

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

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STRAUMANN USA, LLC,

Petitioner,

V.

Case No.: IPR2025-00956

PGR2025-00054

Patent 12,156,781

SMART DENTURE CONVERSIONS, LLC,

Patent Owner.

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745 Fifth Avenue
New York, New York 10151
February 13, 2026
8:07 a.m.

PATENT OWNER'S NOTICE DEPOSITION OF JOHN
B. BRUNSKI, PH.D, held at the above time and
place, and taken before Dorene Glover, an
Registered Skilled Reporter and Notary Public
within and for the State of New York.

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A P P E A R A N C E S :

HAUG PARTNERS, LLP.
Attorneys for Plaintiff
745 Fifth Avenue
New York, New York 10151
BY: MARK A. CHAPMAN, ESQ.

SMITH ANDERSON
Attorneys for Defendants
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BY: JOHN GIBBONS, ESQ.

1

2 J O H N B. B R U N S K I, PH.D,
3 the witness herein, having first been duly
4 sworn by a Notary Public of the State of New
5 York, was examined and testified as follows:

6 EXAMINATION BY

7 MR. GIBBONS:

8 Q. Good morning. Could you please
9 state your name for the record?

10 A. John Brunski, B-R-U-N-S-K-I.

11 Q. And before we start, I just wanted
12 to put on the record counsel have agreed to use
13 this deposition testimony in both IPR
14 2025-00956. As well as PGR 2025-00054. Both
15 before the PTAB. My name is John Gibbons from
16 Smith Anderson. We represent the patent owners
17 Smart Denture Conversions, LLC, and do you want
18 to say?

19 MR. CHAPMAN: Mark Chapman at Haug
20 Partners for the petitioner Straumann
21 USA and the witness.

22 Q. So have you been deposed before?

23 A. Yes.

24 Q. Okay. How many times?

25 A. I have to look at my CV, but I'm

1 BRUNSKI, Ph.D

2 going to say roughly six or seven times.

3 Q. So to make sure that the court
4 reporter's able to get everything, make sure we
5 speak clearly, no uh-huh's or nods; is that
6 okay?

7 A. Yes.

8 Q. Your counsel, Mr. Chapman, might
9 object when I ask a question. He'll say
10 objection relevance, objection form. But
11 unless he tells you not to answer, you still
12 answer after the objection. Does that make
13 sense?

14 A. Okay.

15 Q. If you need a break, we're happy to
16 take a break. But if there's a question
17 pending, you'll need to answer the question
18 before we take a break.

19 A. Okay.

20 Q. And if you don't understand one of
21 my questions, go ahead and ask for
22 clarification, and if you answer the question
23 without asking for clarification, I'll just
24 assume that you understood the question; is
25 that fair?

1 BRUNSKI, Ph.D

2 A. Okay.

3 Q. And then last, during a break or a
4 lunch, under the PTAB rules, counsel's not
5 allowed to speak with you about the substance
6 of your testimony, except to determine
7 privilege, so whenever we return from a break
8 or from lunch, I'll just ask you if you spoke
9 with your counsel about your testimony.

10 A. Okay.

11 Q. And I'm not asking you anything
12 else about what you talked about, just about
13 that.

14 A. Okay.

15 Q. Does that make sense --
16 So you've been deposed, you said
17 five or six times?

18 A. In that ballpark, yeah.

19 Q. Have you testified at a trial
20 before?

21 A. Yes.

22 Q. In how many?

23 A. I think three. I'd have to go
24 through my list but about three is about the
25 estimate.

1 BRUNSKI, Ph.D

2 Q. Okay. And did you testify as an
3 expert or as a party?

4 A. As an expert.

5 Q. Okay. Have you ever had your
6 testimony in a trial or a proceeding excluded?

7 A. Not that I know of.

8 Q. Okay. Are you aware of opposing
9 counsel asking the court to exclude your
10 testimony in any of those cases?

11 A. No.

12 Q. Okay.

13 A. I'm not aware of that.

14 Q. Are you aware of any court or
15 agency that criticized your testimony?

16 A. I'm not aware of any, no.

17 Q. When were you retained to provide
18 expert services in this case?

19 A. To the best of my recollection, I
20 think it was early 2025.

21 Q. Okay. And your declaration says
22 you're being compensated at your standard
23 hourly rate. What's your standard hourly rate?

24 A. \$475 an hour.

25 Q. And how many hours did it take you

1 BRUNSKI, Ph.D

2 to complete your expert reports in the IPR and
3 the PGR?

4 A. That's tough to estimate. I'm
5 going to say on the order of probably 20.
6 Something like 20 hours.

7 Q. 20?

8 A. Of, you know, meetings and
9 individual work.

10 Q. Okay.

11 A. Jut an estimate.

12 Q. Did you have any assistance helping
13 you prepare the report?

14 A. Well, counsel and I certainly
15 talked about Zoom calls and in person, yes.

16 Q. Sure. Did you have any, for
17 example, research assistants helping you?

18 A. No.

19 Q. Okay. So it was just you in
20 conjunction with your counsel?

21 A. Correct.

22 Q. Okay. On your CV, let me give you
23 your declaration, so this is Exhibit 1002 in
24 the IPR. Is this the report that you filed in
25 the IPR?

1 **BRUNSKI, Ph.D**

2 A. Yes.

3 **Q. On page 233?**

4 A. Are you going by the regular page
5 numbers or the lower left?

6 **Q. Lower left, yeah.**

7 A. 233.

8 **Q. Yeah. So this is your CV?**

9 A. Okay. All right.

10 **Q. Number five, it says, that you did**
11 **work for Theratechnologies testing snap on over**
12 **denture prosthesis. Could you tell me a little**
13 **bit about that?**

14 A. It was a while back, but it was
15 basically a small project where we were
16 interested in how -- well, the retention of an
17 overdenture on things that were called snap on
18 fixtures that would -- on which they would
19 snap. So they were interested in sort of the
20 force to take off the overdenture from these
21 small snap on fixtures, and I'm trying to
22 remember exactly if we also -- not sure whether
23 we made any estimates of loading, 'cause the
24 other thing I often worked on is loading of
25 implants that support an overdenture. I can't

1 BRUNSKI, Ph.D
2 remember in that project where -- if we did any
3 studies on actually trying to estimate the
4 loading to the implants supporting -- this was
5 all done on the table top, so it was not in
6 patients.

7 Q. Sure.

8 A. But it was basically to investigate
9 the biomechanics of this particular overdenture
10 system.

11 Q. And it was an overdenture system
12 that Theratechnologies had produced?

13 A. As far as I can recollect, yeah.
14 (Reporter clarification)

15 Q. You said this was a while ago, when
16 would that have been?

17 A. 25 years ago.

18 Q. Okay. So around 2000, give or take
19 five or so years?

20 A. Yeah, it's a while back.

21 Q. And do you remember what
22 specifically the snap on mechanism would have
23 been?

24 A. Not specifically. Something along
25 the lines of like a ball in socket type of a

1 BRUNSKI, Ph.D

2 connection.

3 Q. Okay.

4 Do you know if Theratechnologies
5 ever patented that -- that product?

6 A. That I have no idea.

7 Q. Was this designed to be used with a
8 closed tray in pressure taking technique?

9 A. The project didn't really have
10 anything to do with impression taking, per se.
11 It was more just, how does the overdenture
12 anchor to the snap on, 'cause the basic idea
13 was the overdenture was snapped onto them and
14 that was how it was attached as a functioning
15 device.

16 Q. That was the permanent connection?

17 (Reporter clarification)

18 A. Yes, ideally.

19 Q. Essentially?

20 Okay.

21 And then in number ten on this
22 page, you consulted or assisted in product
23 development for Nobel Biocare?

24 A. Correct.

25 Q. Could you explain a little bit more

1 **BRUNSKI, Ph.D**

2 **about what you were doing for Nobel?**

3 A. That project had to do with the
4 development of a new implant system which
5 ultimately became known as the N1. And I
6 worked on that project with my colleague at
7 Stanford, Jill Helms, and she is more of a bone
8 expert, and the two of us together gave input
9 into, you know, the design team that was
10 helping to design this implant for human use.

11 **Q. So she was more of the bone expert**
12 **and you were more of the implant expert?**

13 A. Right.

14 **Q. Okay. And so this entire time,**
15 **2012 through 2022, you were working on that N1**
16 **product?**

17 A. There was -- broadly that time, it
18 encompasses other things that I did as well for
19 Nobel with -- there was another implant system
20 called the Trefoil, and I worked on that with a
21 colleague of mine, who I was in a consulting
22 business with, Dr. Kenji Higuchi. And this
23 implant system was meant to have three implants
24 supporting a prosthesis which would be done in
25 the same day. So it was like kind of a version

1 BRUNSKI, Ph.D
2 of the same day teeth that you sometimes read
3 about. But it was supported by three implants
4 and it was called the Trefoil. So that -- in
5 that time period, I think that includes some
6 work that I did on that.

7 Q. So would that be similar if it is
8 supported by three implants, would that be
9 similar to an on all four type installation?

10 A. Yes.

11 Q. Did you work on any other products
12 at Nobel in your time there?

13 A. Not that I can think of, no.

14 Q. Okay. Have you done any work on
15 any products in -- that are involved in the
16 denture conversion process, the impression
17 taking process?

