing packages like GrabCAD and those things -- I
2 don't know whether or not those supported Mojo or not.

3 Q. Were you aware of the KISSlicer software in
4 2011?

5 MR. KAPADIA: Objection. Beyond the scope.

6 THE WITNESS: Could you repeat that?

7 Q. BY MR. BISENIUS: Were you aware of the
8 KISSlicer software in 2011?

9 A. No.

10 MR. KAPADIA: Objection. Beyond the scope.

11 Q. BY MR. BISENIUS: In paragraph 6, you state
12 that you, Bill Swanson, and Ronald Schloesser worked to
13 address the disadvantages related to purge operations in
14 fused deposition modeling.

15 Can you describe the individual roles that
16 each of the three of you played in developing the purge
17 tower feature that you discussed in your declaration?

18 A. So Bill was the -- he managed Skunk Works,
19 which was the facility that was developing the solo
20 printer. So Bill and I wanted to come up with a better
21 solution for the purging and the -- you know, the
22 effects of purging and the implications that it would
23 have on your part quality.

24 And so, we did a lot of brainstorming
25 together on approaches for doing that. And, you know,

1 Bill was managing all aspects of the printer
2 development. So, you know, I did the bulk of the work
3 in terms of the purge tower design and testing and
4 implementation.

5 And Ron -- Ron was software. So his -- his
6 role was to integrate it into the software on the
7 machine. So -- and like when you packed the parts and
8 things like that. So we were using Insight for a lot of
9 this, and, you know, Ron was our software guy, so he's
10 the one that -- any time we needed a modification or
11 anything on the Insight side or on the system -- machine
12 side, he was the man that would do those tasks.

13 Q. What role did Paul Leavitt play in developing
14 the purge feature?

15 A. Well, he wasn't involved in solo, at all, at
16 that time.

17 Q. What was Paul Leavitt's role at Stratasys
18 during the 2010 to 2011 time frame?

19 A. Let's see. At that time frame, I can't
20 remember. He was either a mechanical -- mechanical
21 engineer or a systems engineer. I can't remember at
22 what time -- time frame that he went from a mechanical
23 engineer to a systems engineer, but it was one of those
24 two.

25 Q. When addressing the disadvantages related to

1 purge operations in fused deposition modeling, did you
2 or any of your co-inventors or other Stratasys employees
3 ever analyze how other systems conducted purge
4 operations?

5 MR. KAPADIA: Objection. Beyond the scope.

6 THE WITNESS: What do you mean by "other
7 systems"?

8 Q. BY MR. BISENIUS: Had you analyzed how purge
9 operations were performed by nonStratasys
10 three-dimensional printers?

11 MR. KAPADIA: Objection. Beyond the scope.

12 THE WITNESS: I can only speak myself, and
13 I did not.

14 Q. BY MR. BISENIUS: At the time, were you aware
15 of any three-dimensional printing systems having purge
16 operations that did not involve a purge bucket?

17 A. No.

18 Q. Were you aware of the RepRap three-dimensional
19 printer in 2011?

20 MR. KAPADIA: Objection. Beyond the scope.

21 THE WITNESS: I don't know. I mean, I was
22 aware of it at some point, but whether or not -- 2011,
23 I -- I couldn't say for sure. I thought it was later,
24 but -- my memory is good, but it's not that good.

25 Q. BY MR. BISENIUS: At any point in time, did you

1 become aware of the parking space functionality used in
2 RepRap printers?

3 MR. KAPADIA: Objection. Beyond the scope
4 of the declaration.

5 THE WITNESS: No. I'm -- it's the first
6 I've heard of it.

7 Q. BY MR. BISENIUS: Straying on the same page and
8 going to paragraph 7, here you mention that "One
9 disadvantage of using a purge station is that the purge
10 station can take up a sizeable footprint of the 3D
11 printer, limiting the usable build volume and increasing
12 costs, among other disadvantages."

13 Did the Mojo printer have a purge station
14 including a purge bucket when it was released?

15 A. It -- to the best of my recollection, yes, it
16 did.

17 Q. In the 2010 to 2011 time frame, did the solo
18 printer have a purge station with a purge bucket?

19 A. At some point, a purge bucket was integrated.
20 I don't know what - exactly when that was.

21 Q. Do you recall why it was decided to keep the
22 purge station and purge bucket in the commercial Mojo
23 printer even though it's a feature that takes up a
24 sizeable footprint?

25 A. So, you know, our intention at that time was

1 to -- we wanted a purge part for its benefits in terms
2 of part quality, and we also thought that, if we could
3 eliminate the purge bucket and just -- instead of
4 purging into the bucket and then building a purge tower,
5 use the purge tower for both. But we -- we were -- we
6 had trouble -- we were never able to perfect it to the
7 point to where we were confident that it actually gave
8 us a better result than if we had a purge bucket. So --

9 Q. What do you mean by "better result"?

10 A. Well -- so we couldn't -- we -- we hoped that
11 the -- we could encompass all the purge material into
12 the purge part. So instead of purging in the bucket,
13 building your purge part, and then moving on, we were
14 going to combine those -- that functionality of both
15 into the purge part. But we were never able to achieve
16 that.

17 Q. I just want to make sure I understand. So at
18 one point was there an implementation in which a purging
19 operation included both purging into a purging bucket
20 and printing a purge tower?

21 A. Yes.

22 Q. Approximately, what time frame did you use that
23 combined solution?

24 A. I couldn't say. Yeah. I don't -- I couldn't
25 tell you. I don't recall that -- you know, when that

1 was.

2 Q. In this combined solution, would the system
3 purge to the purge bucket first or print a layer of the
4 purge tower first?

5 A. It would have to go into the purge bucket
6 first. You'd have to build the purge tower
7 immediately -- immediately before you build your part or
8 your support. I mean, that --

9 Q. What is the -- sorry. Go ahead.

10 A. No. You -- you go ahead.

11 Q. What is the advantage of the combined solution
12 of purging to the purge bucket followed by printing a
13 layer of the purge tower over using the purge bucket
14 alone?