18 A. Not specifically, no.

19 Q. Okay. Are you aware of how the
20 denture conversion process works and the
21 different techniques for it?

22 A. In some of the material that I've
23 reviewed for this case, yes.

24 Q. Okay. Were you familiar with the
25 process before your work on this case?

1 **BRUNSKI, Ph.D**

2 A. I was familiar with general
3 impression taking, yes.

4 **Q. Okay and --**

5 A. And you know what is typically done
6 with impressions, yeah.

7 **Q. Were you familiar with the open
8 tray and closed tray techniques?**

9 (Reporter clarification)

10 A. Yes.

11 **Q. In your experience, what products
12 were on the market for the open tray and closed
13 tray techniques, let's say, in 2000?**

14 A. I can't give you an encyclopedic
15 rendition of that, but certainly I was aware of
16 copings and screws that fastened the coping to
17 the abutment, and you know, the general
18 process, I would see that presented in
19 meetings, so I was generally familiar with that
20 concept.

21 **Q. Do you remember any specific
22 products like what the average product
23 prosthodontist would have used for an open tray
24 technique in 2000 would be?**

25 MR. CHAPMAN: Objection to form.

1 BRUNSKI, Ph.D

2 A. I don't have a clear answer for
3 that.

4 **Q. Okay.**

5 A. I guess I would just say, I was
6 familiar with the general process of impression
7 taking as you would see it done by clinicians,
8 but whether it was open or closed tray, that
9 wasn't top of mind at that time for me, I would
10 say.

11 **Q. Okay. Was it top of mind in the**
12 **field?**

13 A. I can't answer that one way or the
14 other, I'm not sure.

15 **Q. Would it be fair to say that you**
16 **could buy the components for open tray and**
17 **closed tray techniques from any manufacturer of**
18 **dental products?**

19 A. I guess what I would -- my
20 experience was that typically the implant
21 manufacturers usually had an array of parts
22 that would be used during impression taking
23 because naturally they're working with the
24 clinician, and they want to go from sort of
25 start to finish --

1 BRUNSKI, Ph.D

2 (Reporter clarification)

3 A. The company would want to have for
4 the clinician the whole realm of -- the whole
5 suite of products that could be used when doing
6 implant case, so they would often have
7 impression supplies and techniques available.

8 **Q. So this wasn't, these techniques**
9 **weren't specific to any manufacturer's**
10 **products?**

11 A. Well, I think different implant
12 companies had their own sort of spin on
13 different things, different sorts of components
14 that in many cases would serve equivalent
15 functions, but you know, each company would
16 have its own kind of array of stuff.

17 **Q. Okay. Were there any significant**
18 **changes in open tray techniques since, let's**
19 **say 2000, in how that's done generally?**

20 MR. CHAPMAN: Objection to form.

21 A. I can't think of an exact time
22 point where I thought about that one way or the
23 other. So I'm not sure.

24 **Q. And the same thing for closed tray,**
25 **were there any changes in how the closed tray**

1 **BRUNSKI, Ph.D**

2 **technique is done?**

3 MR. CHAPMAN: Objection to form.

4 A. I'm not sure.

5 **Q. Do you know -- I guess, which was**
6 **developed first, the open tray or the closed**
7 **tray technique?**

8 A. Typically, the open tray was one we
9 would hear about, you know, with long screws to
10 hold down the coping.

11 (Reporter clarification)

12 **Q. And where would you hear about**
13 **that?**

14 A. Often it would be at conferences
15 where clinicians would be presenting a case and
16 going through methodologies and that sort of
17 thing.

18 **Q. When was the first time you heard**
19 **about the open tray technique?**

20 A. Well, I really can't say. I'm not
21 sure.

22 **Q. Would it have been before 2000?**

23 A. Probably. But you know, I don't
24 have a clear recollection on that.

25 **Q. Okay. And then at what point was**

1 BRUNSKI, Ph.D

2 the closed tray technique developed?

3 A. I'd have to look in my -- I think
4 we reference a patent from Kumar, and I'm not
5 sure that's the mark and time when it was
6 developed, but that would be one place to
7 start.

8 Q. Okay. And if Kumar referenced a
9 closed tray technique as prior art, then it
10 would have been before that, right?

11 A. I guess, yes.

12 Q. Okay. Were you aware of the
13 patents at issue in this -- these proceedings
14 before your engagement?

15 A. Oh, let's see. Which ones are we
16 talking about?

17 Q. So, there's patent 11937992.

18 A. Okay, 992.

19 Q. That's in the IPR, and then patent
20 12156781 is in the PGR?

21 A. Right. I was not aware of them.

22 Q. Okay. You never heard of them,
23 the -- sorry, let me start over.

24 Had you heard of Smart Denture
25 Conversions before this engagement?

1 **BRUNSKI, Ph.D**

2 A. No.

3 **Q. Had you heard of the NeoConvert**
4 **product before this?**

5 A. No.

6 **Q. Is it safe to say that you were not**
7 **involved, I guess, in the denture conversion**
8 **space before this engagement?**

9 A. I would say -- well, I was not
10 specifically involved in that space of --
11 except that I mean in the dental world, I'm
12 involved with dental implants, so to the extent
13 there's some overlap between dentistry and
14 impression methods and stuff I do, I think
15 there was some overlap, but it wasn't my
16 general main focus.

17 **Q. You're not a practicing dentist or**
18 **prosthodontist, correct?**

19 A. That's correct.

20 **Q. Have you ever seen or -- well, have**
21 **you ever seen the Smart Denture Conversions**
22 **products?**

23 A. Yes, by looking through the --
24 well, there's a section of one of the manuals
25 that's in my report.

1 BRUNSKI, Ph.D

2 Q. Okay. So just the documents?

3 A. Yes.

4 Q. You've never actually held one or
5 used one?

6 A. I have not used one.

7 Q. Is that true for the NeoConvert
8 products as well?

9 A. That's true.

10 Q. Okay. Let's go to -- see page --
11 page 87 of your report. It's going to be
12 paragraph 138.

13 MR. CHAPMAN: Throughout the day
14 are you going to use the lower left hand
15 page number?

16 MR. GIBBONS: I will, yeah.

17 A. Okay, yeah.

18 MR. CHAPMAN: Which paragraph did
19 you say?

20 MR. GIBBONS: 138.

21 MR. CHAPMAN: Thank you.

22 Q. You see where it says: None of the
23 priority applications contain an adequate
24 written description of or enables the full
25 scope of these limitations, the priority

1 BRUNSKI, Ph.D

2 applications disclosed only one temporary screw
3 embodiment with the a different thread pattern
4 or profile.

5 So it's your position that the
6 priority applications don't adequately describe
7 the full scope of the 992 patent's limitations,
8 because they disclose only one temporary screw
9 embodiment with a different thread pattern or
10 profile, correct?

11 A. On the rest of the sentence, after
12 profile it says the asymmetric buttress thread
13 of the temporary screw of Figure 75, which is
14 different than the symmetric thread of
15 definitive screw of Figure 9.

16 Q. So, right. So that's the one screw
17 embodiment with a different thread pattern or
18 profile?

19 A. Yes.

20 Q. And because the priority
21 applications according to your report only
22 disclose this one embodiment, therefore they
23 don't contain an adequate written description?

24 A. That enables the full scope of the
25 limitations.

1 BRUNSKI, Ph.D

2 Q. Okay. So if the -- if the first --
3 if the premise of that isn't true, if the
4 priority applications disclose more than one
5 embodiment, then your conclusion doesn't follow
6 after that, correct, that would invalidate your
7 conclusion?

8 A. Well, I'd have to see the other
9 embodiment, but yes.

10 Q. Well, did you look at the priority
11 applications?

12 A. Yes.

13 Q. And you only found one embodiment?

14 A. Yes.

15 Q. And so, if it's not true that
16 there's only one embodiment disclosed, then
17 based on your report, the conclusion is
18 invalid, correct?

19 A. Correct.

20 Q. Okay. And there's nothing in your
21 report about how many embodiments would be
22 necessary to be adequate, correct?

23 A. Correct.

24 Q. So this conclusion rises and falls
25 with the idea that only one embodiment is

1 BRUNSKI, Ph.D

2 disclosed?

3 A. I'm not sure it would -- would you
4 just repeat that again?

5 Q. Sure. So, this conclusion that
6 none of the priority applications support the
7 full scope of the thread pattern limitations,
8 that rises and falls with the idea that only
9 one embodiment is disclosed?

10 MR. CHAPMAN: Objection to form.

11 A. Well, just -- I think I would just
12 stick to the idea that the priority
13 applications there's only one at this point.

14 Q. And you read the whole -- you read
15 all of the priority applications?

16 A. Yes.

17 Q. In your review, how did you
18 determine how an embodiment, or whether there
19 were other embodiments disclosed?

20 A. Well, I looked to see what their
21 features were. And how they fit in the claim
22 statements.

23 Q. Okay. Did you look at the
24 drawings?

25 A. Yes.

1 BRUNSKI, Ph.D

2 Q. All of the drawings?

3 A. As best as I can recollect.

4 Q. Okay. Did you look at the written
5 specifications as well?

6 A. Yes.

7 Q. All of them?

8 A. As I -- as best as I can recollect.

9 Q. Okay. Let me give you -- let me
10 give you Exhibit 1012 in both the IPR and PGR.
11 Have you seen this exhibit before?

12 A. Yes.

13 Q. And this is the 361 application,
14 correct?

15 A. Yes.

16 Q. And when was that filed?

17 A. Filing date is October 8th, 2019.

18 Q. So if any material disclosed in
19 this application would have priority over the
20 Kofford patent?

21 (Reporter clarification)

22 MR. CHAPMAN: Objection to form.

23 A. And I'm sorry, what is the date for
24 the Kofford, it's 2022?

25 Q. Let me get that out.

1 BRUNSKI, Ph.D

2 So let me give you Exhibit 1013.

3 And that's the Kofford patent.

4 A. Okay.

5 Q. The date on there is April 26,
6 2022, correct?

7 A. Correct.

8 Q. So in 1012, the 361 application, if
9 the embodiments disclosed here would have
10 priority over the Kofford application or the
11 Kofford patent, correct?

12 MR. CHAPMAN: Objection to form.

13 A. Could you repeat that? I didn't
14 get it all.

15 Q. So if -- well, let me rephrase
16 that. So if the 992 patent can claim priority
17 to the 361 application, based on the
18 disclosures there, then that would predate the
19 Kofford patent, correct?

20 A. If -- just repeat it once more.

21 Q. Sure. Sure.

22 If the 992 patent can claim
23 priority to the date of the 361 application?

24 A. Yes.

25 Q. That would predate the Kofford

1 BRUNSKI, Ph.D

2 patent?

3 A. Yes.

4 Q. And then therefore the Kofford
5 patent would not be prior art?

6 A. Yeah, because we're talking about
7 October 8th, 2019.

8 Q. Right.

9 A. Yes.

10 Q. So let's go to -- actually, can you
11 show me where in the 361 application you find
12 the only disclosed embodiment?

13 A. Well, Figure 75.

14 Q. Okay.

15 A. On page 38.

16 Q. Is there a written portion as well
17 that discloses that embodiment?

18 A. Well, on page 97, there's some text
19 on -- about Figure 75.

20 Q. Okay. Which paragraph on page 97?

21 A. It's the one at the bottom.

22 Q. Okay. And it goes on to the next
23 page, page 98?

24 A. Yes.

25 Q. So in your opinion, Figure 75 plus

1 BRUNSKI, Ph.D

2 this paragraph on page 97, are the only places
3 in the 361 application that disclose a
4 temporary screw with a different thread pattern
5 or profile?

6 MR. CHAPMAN: Objection to form.

7 A. I'll have to look. Just give me
8 what page were we initially on.

9 Q. The figure.

10 A. With the paragraphs?

11 Q. Oh, the paragraphs were -- oh, of
12 your report?

13 A. No --

14 Q. Of this, okay. So paragraph -- the
15 last paragraph on page 97. And then the figure
16 was on page 38.

17 A. All right. So ask me the question
18 again, please.

19 Q. Sure. So your opinion that there's
20 only one embodiment of this screw, a screw -- a
21 temporary screw with a different thread pattern
22 or profile from the definitive screw. Your
23 opinion is that the only embodiment
24 disclosed -- that's disclosed here on page 38
25 in Figure 75 in conjunction with the paragraph

1 BRUNSKI, Ph.D

2 on page 97?

3 A. Yes.

4 Q. Okay. And did you look at the
5 other figures and the other written
6 specifications?

7 A. Yes.

8 Q. And you determined that there were
9 no such disclosures in those paragraphs or
10 figures?

11 MR. CHAPMAN: Objection to form.

12 A. Well, Figure 75 is the one that has
13 the split -- the slot and the asymmetric thread
14 and etc., yes.

15 Q. And what does the split post or the
16 slot have to do with the thread pattern
17 profiles?

18 A. That doesn't have anything to do
19 with the profiles of the threads.

20 Q. Okay.

21 So let's -- on page 97, let's start
22 from the top. It says: The inventive concepts
23 disclosed are not meant to be restrictive to a
24 temporary attachment post with standard screw
25 threads that both engage and disengage the

1 BRUNSKI, Ph.D

2 threads in the implant abutment through
3 rotations.

4 For example, alternate separable
5 temporary attachment posts embodiments are
6 possible providing features that allow the post
7 to removably hold the coping to the abutment by
8 other means than a separable cap. For example,
9 as shown in Figure 75, an alignment fastener
10 may contain a separable threaded or serrated
11 portion, that engages the screw threads in the
12 abutment for pickup, but that will release with
13 axial force after.

14 So Mr. Brunski, does for example
15 indicate that there are other embodiments or
16 that at the very least there's the possibility
17 of other embodiments?

18 MR. CHAPMAN: Objection, compound.

19 A. I take it as an example.

20 Q. Okay. And so this sentence that we
21 just read doesn't limit this to a single screw
22 embodiment?

23 A. I suppose there could be others, I
24 mean, in the grammar but, you know, okay.

25 Q. Okay. This sentence that says:

1 BRUNSKI, Ph.D

2 For example, as shown in Figure 75, an
3 alignment fastener may contain a separable
4 threaded or serrated portion that engages the
5 screw threads in the abutment, but that will
6 release with axial force after. And that
7 doesn't limit this to a asymmetric buttress
8 thread, correct?

9 MR. CHAPMAN: Objection to form.

10 A. Well, serrated is sometimes used as
11 a qualifier to asymmetric, so I mean in
12 other -- I'm not sure in this example, but I've
13 seen it as a, you know, asymmetric or serrated
14 is kind of the same thing.

15 Q. So you're saying that serrated in
16 the industry is sometimes used as a synonym of
17 asymmetric?

18 A. I don't know if that's true
19 industry wide, but in this context I would say
20 it's -- I've seen it that way.

21 Q. Could it also mean serrated in the
22 sense of having serrations or teeth on the
23 thread?

24 A. I take it that -- well, what do you
25 mean teeth on the thread, you mean the thread

1 BRUNSKI, Ph.D

2 itself has an additional geometry on it?

3 **Q. Yeah, is that another possible**
4 **meaning of this?**

5 A. I take it as a description of what
6 the thread looks like. A threaded or serrated
7 portion.

8 **Q. So threaded would refer to what**
9 **then, if serrated also means threaded?**

10 A. Well, it's talking about a portion
11 of this, of this fastener, and it has a
12 threaded or serrated portion that engages the
13 screw threads in the abutment, so it's that
14 portion that has threads that kind of look
15 serrated, that's how I'm reading that.

16 **Q. Okay. But this doesn't say that**
17 **the portion has to be a asymmetric buttress**
18 **thread?**

19 A. It doesn't say that specifically,
20 yes.

21 **Q. And then the next sentence, also**
22 **doesn't say it has to be a buttress thread,**
23 **correct?**

24 (Reporter clarification)

25 A. I'm sorry, will you repeat that?

1 BRUNSKI, Ph.D

2 Q. So if figure -- so the next
3 sentence doesn't say this has to be a buttress
4 thread, correct?

5 MR. CHAPMAN: The next sentence.

6 Q. Beginning with Figure 75 shows?

7 A. Figure 75 shows a temporary
8 attachment post -- Figure 75 says a temporary
9 tax post 39 having a slot 41 and asymmetric
10 thread or serrations 40 etc. etc. So there
11 it's calling the threads asymmetric, but not
12 buttress.

13 Q. Not buttress.

14 So the buttress thread limitation
15 that you reference in -- or not limitation,
16 sorry. The buttress thread that you reference
17 in paragraph 138 of your declaration, where
18 does that come from?

19 A. I'm not sure the first time we've
20 used it. I guess as I see -- I can't answer
21 that directly. I'm not sure when it first -- I
22 mean, there are other -- yeah, I can't say
23 exactly where buttress first arose.

24 Q. But it didn't come from the
25 paragraph on page 97?

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2 A. Yeah, I don't see it on that
3 paragraph on page 97.

4 **Q. Because 97 only says threaded or**
5 **serrated, correct? Or asymmetric threads or**
6 **serrations?**

7 MR. CHAPMAN: Objection to form.

8 A. That's true.

9 **Q. Are there other well-known**
10 **asymmetric thread profiles?**

11 (Reporter clarification)

12 MR. CHAPMAN: Objection to form.

13 A. Not that I'm aware of. I would
14 think that the buttress is certainly one that
15 comes to mind.

16 **Q. Are there other asymmetric buttress**
17 **thread profiles besides -- sorry, let me start**
18 **over.**

19 **Are there other asymmetric thread**
20 **profiles besides the buttress thread that are**
21 **well-known?**

22 A. That are well-known, I'd have to
23 look. I mean, there are different even within
24 buttress threads, there are different versions
25 of it. Different angles and things that

1 BRUNSKI, Ph.D

2 qualify or define a buttress thread.

3 **Q. What are those?**

4 A. Well, sometimes it's angles that
5 relate to the face that's more or less
6 perpendicular to the axis of the screw, versus
7 the slant of the other face. I guess in this
8 context, they're talking about the approximate
9 that face and the distal phase. So there's --
10 I mean, in the design of buttress threads,
11 there can be different geometries and they're
12 still called a buttress thread.

13 **Q. So you can vary different**
14 **characteristics of the buttress thread to**
15 **create essentially a different thread profile**
16 **within the category of buttress threads,**
17 **correct?**

18 A. Yes.

19 **Q. And so you can make the angle --**
20 **let me see. You can make the proximal thread**
21 **angle, the thread angle that's closer to the**
22 **head of the screw greater or smaller?**

23 A. Yes.

24 **Q. And you can make the distal thread**
25 **angle that's close to the tip of the screw, you**

1 BRUNSKI, Ph.D

2 can make that greater or smaller?