15 A. Well, when you use the purge bucket alone, all
16 it achieves for you is getting rid of the material
17 that's -- that could ooze out, and you get your
18 liquefier into, kind of, a ready state before you -- and
19 then what the purge part does is get it into a known
20 state so that when you're building -- when you go over
21 and build your part, you're -- it's in a state to where
22 you're going to -- your extrusion control is what you
23 need it to be.

24 Q. And what do you mean by, "The extrusion control
25 is what you need it to be"?

1 A. Well, when you're -- when you're -- when you're
2 building your part, you're -- you need your extruder to
3 be in a known state so that -- I mean, you're just
4 feeding filament in and, basically, stopping it in order
5 to stop and start your extrusion. And when you come
6 from a purge, you don't have that control to that point,
7 and you can almost always tell on your part -- we would
8 call it the purge seam.

9 And we -- and how you treat that, you have
10 to be able to, for example -- ultimately, what you want
11 is your purge seam, which is the first seam after a
12 purge, to be identical to all the other seams within
13 your part of a very high quality. And that's just not
14 possible until you get that liquefier in a state where
15 it's been building.

16 That's what the purge part does. You're
17 generating a tool pouch just like in your part and you
18 get it into that state. And when you look at some of
19 these photos, you'll notice in the purge part, you know,
20 the seam is not good, and that's just a fact of life
21 with -- after a purge, you -- you -- it's very difficult
22 to get the seam to where it needs to be. So that's what
23 the purge part does for you.

24 Q. So is part of the functionality of printing the
25 purge tower to prime the extruder nozzle for printing

1 the actual part?

2 A. That's one way to put it, yes.

3 Q. I'm going to jump ahead to paragraph 44. This
4 is on page 28 of your declaration. Here, you state that
5 the solo printer was operational by at least
6 November 11th, 2011. Specifically, it says, quote, "A
7 prototype of the solo printer including the elements
8 discussed above was used to and shown to work for its
9 designed purpose at least by November 20th, 2011, before
10 September 21st, 2012, at Stratasys' Minnesota
11 facilities," end quote.

12 Do you see that?

13 A. Yes, I do.

14 Q. Are you aware that in the related district
15 court proceeding involving the '713 patent, that
16 Stratasys has alleged a May 23rd, 2011, date of
17 invention for the '713 patent?

18 A. I'm not aware of that. No.

19 Q. Do you know why Stratasys would allege
20 different invention dates in this proceeding and the
21 district court proceeding?

22 A. No.

23 MR. KAPADIA: Objection. Beyond the scope
24 of the declaration.

25 Q. BY MR. BISENIUS: On page 48, there's a

1 screenshot of the same CMB file that we've been
2 discussing, and it's labeled as July 5th, 2011.

3 Do you see that?

4 A. I do.

5 Q. Do you have personal knowledge of this CMB file
6 existing as early as May 23rd, 2011?

7 A. No.

8 Q. I'm going to upload a PDF that I want to
9 discuss. It's a pretty big file, so it might take a
10 while.

11 Okay. It's telling me from my end that
12 this file was uploaded, if you can attempt to download
13 it.

14 A. Is this the BL 000176?

15 Q. Yeah, SSYSBL.

16 A. Oh, okay.

17 Q. Do you have that open?

18 A. I do.

19 Q. So I've provided a file having the file name
20 SSYSBL000017652.PDF. Petitioner will enter this into
21 the record as Exhibit 1026.

22 (Exhibit 1026 was marked for identification.)

23 Q. BY MR. BISENIUS: This is a user guide for the
24 Fortus 360MC and Fortus 400MC three-dimensional printer;
25 is that correct?

1 A. It appears so.

2 MR. KAPADIA: Objection as to the scope.

3 Q. BY MR. BISENIUS: The CMB file that you
4 discussed in your declaration was originally designed
5 for use with the Fortus MC400 printer; is that correct?

6 A. Well, it was -- it uses the 400MC settings and
7 Insight, but it was intended for solo.

8 Q. I'd like to turn to page 28 of this PDF.

9 A. Okay.

10 Q. Near the top of this page, there's a note that
11 says, "Note, you must replace each liquefier tip when
12 you load a different type of material."

13 Why would the liquefier tip need to be
14 changed every time you use a new material?

15 A. Well --

16 MR. KAPADIA: Objection as to the scope.

17 THE WITNESS: It's -- it's a different type
18 of material, so that -- those systems, you could run
19 ABS, polycarbonate Ultem, even at -- later on, nylon
20 materials, they're not compatible with one another.

21 So you had to -- you know, you had to --
22 you know, if you were using Ultem, for example, you had
23 to put a tip in. And, I mean, you could use that tip
24 again later, but, you know, Ultem has a processing
25 temperature of close to 400C, and let's say you want to

1 run ABS, that process is at, you know, 250C. Well, you
2 can't -- you can't use the same liquefier for those
3 materials.

4 So it's not every time you put a new spool
5 in of the same material. It's when you change the
6 material type to -- from one polymer to another.

7 Q. BY MR. BISENIUS: Did the solo printer require
8 changing liquefier tips when the material type was
9 changed?

10 A. Well, solo only -- it didn't -- it only ran ABS
11 and SR30. So you were never changing a material type.

12 Now, the -- in the -- in the -- in the
13 initial design, you know, that -- there was a tip or a
14 head assembly came with the material box. So you'd swap
15 the whole thing out. Whether or not that's how it went
16 to market, I don't know.

17 Q. I'm going to jump ahead to page 38 of this PDF.

18 A. Yep, I'm here. I see it.

19 Q. On page 38, the Fortus user guide describes a
20 tip cleaning assembly that includes two brush assemblies
21 and a purge bucket.

22 Do you see that?

23 A. I do.

24 Q. Why would a purge tower be necessary if the
25 system already has a tip cleaning assembly that includes

1 a purge bucket?

2 MR. KAPADIA: Objection. Beyond the scope
3 of the declaration.

4 THE WITNESS: Well, as I tried to explain
5 before, the -- the purge tower is to get the extruder
6 into a known state. The bucket is just to -- you know,
7 you're turning this extruder on, it's been at -- at a
8 setback or a standby temperature, and it's heating up
9 and you need to get -- basically, what you're trying to
10 do is, basically, get the material that was in there
11 out, so purge it out, but that doesn't necessarily get
12 you to a known state for extruding -- for starting and
13 stopping on a -- which are what we call a seem on a
14 part.