3 A. Yeah. Yes, I mean it depends on
4 this proximal and distal, it depends on whether
5 you're worrying about reverse buttress or
6 regular buttress, you know, all that.

7 Q. Sure.

8 A. But I take your point.

9 Q. You can also vary the thread depth,
10 correct?

11 A. Correct.

12 Q. And for example, if you had a
13 buttress thread that had a very small thread
14 depth and a very small thread angle, that would
15 have different characteristics than a large
16 thread depth with a large thread angle,
17 correct?

18 MR. CHAPMAN: Objection to form.

19 A. And clarify for me what you're
20 using as thread depth.

21 Q. The distance between the peak of
22 the thread and the diameter or the post?

23 A. Okay.

24 Q. Is that what you would call thread
25 depth?

1 BRUNSKI, Ph.D

2 A. For this discussion I think we
3 could do it, yes.

4 Q. So buttress thread that had a small
5 depth and a small angle, would function
6 differently or have different characteristics
7 than one with a large depth and a large angle,
8 correct?

9 MR. CHAPMAN: Objection to form.

10 A. Well, certainly the geometry is
11 different, yeah.

12 Q. And would that function
13 differently?

14 A. Depends on what the function is.

15 Q. Okay.

16 Would they have different pullout
17 values -- or let me rephrase that.

18 Would a different amount of force
19 be needed to pull them out?

20 A. It's conceivable. I'd have to see
21 these particular situations we're talking
22 about.

23 Q. Essentially, you'd agree there are
24 lots of ways that you can manipulate or change
25 the buttress thread and still have it be a

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2 **buttress thread, correct?**

3 MR. CHAPMAN: Objection to form.

4 A. Well, to some degree of, you know,
5 a buttress thread is sort of a generic name and
6 there could be specific examples of it.

7 **Q. Sure. Now, there's also a reverse**
8 **buttress thread and that would also be an**
9 **asymmetric thread profile, correct?**

10 A. Yes.

11 **Q. And essentially it would be a**
12 **mirror image of a buttress thread?**

13 MR. CHAPMAN: Objection to form.

14 A. Mirror image is right, but an
15 upside down image.

16 **Q. Upside down?**

17 A. Yeah.

18 (Reporter clarification)

19 **Q. Are there other asymmetrical thread**
20 **profiles besides the buttress and reverse**
21 **buttress thread?**

22 A. Yes. And I think I've illustrated
23 one in my declaration.

24 **Q. Where is that?**

25 A. I'd have to look here. That's the

1 BRUNSKI, Ph.D
2 one we're talking about, Gracco. On page 161,
3 I have an example of an asymmetric buttress
4 thread that, you know, has a proximal face and
5 a distal face, if you want it that way. And
6 it's asymmetric, you know, looking at it, you
7 know, with an axis like this, it's not
8 symmetric about that axis. So anyway, that's
9 an example.

10 Q. Okay. And that's a buttress
11 thread.

12 Could you have a buttress thread
13 that's rounded at the top of the thread?

14 A. Well, we're getting into -- it's
15 really a terminology thing here, because
16 asymmetric is one thing, buttress again is kind
17 of a generic name to certain geometries that,
18 you know, are out in the literature, but I
19 suppose in this case, sure, you can round the
20 tips.

21 Q. So if you rounded it, you know, a
22 small amount here on the diagram on 148 that
23 would still be an asymmetric buttress thread?

24 MR. CHAPMAN: Objection to form.

25 A. Well, like I said, I think it's a

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2 terminology issue, I guess. I could still call
3 it that with this drawing that I'm making.
4 Although I would certainly agree that the
5 conventional idea of a buttress thread is kind
6 of a generic thing that you can see in
7 machinery handbooks, and using it a little bit
8 to capture the asymmetry is the main thing.

9 Q. Sure.

10 And by asymmetry you mean on an
11 axis going perpendicular to the longitudinal axis
12 here?

13 A. Correct.

14 Q. It's not symmetric around the
15 perpendicular axis?

16 A. Right, because the symmetric thread
17 is -- it's like an isosceles triangle here, so,
18 it's symmetric about that central axis.

19 Q. So, a person of ordinary skill, the
20 average engineer, would understand something to
21 be an asymmetric buttress thread even if it
22 were rounded at the top, if it had this general
23 geometry?

24 A. Not sure. Not sure. In this
25 context, I mean, I could be comfortable with

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2 it, but a nitpicker about the details of it
3 could say that we're only, you know, the
4 conventional buttress is named or is allowed to
5 be named buttress.

6 Q. And what would a nitpicker call an
7 asymmetric buttress thread with a rounded peak?

8 A. Well, certainly you'd call it an
9 asymmetric thread, that's for sure.

10 Q. Because it would still be
11 asymmetric?

12 A. Yeah.

13 Q. What if the rounding were more
14 dramatic?

15 MR. CHAPMAN: Objection to form.

16 A. Well, I'm not sure. I'm not sure.

17 Q. What if the rounding essentially
18 cut off part of the thread depth and made it a
19 shorter thread depth, would that still be an
20 asymmetric buttress thread?

21 (Reporter clarification)

22 MR. CHAPMAN: Objection to form.

23 A. Well, in my terminology, yes.

24 Q. Are there any other asymmetric
25 threads that are not buttress or reverse

1 BRUNSKI, Ph.D

2 buttress threads?

3 A. Don't know off the top of my head.

4 Q. Okay. You don't know as in you
5 can't specify them, or you don't think there
6 are?

7 A. I can't specify them.

8 Q. Okay. Let's go to page 38 in the
9 992 application?

10 MR. CHAPMAN: Which exhibit number?

11 MR. GIBBONS: 1012.

12 Q. Keep a finger on page 97. We're
13 going to be flipping back and forth.

14 A. Okay.

15 Q. And then let's go to page 38.

16 A. Okay.

17 Q. So Figure 75, what kind of threads
18 are shown there?

19 A. Well, they're asymmetric and I had,
20 you know, those are asymmetric.

21 Q. Are those buttress threads?

22 A. I have called them that, yeah.

23 Q. Now, would someone looking at this
24 understand that you can vary the
25 characteristics we discussed and it would still

1 BRUNSKI, Ph.D

2 be a buttress thread?

3 MR. CHAPMAN: Objection to form.

4 A. Yeah, I think you could have
5 different geometries.

6 Q. So looking at Figure 75, you could
7 make the thread depths much shorter, and it
8 would still be an asymmetric buttress thread or
9 an asymmetric thread?

10 MR. CHAPMAN: Objection to form.

11 A. Well, it would resemble what I
12 would have in that picture in my report, yes.

13 Q. So you could make the thread depth
14 very small, almost no thread at all, and it
15 would be still be an asymmetric thread?

16 MR. CHAPMAN: Objection to form.

17 A. Well, how small, not sure how to
18 answer that, I mean, as it gets vanishingly
19 tall --

20 (Reporter clarification)

21 A. As the thread depth gets
22 vanishingly small, then you know, you could
23 hardly see it obviously, but it would have the
24 same general shape.

25 Q. Right. So you could have an

1 BRUNSKI, Ph.D

2 embodiment of Figure 75 where the thread depths
3 are half as big as they are, as shown here?

4 A. You'd have to change the -- well,
5 could you repeat the question?

6 Q. So you could have a version of
7 Figure 75 where you make the thread depths, you
8 keep everything the same, but you just give it
9 threads that have a thread depth that's half
10 the size of the ones that's shown here?

11 (Reporter clarification)

12 A. You can do that by making the minor
13 diameter a little bit bigger.

14 Q. Right. And that would still fit
15 within the description on page 97?

16 MR. CHAPMAN: Objection to form.

17 A. Well, you would have to make sure
18 that you can still do the rotation, engage
19 these threads, so that the post and it's
20 threads can thread into the female of the
21 abutment.

22 Q. Yeah. So as long as they can still
23 do that, Figure 75 screw with shorter thread
24 depths would fit within this description?

25 MR. CHAPMAN: Objection to form.

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2 A. Yeah, I think so.

3 Q. And someone, the ordinary person in
4 this industry, would look at Figure 75 and know
5 that you can change those minor characteristics
6 and still have it be an asymmetric thread,
7 correct?

8 A. Just repeat it once more, please.

9 Q. So the ordinary person you know,
10 the ordinary engineer, would look at Figure 75
11 and they would be aware that they could adjust
12 those characteristics like the thread depth and
13 it would still be an asymmetric thread?

14 A. Yes.

15 Q. And would that be a different
16 embodiment?

17 MR. CHAPMAN: Objection to form.

18 A. I don't think so, because it would
19 still fit this description.

20 Q. Even if the threads were -- had
21 half the thread depth?

22 A. Well, they'd still be asymmetric
23 that allow the temporary attachment to be
24 inserted through rotation.

25 Q. So it would fit within the language

1 BRUNSKI, Ph.D

2 of page 97?

3 A. Yes.

4 Q. Even though it would be different
5 than what's shown in Figure 75?

6 MR. CHAPMAN: Objection to form.

7 John, give me a chance to object before
8 you answer.

9 A. I'm sorry. Repeat.

10 Q. So, an example like that would fit
11 within the language of page 97, even though it
12 wouldn't -- it would be different from Figure
13 75?