15 So they're -- they're two -- the
16 functionality is -- is not the same between the two --
17 between the purge bucket and the purge part.

18 Q. BY MR. BISENIUS: I want to move to page 47 of
19 this PDF.

20 A. All right.

21 Q. About halfway down this page, there's a heading
22 of "Basic Job Build Tasks," and it states that "Jobs are
23 sent in a CMB format and placed in the job queue."

24 Is that job queue on the printer itself or
25 in the Insight software or somewhere else?

1 MR. KAPADIA: Objection. Beyond the scope
2 of the declaration.

3 THE WITNESS: Well, the job queue is not on
4 the printer. The printer only would accommodate one CMB
5 at a time.

6 Q. BY MR. BISENIUS: So when it says jobs are sent
7 in a CMB format and placed in the job queue, where is
8 the -- where is the CMB file being sent from and where
9 is it being sent to in that statement?

10 A. Well, the job queue is the -- could be on your
11 computer. You know, if -- let's say you have a 400MC
12 and you can queue up as many jobs as you want, but you
13 can only download -- the system can only accommodate one
14 at a time.

15 So, you know, the 400MC was -- you know,
16 you connected to that machine and that computer that's
17 connected to the machine which for -- that's where the
18 queue would be. So you could -- anyone on the network
19 with Insight could download a CMB to that system, and
20 that system could use Control Center to send the files
21 to the machine itself.

22 Q. So just so I understand correctly, a computer
23 running the Insight software sends the CMB file to the
24 work station computer, which manages the queue; is that
25 correct?

1 A. That -- that's correct.

2 MR. KAPADIA: Objection. Beyond the scope
3 of the declaration.

4 THE WITNESS: I mean, the -- in a -- you
5 know, that same -- that one computer could also have
6 Insight on it. You could process your files and -- and
7 have a Control Center there and be directly tied to that
8 machine. Or like I said, if you're on the network, you
9 could download CMBs to that work station.

10 And then with the Control Center, you
11 could -- you could manage that queue. I mean, if you
12 wanted to bump a job up or bump a job down or maybe
13 there's a material mismatch, you know, that would be
14 identified there.

15 Q. BY MR. BISENIUS: This paragraph on page 47
16 mentions Insight software, correct?

17 MR. KAPADIA: Objection. Beyond the scope
18 of the declaration.

19 THE WITNESS: Yes.

20 Q. BY MR. BISENIUS: Is that the same Insight
21 software that you mentioned in your declaration that was
22 used to create and view the CMB file discussed in your
23 declaration?

24 A. It would -- yes, it is Insight. I mean, there
25 was different versions and rep levels throughout its

1 history, but, yes, Insight is Insight in this case.

2 Q. I want to jump ahead to page 86 of this PDF.

3 A. Okay.

4 Q. This page has a heading of "Preparing the
5 Model, Insight" at the top. Do you see on this page
6 where there are several mentions of STL?

7 MR. KAPADIA: Objection. Beyond the scope
8 of the declaration.

9 THE WITNESS: Yes.

10 Q. BY MR. BISENIUS: STL is a file type, correct?

11 MR. KAPADIA: Objection. Beyond the scope
12 of the declaration.

13 THE WITNESS: Yes.

14 Q. BY MR. BISENIUS: Continuing to page 87 of the
15 PDF, do you see where it says, quote, "The file must be
16 sliced into the layers that the 360 MC/400MC will
17 extrude to construct the part," end quote?

18 MR. KAPADIA: Objection. Beyond the scope
19 of the declaration.

20 THE WITNESS: Yes.

21 Q. BY MR. BISENIUS: In this sentence, when it
22 says, "The file," is it referring to an STL file?

23 MR. KAPADIA: Objection. Beyond the scope
24 of the declaration.

25 THE WITNESS: Yes.

1 Q. BY MR. BISENIUS: I want to continue to page
2 88. Do you see where it says, quote, "Now that the part
3 file is sliced and ready to send," end quote, "it must
4 be saved as a CMB file, which can be received by the
5 system"?

6 MR. KAPADIA: Objection. Beyond the scope
7 of the declaration.

8 THE WITNESS: Yes.

9 Q. BY MR. BISENIUS: So is this describing that,
10 for the Fortus 360 and 400 printers, an STL file is
11 sliced into layers and tool path instructions are
12 created for each layer in the form of a CMB file?

13 MR. KAPADIA: Objection. Beyond the scope
14 of the declaration.

15 THE WITNESS: Yes.

16 Q. BY MR. BISENIUS: And then that CMB file is
17 sent to the printer to cause the printer to extrude
18 material according to those tool path; is that correct?

19 MR. KAPADIA: Objection. Beyond the scope
20 of the declaration.

21 THE WITNESS: Yes.

22 MR. BISENIUS: It hasn't quite been an
23 hour, but I'm about to change to a different line of
24 questioning. Let's go off the record and now might be a
25 good time for a break. Can we reconvene at ten past the

1 hour?

2 MR. KAPADIA: Okay.

3 THE WITNESS: Okay.

4 (A recess was held from 10:58 a.m. to 11:12 a.m.)

5 MR. BISENIUS: Back on the record.

6 Q. BY MR. BISENIUS: I shared a file with the file
7 name "user guide-EN-Mojo.PDF." Petitioner would like to
8 inter this as Exhibit 1027 in the proceeding.

9 (Exhibit 1027 was marked for identification.)

10 Q. BY MR. BISENIUS: Mr. Larson, this is the user
11 guide for the Mojo 3D printer; is that correct?

12 MR. KAPADIA: Objection. Beyond the scope
13 of the declaration.

14 THE WITNESS: It appears so.

15 Q. BY MR. BISENIUS: You stated that the solo
16 printer was eventually released publicly as the Mojo
17 printer in your declaration; is that correct?

18 A. Yes.

19 Q. I'd like to turn to page 8 of this Mojo user
20 guide PDF, the section titled "Overview."

21 A. All right.

22 Q. In the first paragraph here, the Mojo user
23 guide states, quote, "The Mojo system build models from
24 CAD STL files that are sent to the system using a USB
25 cable from a dedicated host computer," end quote.

1 Do you see that?

2 A. I do.

3 MR. KAPADIA: Objection. Beyond the scope
4 of the declaration.

5 THE WITNESS: I do see it.

6 Q. BY MR. BISENIUS: If the Mojo printer operated
7 using STL files, how are you able to execute the CMB
8 file discussed in your declaration on the Mojo printer?

9 MR. KAPADIA: Objection. Misstates
10 testimony objection; beyond the scope of the
11 declaration.

12 THE WITNESS: Well, the -- the software
13 that the system was released with is likely
14 significantly different than what we were using, but the
15 Mojo still -- I mean, at -- the Print Wizard or whatever
16 it was that -- the pre-processing software, essentially,
17 produced a CMB file or a similar type to a CMB.

18 Q. BY MR. BISENIUS: You mentioned a software
19 called Print Wizard. Is this software that executed on
20 the workstation computer?

21 MR. KAPADIA: Objection. Calls outside
22 scope of the declaration.

23 THE WITNESS: That's what I'm assuming.

24 Q. BY MR. BISENIUS: Was Print Wizard a version of
25 the Insight software or was it a different software

1 package than the Insight software?

2 MR. KAPADIA: Objection. Beyond the scope
3 of the declaration.

4 THE WITNESS: It -- it was different.
5 That's my recollection.

6 Q. BY MR. BISENIUS: Were there changes made
7 during the development of the solo printer and before
8 the release of the Mojo printer that would allow you to
9 directly upload an STL file to the printer without first
10 converting the STL file to a CMB file?

11 MR. KAPADIA: Objection. Beyond the scope
12 of the declaration.

13 THE WITNESS: No.

14 Q. BY MR. BISENIUS: Go ahead and turn to page 16
15 of this PDF -- oh, sorry. I got that wrong.

16 Sticking with page 8, i want to discuss
17 page 8 here, and I'm also talking about paragraph 16 of
18 your declaration, in comparison to each other.

19 In paragraph 16 of your declaration, you
20 stated that the CMB file used ABS-M30 as the part
21 material. Page 8 of the Mojo user guide identifies ABS+
22 as the part material.

23 What is the difference between ABS-M30 and
24 ABS+?

25 MR. KAPADIA: Objection. Beyond the scope

1 of the declaration.

2 THE WITNESS: I don't recall for certain.
3 It's possible that they're identical, but it's -- you
4 know, it might be a slightly different version of ABS.
5 I couldn't tell you for certain.

6 Q. BY MR. BISENIUS: Would you need to make
7 adjustments to the CMB file discussed in your
8 declaration to allow it to function on a solo printer
9 using ABS+ part material rather than ABS-M30 part
10 material?

11 MR. KAPADIA: Objection. Beyond the scope
12 of the declaration.

13 THE WITNESS: No. CMB file just contains
14 the X, Y, and Z data and the bead area, among a few
15 other things, but the material specific parameters for
16 the, you know, extrusion process, that's all contained
17 on the printer itself.

18 Q. BY MR. BISENIUS: Would you need to change the
19 CMB file to identify the part material as ABS+ in the
20 CMB file in order to execute it on the Mojo printer?

21 MR. KAPADIA: Objection. Beyond the scope
22 of the declaration that.

23 THE WITNESS: That would depend. I mean,
24 maybe they would allow that -- ABS-M30 and ABS+. That,
25 I don't know.

1 Q. BY MR. BISENIUS: Earlier, you mentioned the
2 Print Wizard software that's mentioned on page 8 of the
3 Mojo user guide. Did you ever use Print Wizard software
4 to operate the solo printer during the 2010 to 2011 time
5 frame?

6 A. No -- no, I did not.

7 Q. Approximately, when was the Print Wizard
8 software developed?

9 MR. KAPADIA: Objection. Beyond the scope
10 of the declaration.

11 THE WITNESS: I do not know.

12 Q. BY MR. BISENIUS: Did the Print Wizard software
13 have the capability to run CMB files directly?

14 MR. KAPADIA: Objection. Beyond the scope
15 of the declaration.

16 THE WITNESS: I don't understand the
17 question.

18 Q. BY MR. BISENIUS: Well, in your declaration,
19 you said that you used the CMB file that you discussed
20 and executed it on the solo printer. Here on page 8 of
21 the Mojo user guide, it says that it uses a CAD STL
22 file. Earlier, you discussed that a CMB file can be
23 generated from an STL file.

24 So my question is, did the Print Wizard
25 software have the capability to receive and run a CMB

1 file directly rather than receiving an STL file?

2 MR. KAPADIA: Objection. Misstates
3 evidence. Objection. Beyond the scope.

4 THE WITNESS: That -- I'm not familiar
5 enough with Print Wizard to say definitively yes or no
6 on that.

7 Q. BY MR. BISENIUS: Were you involved in the
8 development of the Print Wizard software?

9 A. No.

10 Q. Were either of your co-investors involved in
11 the development of the Print Wizard software?

12 A. Well, for -- certainly Bill would have been,
13 and possibly Ron.

14 Q. Did the Print Wizard software have the
15 capability to create CMB files from an STL file?

16 MR. KAPADIA: Objection. Beyond the scope
17 of the declaration.

18 THE WITNESS: I would say yes. Whether or
19 not it was, you know, called a CMB, it would,
20 essentially, be a CMB.

21 Q. BY MR. BISENIUS: I want to move to page 17 of
22 this Mojo user guide PDF. Near the top of page 17, it
23 says, quote, "There are two software programs that are
24 required for the Mojo printer," end quote.

25 And then it identifies, "Mojo 3D printer

1 software is used to send parts processed by Print Wizard
2 to the printer, and Print Wizard software installs on
3 your computer or host computer and processes STL files
4 for printing and communicating with the host computer."

5 Do you see that?

6 A. Yes.

7 Q. Are you familiar with both the Mojo 3D printer
8 software and Print Wizard software?

9 MR. KAPADIA: Objection. Form. Objection.
10 Beyond the scope of the declaration.

11 THE WITNESS: No. I'm not very familiar
12 with them.

13 Q. BY MR. BISENIUS: At a high level, are you able
14 to describe the functions performed by the Mojo 3D
15 printer software?