14 MR. CHAPMAN: Objection to form.

15 A. Well, it would still be an
16 asymmetric buttress design, yep.

17 Q. Yep.

18 So, let's go back to Figure 75.
19 Let's say you increase the thread depth to
20 twice the current size. Could you do that with
21 what's shown in Figure 75?

22 MR. CHAPMAN: Objection to form.

23 A. Well, I could try to make my
24 diameter larger.

25 Q. You mean smaller?

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2 A. I'm sorry, smaller.

3 **Q. Yeah. So if you made the minor**
4 **diameter smaller, you could increase the thread**
5 **depth significantly?**

6 MR. CHAPMAN: Objection to form.

7 A. I think it would occur that way,
8 yeah.

9 **Q. And that would look different from**
10 **Figure 75, correct?**

11 MR. CHAPMAN: Objection to form.

12 A. I think it would still look
13 generically like Figure 75.

14 **Q. In what sense?**

15 A. You'd still have an asymmetric
16 buttress sort of thread but with a somewhat
17 smaller minor diameter.

18 **Q. What if -- what if you vary the**
19 **thread, the proximal thread angle?**

20 MR. CHAPMAN: Objection to form.

21 A. Well, I'm trying to see how I would
22 do that. I mean the pitch might have to
23 change, but I mean, I guess you could change
24 that. You could decrease it or increase it.

25 **Q. Could you do it without changing**

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2 the pitch?

3 A. I think the pitch would have to
4 change.

5 Q. Why is that?

6 A. I think I'd have to make sketches.
7 I'm having trouble doing it mentally.

8 Q. Okay.

9 MR. GIBBONS: Do you need a break?

10 A. That would be good, yeah.

11 Q. Let's go ahead and take a
12 ten-minute break and then we'll do some
13 sketches. Off the record.

14 (Whereupon, an off-the-record
15 discussion was held.)

16 Q. So we're back on the record.

17 Dr. Brunski, did you speak -- discuss the
18 substance of your testimony with counsel?

19 A. No.

20 Q. Okay. So before we left off, we
21 were discussing Figure 75 of Exhibit 1012. And
22 you'd agree, you know, based on our discussion
23 there, you can vary the geometries of these
24 thread profiles and come out with a different
25 screw with a different thread profile, correct?

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2 MR. CHAPMAN: Objection to form.

3 A. Yes.

4 Q. And you could do that and come out
5 with a screw that still fits within a
6 description on page 97 that looks different
7 from Figure 75, right?

8 MR. CHAPMAN: Objection to form.

9 A. Well, it would still resemble
10 Figure 75.

11 Q. In what sense?

12 A. Well, it would still have the,
13 let's say, serrated kind of thread geometries.
14 Maybe some dimensions might change, but it
15 would resemble what you would see in Figure 75.

16 Q. Could you create a temporary screw
17 with a reverse buttress thread?

18 MR. CHAPMAN: Objection to form.

19 A. I think Mr. Leinsing did that in
20 one of his -- in his declaration. I think he
21 just flipped -- he took an excerpt from this
22 and just flipped it upside down.

23 Q. So you could take the threads on
24 Figure 75 and you could flip them upside down
25 and that would give you Figure 75 but with a

1 BRUNSKI, Ph.D

2 reverse buttress thread, correct?

3 A. Right.

4 Q. And would that fit within the
5 description that we read on page 97?

6 MR. CHAPMAN: Objection to form.

7 A. Well, there'd be a problem with
8 threading it in 'cause you have -- well,
9 because you messed up the thread geometries in
10 terms of fitting in the female.

11 Q. But you could -- you could make it
12 so that it had the same pitch, correct, and so
13 it would fit in the same female threads?

14 MR. CHAPMAN: Objection to form.

15 A. Well, but it wouldn't thread in,
16 'cause you got the wrong helix angle. I mean,
17 it's not designed to thread in if you flip it
18 upside down.

19 Q. There's no way you can make it
20 thread in?

21 MR. CHAPMAN: Objection to form.

22 Q. If it had a reverse buttress
23 thread?

24 MR. CHAPMAN: Objection to form.

25 A. I really can't answer without, you

1 BRUNSKI, Ph.D

2 know, I haven't sort of considered that idea in
3 depth.

4 Q. Why hadn't you considered that
5 idea?

6 A. Well, looking at it, my
7 understanding was we want something that can
8 thread in, if I now invert the part and think
9 about threading it in, it's not immediately
10 obvious to me that it would work. So I'd have
11 to think about it.

12 Q. Let's go to page 97. So the
13 sentence after where it begins with, although
14 the threads?

15 A. Yes.

16 Q. It says: Although the threads
17 could be designed to provide engagement with
18 the implant abutment threads through axial
19 motion, in the opposite direction to the
20 arrow's shown in Figure 75, rotation to a
21 design torque on engagement is generally
22 preferred.

23 What do you understand this
24 sentence to be saying?

25 A. It's trying to say that it could

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2 be -- could be designed to provide engagement
3 with the implant abutment threads through axial
4 motion, and I assume that means literally axial
5 motion, not rotation just in the axle motion
6 that's in the opposite direction to this arrow.
7 It would be generally preferred to do a
8 rotation installing of the rotation to a design
9 torque.

10 Q. So could you design them to provide
11 engagement by giving them a reverse buttress
12 thread, would that provide engagement?

13 MR. CHAPMAN: Objection to form.

14 A. Do you mean with axial motion or do
15 you mean in a threaded way, you know, have a
16 reverse buttress and thread it in?

17 Q. Well, let's talk about both of
18 those. Could you give it a buttress thread
19 where it can be pushed in with an axial motion?

20 A. I suppose you could try to design
21 that, yes.

22 Q. And that would be covered within
23 the description on page 97?

24 MR. CHAPMAN: Objection to form.

25 A. Well, no, we're talking about the

1 BRUNSKI, Ph.D
2 sentence in which you're talking about although
3 the threads could be designed to provide
4 engagement through axial motion. I thought
5 that's the context you were talking about for
6 doing the reverse buttress.

7 Q. Right.

8 A. So, okay, you can -- you know,
9 maybe that can be done. I'm not sure.

10 Q. And -- but it says rotation to a
11 design torque on engagement is generally
12 preferred?

13 A. Right.

14 Q. Could you design -- so you asked
15 about you know, do you want to push with an
16 axial motion or rotate in. Can you think of a
17 way you can design a reverse buttress thread
18 that could rotate in?

19 A. It's hard to do that on the spot.
20 I'd have to consider. I guess I could have the
21 right, you know, the right pitch and the right
22 helix angle, yeah, but I have to consider it.

23 Q. Okay. And that would look
24 different than Figure 75 because it would have
25 a reverse buttress thread, correct?

1 BRUNSKI, Ph.D

2 A. Correct.

3 Q. Okay. So let's go to your
4 declaration, paragraph 138.

5 A. Okay.

6 Q. So the sentence that says:
7 Disclose only one temporary screw embodiment
8 with a different thread pattern or profile, the
9 asymmetric of the temporary screw of Figure 75.

10 So why wouldn't the reverse
11 buttress thread disclosed on page 97 -- well,
12 would page 97 disclose a reverse buttress
13 thread?

14 MR. CHAPMAN: Objection to form.

15 A. Page 97 in the --

16 Q. On Exhibit 1012?

17 A. It doesn't disclose that
18 specifically, no.

19 Q. So it says it has an asymmetric
20 thread, correct, on page 97?

21 A. Yes.

22 Q. It says --

23 A. Asymmetric threads, yes.

24 Q. The sentence before that it says,
25 separable threaded or serrated portion, right?

1 **BRUNSKI, Ph.D**

2 A. Looking for portion -- I'm sorry.

3 Yeah, that's up above, separable thread or

4 serrated portion 40.

5 **Q. So, someone with ordinary skill**
6 **would understand that those terms could include**
7 **a reverse buttress thread, correct?**

8 MR. CHAPMAN: Objection to form.

9 Compound.

10 A. I'm not sure that would be the
11 first thing that somebody would think of. You
12 know, all these things have to be considered.

13 I'm not sure, you know, I'm not sure that a
14 reverse buttress would be what you'd first
15 think of.

16 **Q. Well, does it have to be what you**
17 **first think of to be disclosed?**

18 A. Not necessarily, no.

19 **Q. So would someone, even if it's not**
20 **the first thing they think of, would someone**
21 **looking at page 97 read it as disclosing a**
22 **reverse buttress thread in addition to a**
23 **buttress thread?**

24 MR. CHAPMAN: Objection to form.

25 A. It's a possibility.

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2 Q. So why, in paragraph 138, do you
3 limit the disclosure to only the asymmetric
4 buttress thread of Figure 75?

5 A. Well, that's what's, you know,
6 that's a description of the picture that's in
7 Figure 75. That's what one sees in the
8 diagram.

9 Q. In the diagram. But page 97 says
10 for example, correct?

11 A. Yes.

12 Q. So the diagram isn't meant to be
13 limiting or the full scope of the disclosure,
14 correct?

15 MR. CHAPMAN: Objection to form.

16 A. Well, it is meant as an example, an
17 embodiment.

18 Q. But it's not meant to exclude all
19 other possibilities?

20 MR. CHAPMAN: Objection to form.

21 A. It's an example. So it doesn't
22 exclude other examples, but there would be
23 examples along this line.

24 Q. Along what line?

25 A. Of what's depicted in Figure 75.

1 BRUNSKI, Ph.D

2 Q. So let's go to page 100 of
3 Exhibit 1012. The bottom paragraph, where it
4 says, various embodiments have been described
5 to illustrate the disclosed inventive concepts
6 not to limit the invention?

7 A. Yes.

8 Q. And doesn't that contradict what
9 you just said, that it would have to be
10 something along the lines of what's in Figure
11 75?

12 A. Well, for example, when I look at
13 Figure 75, I see a slot and I see, you know, a
14 thread that's depicted and you know, I'm not
15 trying to say that, for example, the slot
16 couldn't be wider or narrower or so there's a
17 certain amount of flexibility in that diagram,
18 but it tries to capture the sense of what's
19 going on in that embodiment.

20 Q. So you could narrow or you could
21 alter characteristics and have the same
22 embodiment you're saying?

23 MR. CHAPMAN: Objection to form.

24 A. Well, we can't -- you can't vary, I
25 mean, it's supposed to be an asymmetric thread

1 BRUNSKI, Ph.D
2 for one thing, and it's got a slot, so I'm
3 saying, I think there's certain features that
4 are supposed to be there at some degree of
5 specificity.

6 Q. If it had an asymmetric buttress
7 thread instead of a -- sorry, if it had a
8 reverse buttress thread instead of a buttress
9 thread, would you consider that to be along the
10 same lines as what's shown in Figure 75?

11 MR. CHAPMAN: Objection to form.

12 A. I'd have to -- wondering about the
13 thread in possibility, but tentatively, I would
14 say yes.

15 Q. Let's go to page 100 of
16 Exhibit 1012.

17 A. Okay.

18 Q. It says -- do you see where it
19 says, similarly in interference fit in the
20 second paragraph?

21 A. I'm on page 100 of 1012.

22 Q. Yes.

23 A. Which paragraph are you on?

24 Q. The second paragraph?

25 A. Oh, okay, sorry.

1 BRUNSKI, Ph.D

2 Q. There's a sentence that starts
3 with, similarly in interference fit?

4 A. Yes, okay.

5 Q. What's your understanding of what
6 an interference fit would be?

7 A. Typical example would be, let's
8 say, you have a hole, and you're putting in a
9 cylinder that's slightly bigger than that hole
10 and you know, fitting the two parts together,
11 just physically sliding the -- let's say, a
12 cylinder into the circular hole. So there's a
13 misfit in diameter.

14 Q. And the attachment is based on
15 friction in that case?

16 A. Right.

17 Q. Okay. So when it says: An
18 interference fit between the bottom of the post
19 with the threads may also be designed to
20 provide sufficient engagement to provide
21 adequate alignment and fixing of the coping for
22 the pickup bonding process described earlier.

23 So what in this context, what would
24 that look like to have an interference fit with
25 the female threading of an abutment?

1 **BRUNSKI, Ph.D**

2 MR. CHAPMAN: Objection to form.

3 A. Well, there's something about this
4 sentence that I remember seeing this before.
5 It troubles me the way it's written. Similarly
6 an interference fit between the bottom of the
7 post with the threads, does with the threads
8 modify post, or is the bottom of the post
9 fitting with the thread?

10 **Q. But how would you read it?**

11 A. I'm not sure. An interference fit
12 between the bottom of the post with the threads
13 may also be designed, I guess what comes to
14 mind is Mr. Leinsing's picture where he's
15 taking a cylindrical part and trying to push it
16 into a threaded chamber. So something like
17 that.

18 **Q. Okay. And you could make it so**
19 **that the post is a deformable material,**
20 **correct?**

21 A. That's what he's doing in his
22 example, yeah.

23 **Q. And so would that, that kind of a**
24 **detachment post, or that kind of a separable**
25 **fastener be disclosed here on page 100?**

1 **BRUNSKI, Ph.D**

2 MR. CHAPMAN: Objection to form.

3 A. That particular kind of fit to me
4 is difficult to imagine. But it's certainly
5 describing that here. I mean, from a practical
6 point of view, I find it hard to conceptualize
7 that one but it's described here anyway.

8 Q. Okay. And if you had for example,
9 a post made of a deformable material, in the
10 way that Mr. Leinsing's declaration depicts,
11 then you put it into an abutment with threads
12 with an axial motion, then it would attach with
13 an interference fit, correct, based on?

14 A. Yeah, because it would be sized in
15 such a way that there's a difference -- an
16 appropriate difference in diameter so that it
17 does kind of squeeze into that site.

18 Q. Would a post like the one Mr.
19 Leinsing's declaration depicts, would that have
20 a different thread profile than what's in
21 Figure 75?

22 A. Well, my -- I didn't, I don't have
23 a formal position on his whole report, but I
24 think it's -- it's a bit overly theoretical as
25 to what might be happening in that situation.

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2 You know, of his inserting that cylinder into
3 the female threads, so you know, I guess I
4 would reserve full judgment on what's going on
5 there until more time to think about that.

6 **Q. From my understanding, what do you**
7 **mean by overly theoretical?**

8 A. Well, I mean, he's assuming this
9 post is of the right deformability that this
10 could actually happen the way it's described,
11 and I was thinking as I read it that, you know,
12 depending on what materials you pick, you might
13 have to use really higher forces than you'd
14 like to shove this thing in there, which in a
15 sort of clinical situation would not make much
16 sense, because you're trying to be gentle to
17 the implants that are underneath the abutment
18 and everything. So.

19 **Q. You want to limit the resistance as**
20 **it's going in?**

21 (Reporter clarification)

22 A. Well, I would want to limit the
23 force. I wouldn't want the force to be too
24 high, 'cause it might damage the implant that's
25 trying to heal on the bone underneath. Also, I

1 BRUNSKI, Ph.D
2 would be worried about is this -- how am I even
3 going to handle this thing so that I can
4 carefully put this in and not have it -- it's
5 going to be deformable enough that it could
6 maybe squeeze in, but not so deformable that
7 it's going to fracture. I mean, I have to
8 think about the reality of that, so that's what
9 I meant.

10 Q. Sure.

11 A. Theoretically, it's interesting,
12 but I don't have a full grasp of whether that
13 would be practical or not.

14 Q. Okay. I think I understand what
15 you're saying.

16 But assuming that you could find
17 the right material, assuming, you know,
18 hypothetically you could find the right
19 material, and you were able to make it the
20 right size to get this interference fit right,
21 would that post have a different thread profile
22 than what's shown in Figure 75?

23 A. Well, I think as Leinsing says, the
24 thread profile would match what the profile, or
25 it would be similar to the -- in terms of

1 BRUNSKI, Ph.D

2 pitch, it would have the same pitch as the
3 female that it's being shoved into. But the
4 size of the threads that would be created, this
5 is all -- it's theoretical.

6 Q. Right. Would you say, I mean,
7 before you even pushed it in, it would just
8 essentially be a flat post, correct, or a
9 straight post?

10 A. My understanding of it is -- it's a
11 cylindrical post.

12 Q. Cylindrical, yeah. So it would
13 have a flat thread profile, correct, it would
14 have no threads at all?

15 A. Correct.

16 Q. And that would be different from
17 the thread profile shown in Figure 75?

18 A. Well, yes.

19 Q. Let's go to Exhibit 1012, page 27.
20 Figure 36 at the top there?

21 A. Yes.

22 Q. Do you see how the threads taper at
23 the end of that fastener?

24 A. Yes.

25 Q. Would a taper thread profile be an

1 **BRUNSKI, Ph.D**

2 **additional profile that you could use?**

3 MR. CHAPMAN: Objection to form.

4 A. When you're saying in Figure 36
5 it's a tapered thread profile, I mean, it looks
6 to me like the threads, the major diameter is
7 the same until you get to the bottom, the
8 bottom, I mean, this is the bottom or top,
9 wherever you want to call it. My understanding
10 would it be that's just kind of the runout to
11 the threads -- that's not like a deliberate, I
12 mean, most of the thread pattern is not
13 tapered.

14 **Q. But the -- you call it the runout?**

15 A. Right.

16 **Q. The runout portion is tapered?**

17 A. It looks that way in this picture.

18 **Q. And is that, in the art, would that**
19 **be considered a separate thread profile**
20 **tapered?**

21 MR. CHAPMAN: Objection to form.

22 A. I'm not sure about that. I don't
23 know if there's a special name. I call it the
24 runout because it's just the bottom of a
25 threaded member, and it does look tapered in

1 BRUNSKI, Ph.D
2 this diagram, but I don't know that that's an
3 especially -- I mean, it's a design thing in
4 the person whoever made this particular thread,
5 but -- and yes, it's tapered but sort of so
6 what.

7 **Q. So I mean you could design it**
8 **without the taper, right, you don't necessarily**
9 **need a runout?**

10 A. I suppose that's a machinist
11 decision or a design decision, somebody
12 whoever's designing it would predicate that on
13 whatever their goals are, you know. It's hard
14 for me to judge exactly why they did it that
15 way in this particular picture.

16 **Q. So could you add a runout onto the**
17 **end of Figure 75 like it's shown in Figure 36?**

18 A. I guess so. I mean, I'm not sure.
19 It's a machining question, but you probably
20 could do something like that, yes.