16 MR. KAPADIA: Objection. Beyond the scope
17 of the declaration.

18 THE WITNESS: I guess define a high level.

19 Q. BY MR. BISENIUS: So here, it says that Mojo 3D
20 printer software is used to send parts processed by the
21 Print Wizard to the printer. What file type will be
22 used to send the parts to the printer?

23 MR. KAPADIA: Objection. Beyond the scope
24 of the declaration. And objection on confidentiality to
25 the extent that it seeks information that is not public.

1 THE WITNESS: I couldn't say for sure.

2 Q. BY MR. BISENIUS: In the next bullet point,
3 when it says that Print Wizard -- in the next bullet
4 point, when it says that Print Wizard processes STL
5 files for printing and communicating with the host
6 computer, what type of processing was performed on the
7 STL file for --

8 MR. KAPADIA: Objection. Beyond the scope
9 of the declaration. And objection on confidentiality to
10 the extent it seeks information that isn't public.

11 THE WITNESS: What page are you on?

12 Q. BY MR. BISENIUS: I'm still on page 17. The
13 second bullet point under "There are two software
14 programs," it says, "Print Wizard software installs on
15 your computer or host computer and processes STL files
16 for printing and communicating with the host computer."

17 My question is, what processing was
18 conducted by Print Wizard for the file to be used for
19 printing?

20 MR. KAPADIA: Objection. Beyond the scope
21 of the declaration. And objection on confidentiality to
22 the extent it seeks information that is not public.

23 THE WITNESS: Well, I would assume that it
24 slices and generates tool paths, generates supports, and
25 creates a file to be sent to the printer.

1 Q. BY MR. BISENIUS: I want to move to page 41 of
2 the Mojo user guide PDF.

3 A. Okay.

4 Q. This page mentions purge buckets, correct?

5 A. Yes.

6 Q. And earlier, you had mentioned the commercial
7 release of the Mojo printer included a purge bucket; is
8 that correct?

9 A. Yes.

10 Q. When was purge tower functionality first
11 applied to a commercially available version of the Mojo
12 printer?

13 MR. KAPADIA: Objection. Assumes facts not
14 in evidence. Objection. Misstates testimony.
15 Objection. Beyond the scope of the declaration.

16 MR. BISENIUS: Well, I can reframe.

17 Q. BY MR. BISENIUS: Was purge tower functionality
18 ever applied to a commercially available Stratasys
19 printer?

20 MR. KAPADIA: Objection. Beyond the scope
21 of the declaration.

22 THE WITNESS: Well, certainly the
23 functionality was there. To the extent to which it was
24 used or applied, I couldn't tell you.

25 Q. BY MR. BISENIUS: Was the purge tower

1 functionality ever applied to a commercially released
2 version of the Mojo printer?

3 MR. KAPADIA: Objection. Beyond the scope
4 of the declaration.

5 THE WITNESS: Again, I couldn't say for
6 sure. I would -- I would assume so, but I cannot say
7 for sure -- for certain.

8 Q. BY MR. BISENIUS: So if you can't say for
9 certain if the Mojo printer had the purge functionality,
10 is it also true that you're not aware of, approximately,
11 when purge functionality would have become available in
12 the Mojo printer?

13 MR. KAPADIA: Objection. Beyond the scope
14 of the declaration.

15 THE WITNESS: Yes, that's a fair statement.

16 Q. BY MR. BISENIUS: I want to move to page 57 of
17 the Mojo user guide.

18 A. Okay.

19 Q. This page displays a number of error codes.
20 Part way down the page, error codes 2041 and 2042
21 mention, quote, "tip offset calibration," end quote.

22 In this context, what is tip offset
23 calibration?

24 MR. KAPADIA: Objection. Beyond the scope
25 of the declaration. Objection on confidentiality to the

1 extent it seeks information that is not public.

2 THE WITNESS: So that means that the
3 calibration procedure, which is -- that's what's done to
4 determine the offset between the model tip or part tip
5 and support tip in X, Y, and Z.

6 Q. BY MR. BISENIUS: Was there a difference in the
7 tip offset calibration of the Fortus 400MC printer and
8 the solo printer?

9 MR. KAPADIA: Objection to the extent the
10 question asks for confidential information.

11 THE WITNESS: What do you mean by
12 different?

13 Q. BY MR. BISENIUS: Were there any differences in
14 how the tip offset calibration was performed between the
15 Fortus 400MC printer and the solo printer?

16 MR. KAPADIA: Objection to the extent the
17 question asks for confidential information.

18 THE WITNESS: Yes.

19 Q. BY MR. BISENIUS: Without revealing
20 confidential information, what were some of those
21 differences?

22 A. Well, it was a different approach. The -- on
23 the Fortus 400MC, for example, you had a stainless steel
24 cone, and you would go over and find the center of each
25 tip through an iterative process.

1 And on the Mojo -- I'm trying to
2 remember -- it had a much simpler design because it
3 was -- you know, it -- cost was a big driving factor for
4 the design. And I don't recall exactly in terms of
5 mechanically how it worked, but there were two different
6 approaches, essentially, doing the same thing.

7 Q. I'd like to go back to your declaration,
8 Exhibit 2014. And I'm going to start on page 8, at
9 paragraph 16.

10 A. All right.

11 Q. In the second sentence of paragraph 16, you
12 state, quote, "This CMB file was last modified on
13 July 5th, 2011, in conjunction with the solo project,"
14 end quote.

15 If this CMB file was developed in
16 conjunction with the solo project, why does the file
17 information indicate the machine type is Fortus 400MC
18 large?

19 A. I'm looking for that sentence. And you said it
20 was paragraph 16, page 8?

21 Q. Yeah. I can read this again. Paragraph 16 on
22 page 8, the second sentence which starts on the second
23 line, it states, "This CMB file was last modified on
24 July 5th, 2011, in conjunction with the solo project."

25 Do you see that?

1 A. I do see that.

2 Q. So my question is if this CMB file was
3 developed in conjunction with the solo project, why does
4 the file information indicate the machine type is Fortus
5 400MC large?

6 A. Because we were using Insight to generate these
7 files. There was no Print Wizard or any solo-specific
8 processing software.

9 Q. Do you recall if any adjustments needed to be
10 made to the Insight software to make it compatible with
11 the solo printer in the 2010 to 2011 time frame?

12 A. Yes.

13 Q. What adjustment needed to be made to the
14 Insight software to make it compatible with the solo
15 printer during the 2010 to 2011 time frame?

16 A. The -- the build envelope had to be set to 5 by
17 5 by 5.

18 Q. So once again, here, it says that you developed
19 the CMB file in July of 2011. If you developed this
20 concept in July 2011, why did you wait until almost two
21 years later to file the patent application, in March of
22 2013?

23 A. I don't recall. You know, Bill was the person
24 that -- as manager of Skunk Works, he -- he, more or
25 less, also managed any patent application process. I

1 guess you'd have to -- I mean, you can ask him, but I
2 can't answer that question.

3 Q. So you're not aware of any factors that caused
4 a delay between conceiving of this concept and filing
5 the patent application; is that correct?

6 A. Yes. That's correct.

7 Q. Do you recall when you first provided
8 disclosure documentation for this patent application?

9 A. No. I don't recall when that would have been.

10 Q. At this point during the patent application
11 process did you create written documents describing the
12 invention to provide to patent attorneys?

13 MR. KAPADIA: Objection to the extent it
14 seeks information that's privileged.

15 Q. BY MR. BISENIUS: I'm not asking what was in
16 the material, I'm just asking if you did prepare such
17 materials.

18 A. I don't remember specifically preparing any
19 materials. I would -- you know, the way I would -- the
20 way it typically played out is that there -- we would --
21 if there was to be a patent application, it would all be
22 discussed with the inventors, and depending on what it
23 was, you know, certain people would be providing
24 materials. And then Bill was the one that, more or
25 less, interfaced with our -- the local or our in-house

1 patent folks. And of course, you know, there's always
2 questions back and forth or e-mails or whatnot between
3 the patent folks and us, but I don't recall anything
4 specific.

5 Q. BY MR. BISENIUS: So you don't specifically
6 recall generating a patent disclosure document; is that
7 correct?

8 A. Correct.

9 Q. I'm going to jump ahead to page 49 of your
10 declaration.

11 A. All right.

12 Q. Paragraph 25 starts on page 49. There are a
13 few photographs at the beginning of paragraph 25 that
14 shows purge towers; is that correct?

15 A. That is correct.

16 Q. How many purge towers are depicted in the first
17 image of paragraph 25?

18 A. Two.

19 Q. The purge tower in the second image here
20 appears to be printed from a single material. Why would
21 a purge tower be necessary if the object being printed
22 is printed from a single material?

23 MR. KAPADIA: Objection. Assumes facts not
24 in evidence.

25 THE WITNESS: Well, in this particular

1 case, I mean, it looks to me like it's a picture of the
2 purge tower that is on the left in the upper photo. And
3 then a more broad answer to that would be the primary
4 function of the purge tower, typically, is to get that
5 liquefier in a known state to go and extrude on your
6 part, and it -- that is all to make sure -- to ensure
7 that that seam -- what we call the purge seam is the
8 equivalent of the seam -- a normal seam in your part.

9 Now, on a support material, some -- a lot
10 of times, you know, a customer can -- or an operator can
11 choose, well, with the support material, I'm not too
12 concerned with a perfect seam on my support because,
13 basically, we're just going to throw that away any way.
14 So I think, in practice, most of the time people will
15 just build one purge tower out of the part material.

16 Q. BY MR. BISENIUS: In the scenario you just
17 described, would the system perform any type of purge
18 operation when switching from part material to support
19 material?

20 A. Yes. A purge is always done, at least in -- on
21 our systems.

22 Q. What would that purge operation involve?

23 A. Purging over the bucket.

24 Q. Can you identify any support material in either
25 of these images?

1 A. Well, in the top image, you can see on the part
2 itself, the squared part, there's a base. We always
3 build our parts on top of a base, and the top layer of
4 that base is support material. And you can, kind of,
5 see it around the periphery of the part and inside those
6 square openings.

7 And the purge tower that's not still
8 connected to the platform, the build foundation, would
9 be support material. And once it failed, that -- that
10 purge tower failed, it -- it delaminated from that layer
11 on the -- on the foundation, then that purge material
12 actually ended up in your part. And you can see that
13 there, which is a great example of the challenges with
14 purging. And that's why you purge into a bucket, to get
15 the balance of material out of the way.

16 Q. Regarding the delamination of the support purge
17 tower that you just mentioned, did you make any
18 adjustment to the printing process to correct for or
19 account for that issue?

20 A. Well, in this particular case, what we did is
21 we went from two purge towers to one with the
22 alternating, which is depicted in the other photos.

23 Q. How would using a single purge tower correct
24 the delaminating issue?

25 A. Well, the -- the delaminating issue is, in this

1 case -- so this is an example of what we were -- we were
2 trying to eliminate the purge bucket. So this example
3 is a case where -- this is where we were working on --
4 well, we're not going to use a purge bucket. We're
5 going to combine the purge and the purge tower into a
6 single operation.

7 And ultimately, this is a great example of
8 why that failed, is particularly where support
9 material -- the SR30, which is a soluble material, it's
10 very hydroscopic. So it loves moisture, so it oozes
11 more.

12 So as you can see with the part material,
13 we -- we could probably get by without a purge because
14 we were -- we were able to use -- combine the purge and
15 the purge tower into one, and that worked pretty good.
16 But on the support side, we never could. We just could
17 not control that amount of ooze, and you'd need to purge
18 more material and it just didn't work out. And that's
19 why it broke off, because there's that big glob of
20 material and when you'd come and try to extrude over
21 that, it would catch it and break it off.

22 Q. How did printing a single print tower solve
23 that problem?

24 A. Well, when we're doing the single one, we were
25 also using the purge bucket. So we weren't able to

1 solve it without a purge bucket. It's possible that
2 they have in the past four or five years that I'm not
3 aware of, but we could never quite achieve that.