21 **Q. Would there be any functional**
22 **benefits to adding a runout?**

23 A. If it's a part that's just being
24 threaded into a female, I'm not sure how much
25 it adds other than -- you know, you have to

1 BRUNSKI, Ph.D

2 start the engagement at some location, so it
3 may help with that. But --

4 **Q. Would it help with disengagement?**

5 A. And by that you mean screwing it
6 out?

7 **Q. By pulling it out with an axial
8 motion?**

9 A. My guess would be no, because most
10 of the -- if you're talking about a Figure 36
11 geometry pulling that out of something, the
12 threads out of something.

13 **Q. Well, I'm thinking of Figure 75 if
14 you taper the end of Figure 75, in a way
15 similar to what's shown in Figure 36, would
16 that help with pullout?**

17 A. Pullout in the direction of the
18 arrows shown in 75?

19 **Q. Yes.**

20 A. I don't think so.

21 **Q. Because it would decrease the
22 surface area of the engagement, correct?**

23 MR. CHAPMAN: Objection to form.

24 A. It might a little bit, but you
25 know, depending on how many threads you have,

1 BRUNSKI, Ph.D

2 most of the resistance to pull out would be
3 coming from all the other threads that are
4 engaged.

5 Q. So you'd have to -- you'd have to,
6 you know, make enough of a taper so that it
7 would essentially make a difference to the
8 thread pullout?

9 MR. CHAPMAN: Objection to form.

10 A. Well, that would be one of the
11 things in designing, yeah. I mean, there must
12 be some contribution from that, but if you've
13 got ten other threads that are there, they're
14 also giving it a major contribution, I would
15 think. That's back of the envelope estimate on
16 my part.

17 Q. And so someone looking at the 361
18 application, could look at the tapered runout
19 on 36 and they'd know that they could
20 incorporate that into Figure 75 whether it
21 would make a difference or not, they could
22 incorporate it?

23 A. Well, I think a person of skill in
24 the art looking at Figure 75 would if you're
25 trying to reduce this, and actually make

1 BRUNSKI, Ph.D
2 something like this, you'd have to make some
3 kind of decision on what's going to go on at
4 the very bottom of the thread, and whether
5 you'd think about how much that contributes to
6 the pullout, it might cross your mind, but
7 yeah.

8 Q. Especially -- so on page 100, it
9 says, the last paragraph?

10 A. Various embodiment?

11 Q. So the second sentence it says,
12 combining inventive elements of one or more of
13 the embodiments, with known materials,
14 components, and techniques to create further
15 embodiments, is considered to be part of this
16 disclosure. Right?

17 (Reporter clarification)

18 A. And the question is?

19 Q. The question is, so that's saying
20 that this disclosure includes mixing and
21 matching aspects in different embodiments,
22 correct?

23 MR. CHAPMAN: Objection to form.

24 A. Yeah, I mean, I think in reading
25 patents, this is kind of a boiler plate

1 BRUNSKI, Ph.D

2 statement that is kind of always there, that
3 sure, you can look around in the specification
4 and get other ideas. So that's fair.

5 Q. And in reading it, reading it as a
6 person of ordinary skill would require
7 following this instruction, correct, even if it
8 is boiler plate?

9 A. Yeah, it's part of the process,
10 yes.

11 Q. Okay. And let's go to page 26 of
12 the 361 patent or the 361 application.

13 A. What was the page again?

14 Q. 26.

15 A. Okay.

16 Q. And do you see -- so on Figure 31,
17 it shows the temporary fastener 62, it shows
18 the separable cap 63, and it shows the abutment
19 60, correct?

20 A. Yes.

21 Q. And do you see it appears to show
22 the threading of the abutment below the
23 temporary fastener?

24 A. Yes.

25 Q. And so that shows a temporary

1 BRUNSKI, Ph.D

2 fastener that doesn't go all the way to the
3 bottom of the abutment threading, correct?

4 (Reporter clarification)

5 A. Yes, it looks like 62 does not go
6 all the way to the bottom of the threaded
7 chamber.

8 Q. Yeah. 'Cause comparing for example
9 to Figure 5, Figure 5 shows the temporary
10 fastener 10, the separable cap 11, abutment 8,
11 that shows it filling up the abutment threads,
12 correct?

13 (Reporter clarification)

14 MR. CHAPMAN: Objection to form.

15 A. I'm not sure there because I don't
16 know whether they just left out the thread
17 pattern or it is indeed just a hole. I mean, I
18 see Figure 4 looks kind of similar.

19 Q. It doesn't show any empty female
20 abutments, correct?

21 A. That's correct.

22 Q. And so if you designed a temporary
23 screw like in Figure 31 that didn't extend all
24 the way to the bottom of the female abutment
25 threads, that would have less engagement with

1 **BRUNSKI, Ph.D**

2 **the threads than the definitive screw, correct?**

3 A. Well, I don't know where is the
4 diagram of the definitive screw in here, how do
5 I know that it goes further into the hole than
6 the --

7 **Q. So the diagram of the definitive**
8 **screw is nine. 75 is nine. Or part 75 in**
9 **Figure 9. Would you agree Figure 9 shows the**
10 **definitive screw filling up the threads of the**
11 **female abutment?**

12 A. Well, again, I'm not sure what's
13 taking place in that lower, you know, beneath
14 the definitive screw, I mean, is it just left
15 out of the drawing, or I mean, I'm just not
16 clear on what is there.

17 **Q. That's fair.**

18 **But you'd agree it doesn't show**
19 **female abutment threads that are empty, it**
20 **doesn't affirmatively show that, correct?**

21 A. Correct.

22 **Q. And so going back to Figure 31, if**
23 **you designed a temporary screw that doesn't**
24 **fill up the female threads, you would have less**
25 **surface area of engagement than the definitive**

1 BRUNSKI, Ph.D

2 crew that does, correct?

3 A. If they have the same length of
4 male thread, yes.

5 Q. Yeah.

6 And that would be a different --
7 something else you could change about Figure
8 75, right, so you could make it shorter, so if
9 it doesn't fill up the abutment threads?

10 MR. CHAPMAN: Objection to form.

11 A. Yeah, I mean that's an -- I mean,
12 the temporary screw, you know -- you know, the
13 details of its design will depend on the case
14 that you have.

15 Q. And if you took Figure 75 and
16 you -- you know, made it so that it only had
17 half of the threads it currently has, it would
18 still go into the female abutment, correct?

19 MR. CHAPMAN: Objection to form.

20 A. Just repeat that one more time, in
21 Figure 75 --

22 Q. So, let's look at Figure 75.

23 A. Yeah.

24 Q. And if you like, just -- imagining
25 you just sawed off the bottom four threads of

1 BRUNSKI, Ph.D

2 this screw.

3 A. Okay.

4 Q. That would decrease the surface
5 area of engagement with the female threads,
6 correct?

7 A. Yes.

8 Q. And would that be a different screw
9 than what's shown in Figure 75?

10 A. Well, I don't read 75 as giving any
11 information about how many threads there should
12 be. You know, and I don't remember any
13 language about that. I mean, I think it's just
14 depicting how the thing looks.

15 Q. So when you, in 138 -- in paragraph
16 138 of your declaration, when you point to the
17 asymmetric buttress thread of the temporary
18 screw of Figure 75, what are you pointing to?

19 A. Well, it's the threaded portion of
20 Figure 75. You know, the asymmetric buttress
21 thread of the temporary screw of Figure 75
22 would be the threaded portion. I mean, it's
23 talking about the threaded portion.

24 Q. But you could vary the threaded
25 portion in ways that we've discussed, right?

1 BRUNSKI, Ph.D

2 You could make it reverse buttress thread, you
3 could make it -- you could vary the pitch -- or
4 not the pitch, the thread depth, so it doesn't
5 have to look exactly like Figure 75 to fit
6 within the written description, correct?

7 MR. CHAPMAN: Objection to form.

8 Objection, compound.

9 A. Well, I'm just saying that you know
10 the -- let's just say the fraction of the total
11 length of this thing that happens to be
12 threaded, that's not defined in this particular
13 diagram, but that's not changing the thread
14 profile, or how the threads look is not a
15 function of how much of the shaft is threaded.

16 Q. Okay. But if you changed it to a
17 reverse buttress thread, it would change the
18 threaded profile, correct?

19 A. Yes.

20 Q. And if you changed it to an
21 interference fit, it would change the thread
22 profile?

23 A. Well, that gets back to what I was
24 saying about Mr. Leinsing's diagram. I mean,
25 to the extent there is a thread profile in that

1 BRUNSKI, Ph.D

2 example, it's hard for me to have a firm
3 opinion on that at this point.

4 (Reporter clarification)

5 Q. But you can say, you have to agree
6 that it would be different from Figure 75,
7 right?

8 MR. CHAPMAN: Objection to form.

9 A. Hard to say at this point as I sit
10 here. You know, as I said, it was kind of a
11 theoretical exercise that I don't fully know
12 what to make of it.

13 Q. Okay.

14 Okay. Let's go to paragraph 143 of
15 your declaration. It says, second in my
16 opinion, none of the priority applications
17 support claims one and nine, because the claims
18 are not limited to temporary screws that have a
19 split post with deflecting sections as in the
20 only disclosed embodiment of Figure 75.

21 Let's go to -- I guess, did you
22 look for any other disclosures of a release
23 limitation or a characteristic that causes the
24 release?