4 Q. The images in paragraph 25 show a different
5 object than the object represented in the CMB file shown
6 in the screenshots in your declaration; is that correct?

7 A. That is correct.

8 Q. The images in paragraph 25 show a different
9 purge tower shape than represented in the CMB files
10 shown in the screenshots in your declaration; is that
11 correct?

12 A. That is correct.

13 Q. Which purge tower shape was used earlier, the
14 shape shown in the images in paragraph 25 or the shape
15 shown in the CMB file screenshots?

16 A. I guess I don't recall which one was used
17 first. The -- the image on paragraph 25, that one was
18 more -- we used that one more when we're trying to not
19 use a purge bucket. And what I don't recall is if we
20 started with the -- with the -- just the diamond-shape
21 version and then we went to this and still couldn't get
22 it to work and went back or if -- yeah, I don't -- I
23 don't recall.

24 But ultimately, the version that's on
25 paragraph 25 did not get used, only because the other

1 one we didn't -- used less material and less time, so it
2 was just a little more efficient.

3 Q. What factors prompted the change to the design
4 of the shape of the purge tower?

5 A. I guess -- like I just mentioned, I mean, there
6 was an iterative process coming up with the design. We
7 wanted the smallest footprint possible that would be
8 stable up to five inches. And like I said, the reason
9 that we didn't use, ultimately, the one that's on
10 paragraph 25 is because it didn't provide any
11 advantages, and the other version, like I said, the
12 total tool path length is shorter, so it built quicker
13 and used less material. And, you know, since we're
14 using a purge bucket anyway, it worked just fine.

15 Q. I want to go back to page 9 of your
16 declaration.

17 A. Okay.

18 Q. I want to talk about this CMB file we've been
19 discussing all day again. If this CMB file were
20 implemented on a Stratasys printer, would that process
21 involve purging using a purge bucket in addition to the
22 purge tower?

23 A. Yes.

24 Q. Did you take any pictures of the build
25 represented by the CMB file shown here?

1 A. No.

2 Q. Was the Insight software ever implemented to
3 automatically implement a purge tower into a build or
4 did the system require the user to upload an STI file
5 already having the purge tower included?

6 MR. KAPADIA: Objection. Assumes facts not
7 in evidence. Objection. Beyond the scope of the
8 declaration.

9 THE WITNESS: Repeat the question, please.

10 Q. BY MR. BISENIUS: Was the Insight software ever
11 implemented to automatically implement a purge tower
12 into a build or did the system require that the user
13 upload an STL file already having a purge tower included
14 in the design?

15 MR. KAPADIA: Objection. Assumes facts not
16 in evidence. Objection. Beyond the scope of the
17 declaration.

18 THE WITNESS: So it automatically does. So
19 in Control Center, when you pack a part or parts in
20 there, there -- there was an option where it said
21 "include purge tower." And then you click that, and it
22 would put the purge tower in.

23 So you didn't need an STL of the purge
24 tower every time. Basically Control Center, there's a
25 CMB file for a purge tower sitting in there, in the

1 software, and it brings that in. And if you wanted to
2 only build as tall as the last layer of support, you can
3 use that option, and then within Control Center it
4 generates a new CMB basically combining the CMBs of the
5 purge part and your part or -- and/or parts together to
6 create a new CMB.

7 Did that make sense?

8 Q. BY MR. BISENIUS: When was the "include purge
9 tower" functionality added to the Insight software?

10 MR. KAPADIA: Objection. Beyond the scope
11 of the declaration.

12 THE WITNESS: That is a question that I
13 cannot answer. I do not remember when that actually
14 happened.

15 Q. BY MR. BISENIUS: Was this "include purge
16 tower" functionality ever added to the Print Wizard
17 software?

18 MR. KAPADIA: Objection. Beyond the scope
19 of the declaration.

20 THE WITNESS: Again, I -- I am not familiar
21 with Print Wizard, so I do not know.

22 Q. BY MR. BISENIUS: I'd like to turn to Exhibit C
23 of your declaration, which starts on page 116.

24 A. Okay.

25 Q. In Exhibit C of your declaration, the metadata

1 for this image indicates that it was taken at 11:19 PM;
2 is that correct?

3 A. Yes, it appears so.

4 Q. Do you recall why this photograph was taken so
5 far outside of normal working hours?

6 A. No, I do not.

7 MR. BISENIUS: Let's take a five-minute
8 recess. I might be done, but I just want to check my
9 notes.

10 Let's say -- let's meet on the hour. We'll
11 do seven minutes.

12 MR. KAPADIA: Okay.

13 (A recess was held from 11:54 a.m. to 12:01 p.m.)

14 MR. BISENIUS: Back on the record.

15 Q. BY MR. BISENIUS: Earlier today, you testified
16 that in the 2010 to 2011 time frame, you would use
17 Insight software to convert SML files to CMB files; is
18 that correct?

19 A. That's correct.

20 Q. During the 2010 to 2011 time frame, what
21 software did you, generally, use to generate the STL
22 files?

23 A. If it was an STL file that we created, it would
24 be with SOLIDWORKS.

25 Q. In the 2010 to 2011 time frame, was the Insight

1 software compatible with STL files generated using other
2 software other than SOLIDWORKS?

3 A. Yes.

4 Q. What problem does the purge tower functionality
5 described in the '713 patent aim to solve?

6 A. The main problem that it solves is getting the
7 extruder, the liquefier, into a known state so that when
8 you began building on your part, the control -- the
9 extrusion control you're seeing in particular was in a
10 known state so that you could make -- make sure that
11 your seam was of the highest quality.

12 Q. Did the purge tower functionality address
13 nozzle oozing?

14 A. It -- it addressed the affect -- the negative
15 affect of nozzle oozing.

16 Q. Is nozzle oozing only a problem when heating is
17 applied?

18 A. Well, it -- it -- it's a direct function of
19 heat. I mean, you could be -- even when heat is not
20 applied but it's still hot and is cooling down, the ooze
21 can still happen.

22 Now, generally speaking, the -- the -- one
23 of the primary contributors to the ooze is moisture in
24 the material. And of course once you heat moisture up,
25 it turns to steam and creates ooze. I mean, ooze can --

1 there's other things that can contribute to ooze. Like
2 if your material is hot for a long time, it begins to
3 degrade, its viscosity lowers, and then you get ooze.
4 And that's why there's standby temperatures and things
5 like that to try to mitigate that.

6 Q. You mentioned earlier that you've been deposed
7 twice prior to today. Prior to this proceeding, had you
8 ever submitted a written declaration in IPR or court
9 proceeding?

10 A. In my previous deposition experiences, no, I
11 did not.

12 Q. To the best of your knowledge, has a court ever
13 rejected your testimony?

14 A. No.

15 Q. To the best of your knowledge, has a court ever
16 criticized your testimony?

17 A. No.

18 MR. BISENIUS: No further questions. I'll
19 pass the witness.

20 MR. KAPADIA: All right. Let's take a
21 break. We are at the lunch hour. Should we do a maybe
22 a 20-minute break or something so if you want to grab a
23 bite to eat, Gary, you can do that? We could be longer
24 too, but --

25 MR. BISENIUS: I -- I -- are you planning

1 on having a long line of questioning?

2 MR. KAPADIA: I don't know.

3 MR. BISENIUS: Okay. Yeah, 20 minutes
4 works for me. 25 after the hour.

5 MR. KAPADIA: Okay. Yeah, let's do 25
6 after the hour.

7 MR. BISENIUS: Great.

8 MR. KAPADIA: Okay.

9 (A recess was held from 12:06 p.m. to 12:27 p.m.)

10 MR. KAPADIA: Okay. All righty. Guess
11 we're back on the record. I do not have any further
12 questions. And so, I just want to thank Mr. Larson for
13 his time, and that's it.

14 MR. BISENIUS: All right.

15 THE REPORTER: Before we're off the record,
16 who all needs a rough draft and do we know when we need
17 the final?

18 MR. BISENIUS: So I think I get a rough
19 with the real time?

20 THE REPORTER: It's not with real time, but
21 I think you have a standard.

22 MR. BISENIUS: If I can get the official by
23 next week Tuesday, I think that would work. So that's
24 the the 18th.

25 THE REPORTER: Mr. Kapadia, do you know

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1 what you need?

2 MR. KAPADIA: Well, I'm going to ask for a
3 rough by the 17th. Is that --

4 THE REPORTER: The rough will be done in an
5 few minutes.

6 (Whereupon proceedings concluded at 12:28 p.m.)

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NOVEMBER 12, 2025

PAGE	LINE	CHANGE
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REASON

[illegible]

Signature: _____ **Date:** _____

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1 I, GARY LARSON, Ph.D., have read the foregoing
2 deposition and hereby affix my signature that same is
3 true and correct, except as noted above.

4

5

6

GARY LARSON, Ph.D.

7

8 THE STATE OF _____)

9 COUNTY OF _____)

10 Before me _____ on this day
11 personally appeared GARY LARSON, Ph.D., known to me (or
12 proved to me under the oath or through
13 _____) (description of identity card or
14 other document) to be the person whose name is
15 subscribed to the foregoing instrument and acknowledged
16 to me that they executed the same for the purposes and
17 consideration therein expressed.

18 Given under my hand and seal of office this
19 _____ day of _____, 2025.

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22

NOTARY PUBLIC IN AND FOR

23

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THE STATE OF _____

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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN TUOZHU TECHNOLOGY	§	Petition for Inter Partes
CO., LTD.	§	Review of U.S. Patent No.
	§	9,421,713
Petitioner,	§	
	§	
VS.	§	
	§	Case No. IPR2025-00321
STRATASYS, INC.,	§	
	§	
Patent Owner.	§	
	§	

REPORTER'S CERTIFICATION
ORAL AND ZOOM
DEPOSITION OF GARY LARSON, Ph.D.
NOVEMBER 12, 2025

I, Nicole A. Hatler, Certified Shorthand
Reporter No. 11275 in and for the State of Texas, hereby
certify to the following:

That the witness, GARY LARSON, Ph.D., was duly
sworn by the officer and that the transcript of the oral
deposition is a true record of the testimony given by
the witness;

That the deposition transcript was submitted
on _____ to the witness by and

1 through his attorney, AASHISH KAPADIA, for examination,
2 signature and return to me by _____;

3 That the amount of time used by each party at
4 the deposition is as follows:

5

6 PATRICK BISENIUS: 2 hours, 28 minutes;

7 AASHISH KAPADIA: 0 hours, 00 minutes;

8

9 That pursuant to information given to the
10 Deposition officer at the time said testimony was taken,
11 the following includes counsel for all parties of
12 record:

13

14 PATRICK BISENIUS, Attorneys for the Petitioner;

15 AASHISH KAPADIA, Attorneys for Patent Owner;

16

17 I further certify that I am neither counsel
18 for, related to, nor employed by any of the parties or
19 attorneys in the action in which this proceeding was
20 taken, and further that I am not financially or
21 otherwise interested in the outcome of the action.

22

23 Further certification requirements pursuant to
24 Rule 203 of TRCP will be certified to after they have
25 occurred.

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Certified to by me this 18th day of NOVEMBER,
2025.



Nicole A. Hatler Texas CSR 11275
Expiration Date: 11/30/26
California CSR 13730, EXP 6/30/26
New Mexico CCR 588, EXP 12/31/25
NHatler@Ymail.com

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FURTHER CERTIFICATION UNDER RULE 203 TRCP

The original deposition of GARY LARSON, Ph.D.,
_____ was / _____ was not returned to the deposition
officer on _____;

If returned, the attached Changes and Signature
page contains any changes and the reasons therefor;

If returned, the original deposition was delivered
to MR. PATRICK BISENIUS, the Custodial Attorney;

That \$_____ is the deposition officer's
charges to the Petitioner for preparing the original
deposition transcript and any copies of exhibits;

That the deposition was delivered in accordance
with Rule 203.3, and that a copy of this certificate was
served on all parties shown herein on and filed with the
Clerk.

Certified to by me this _____ day of
_____, 2025.

Nicole A. Hatler Texas CSR 11275
Expiration Date: 11/30/26
California CSR 13730, EXP 6/30/26
New Mexico CCR 588, EXP 12/31/25
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