25 MR. CHAPMAN: Objection to form.

1 BRUNSKI, Ph.D

2 A. I do -- well, I looked, yes.

3 Q. You looked for any other way that
4 this could be released besides having a split
5 post?

6 A. Yes.

7 Q. In the disclosure? And you
8 concluded that it wasn't there?

9 MR. CHAPMAN: Objection to form.

10 A. It's the only -- yeah, that's
11 the -- as I said, the only disclosed embodiment
12 of Figure 75.

13 Q. Okay. So let's go to page 66 of
14 Exhibit 1012.

15 The last paragraph that begins with
16 other embodiments.

17 A. Okay. So?

18 Q. Does that say anything about a
19 split post or a deflecting legs?

20 (Reporter clarification)

21 A. Well, it says, other embodiments
22 include a threaded post that has a temporary
23 retention feature that engages the coping
24 without a separable cap. These embodiments
25 engaged the abutment threads in mounting the

1 BRUNSKI, Ph.D

2 coping, but released the coping after bonding
3 to the prosthesis.

4 So what is the -- what's your
5 question again?

6 Q. Does that paragraph say anything
7 about split posts?

8 A. No, it doesn't. It just talks
9 about a temporary retention feature.

10 Q. Okay. And it doesn't limit them to
11 split post, the temporary retention feature,
12 correct?

13 A. It's, I guess, broader than that.

14 Q. And you could have a temporary
15 retention feature that doesn't include a split
16 post, correct?

17 (Reporter clarification)

18 A. I don't know what it is, though.

19 Q. Okay. Let's go to page 67. The
20 paragraph that says, in some embodiments.
21 Well, I guess the second paragraph that says in
22 some embodiments?

23 A. Okay.

24 Q. The threaded end of the post
25 portion of the temporary fastener has a

1 BRUNSKI, Ph.D

2 deflecting feature, but that limits it to some
3 embodiments, correct?

4 A. Wait a minute, the second?

5 Q. The second, yeah.

6 A. In some embodiments the threaded
7 end of the post portion of the temporary
8 fastener has a deflecting feature. That allows
9 the post to engage or disengage the abutment
10 threads through axial motion instead of
11 rotary --

12 Q. But that says that only some
13 embodiments have a deflecting feature, correct?

14 A. That's what it says, correct.

15 Q. Let's go to page 68. Proximal --
16 sorry, the third paragraph beginning with the
17 temporary screw.

18 A. Okay.

19 Q. It says: A temporary screw having
20 a distal end portion adapted to engage the
21 threads at the implant abutment and proximal
22 end portion having temporary engagement means
23 for attachment.

24 And again, that doesn't say
25 anything about split posts or deflecting legs,

1 **BRUNSKI, Ph.D**

2 **correct?**

3 MR. CHAPMAN: Objection to form.

4 A. Yes, I don't see anything about
5 deflecting legs, no.

6 **Q. You could have a temporary**
7 **engagement means that does not include**
8 **deflecting legs?**

9 MR. CHAPMAN: Objection to form.

10 A. I'd have to read this again. I'm
11 not sure I understand this paragraph. I'd have
12 to -- if you could ask me another question to
13 clarify what you're getting at in the
14 paragraph.

15 **Q. Well, just that, so it's describing**
16 **an embodiment of the temporary screw and it**
17 **describes a proximal end portion with temporary**
18 **engagement means, correct, and it doesn't**
19 **specify that those have to include a deflecting**
20 **post or a deflecting legs or a split post,**
21 **correct?**

22 A. Well, it's a means for attachment.
23 Nothing to do with removal of it.

24 **Q. And then later in the paragraph it**
25 **says, where in the temporary engagement means**

1 BRUNSKI, Ph.D

2 releases the coping without disengaging the
3 post portion. Do you see that?

4 A. Yes.

5 Q. So the same engagement means that
6 attached to the threading also release?

7 MR. CHAPMAN: Objection to form.

8 A. I'm not sure from reading this.
9 That paragraph is too dense for me, you'll have
10 to parse it out for me, may be better.

11 Q. Just -- so I guess on its face it
12 talks about a temporary engagement means, but
13 it doesn't say that the temporary engagement
14 means has to include a split post, right?

15 A. But it can also be talking about
16 just the thread the engagement means.

17 Q. It could be talking about the
18 threads, right? And the threads could release
19 the coping without disengaging the post
20 portion, so without disengaging the post
21 portion, there are certain embodiments in this
22 application that have a separable cap, right?

23 A. Yes.

24 Q. So this is -- this is talking about
25 ones that don't have a separable cap. Right?

1 BRUNSKI, Ph.D

2 A. Okay.

3 Q. And so, if we're talking about just
4 the threads like you said, the threads engage
5 the threads, hold the distal end of the coping
6 and alignment, by engaging the implant abutment
7 threads, and then the temporary engagement
8 means, which are the threads, release the
9 coping without disengaging the post portion, so
10 the piece doesn't come apart, right, the cap
11 doesn't come off?

12 MR. CHAPMAN: Objection to form.

13 A. I don't get it, no. I'm sorry.

14 Q. Okay.

15 Did you review this paragraph when
16 you prepared your opinion?

17 A. I must have, but I'm just trying to
18 unscramble it. So the distal end portion has
19 threads. Well, it's adapted to engage the
20 threads. And then proximal end portion has a
21 temporary engagement means for attachment
22 adjacent to the proximal end of the coping
23 where in the -- homes the distal end of the
24 coping in alignment against the implant
25 abutment when the distal end portion of the

1 BRUNSKI, Ph.D

2 temporary screw engages abutment threads, and
3 where in the temporary engagement means
4 releases the coping without disengaging the
5 post portion.

6 So, are they saying the post
7 portion of the temporary screw does not come
8 out with the coping?

9 **Q. Right. So essentially, the post**
10 **portion stays in the abutment, and the coping**
11 **is released, but the -- there's not a separable**
12 **cap feature.**

13 A. So there's something on the, shall
14 we call it the proximal end of the -- well, I
15 don't -- I'm sorry.

16 MR. CHAPMAN: I don't think there's
17 a question pending.

18 A. Sorry.

19 **Q. So this would be another temporary**
20 **fastener that doesn't have a separable cap,**
21 **right?**

22 A. And define for me separable cap.

23 **Q. Yeah. Like, Figure 5.**

24 A. So it shows the separable cap is
25 piece 11.

1 BRUNSKI, Ph.D

2 Q. Okay. And the post is piece 10.
3 So you see in Figure 6, that you pull it off
4 and the cap, piece 11, goes with the coping,
5 correct?

6 A. Right.

7 Q. Now you could also design it, the
8 disclosure we just read on page 68, so that the
9 cap releases, or the proximal end of the post
10 releases from the coping, but stays with the
11 post?

12 A. The proximal end of the -- I'm
13 sorry. Could you say that again, please?

14 Q. So you could also think of designs,
15 right, theoretically, where the proximal end,
16 so the -- what we're looking at is the top, the
17 cap is designed so that it releases the coping
18 which is part nine, but doesn't separate from
19 the post, which is part ten. So the coping
20 goes up, but the fastener stays together, does
21 that make sense?

22 MR. CHAPMAN: Objection to form.

23 A. It looks impossible to me because
24 eleven is the cap. And it's on top of the
25 coping. So how can it stay attached to the

1 BRUNSKI, Ph.D

2 post? It seems impossible.

3 Q. For example, Figure 87, or Figure
4 85, 86 and 87?

5 A. 85, 86, 87.

6 MR. CHAPMAN: There's no question.

7 Q. Are -- for example, Figure 85, you
8 see it shows the deflecting -- the split post
9 with deflecting legs that's holding the coping?

10 (Reporter clarification)

11 A. I see what you're pointing to 76.

12 Q. Yeah, exactly.

13 A. 79.

14 Q. So, 79 has a slot, 76 with the legs
15 and it's holding coping 75?

16 A. I see that.

17 Q. So you could -- you know, design it
18 so that it has these deflecting legs instead of
19 a separable cap, so when you pull it off,
20 right, the coping disengages from the fastener,
21 but there's no separable cap?

22 A. Yes, I understand that.

23 Q. And then similar in like, 86, if
24 you had an adhesive or a -- maybe, an O ring,
25 80, it would have the same effect?

1 BRUNSKI, Ph.D

2 MR. CHAPMAN: Objection to form.

3 A. Okay.

4 Q. And then 81, you could design it
5 with a spring feature?

6 MR. CHAPMAN: Figure 81?

7 Q. Sorry, Figure 87, part 81. You
8 could design it with a spring feature to
9 disengage?

10 A. Right.

11 Q. So those are always -- the post
12 could disengage from the coping, correct?

13 A. Correct.

14 Q. And a person of ordinary skill
15 would also understand that you could use those
16 same mechanisms to disengage from the threads
17 as well, correct?

18 MR. CHAPMAN: Objection to form.

19 A. I don't know that I would draw that
20 conclusion but.

21 Q. Why wouldn't you draw that
22 conclusion?

23 A. Well, we have Figure 75 already.
24 So I mean, well, that would be like Figure 75.

25 Q. Right. But we read on page 100

1 BRUNSKI, Ph.D

2 remember, that you can combine the inventive
3 elements, one or more of the embodiments with
4 known materials. You can create further
5 embodiments using the inventive concepts.

6 A. So.

7 MR. CHAPMAN: Again, there's no
8 question pending.

9 Q. You see where it says that on 100?

10 A. Yes, I see that.

11 Q. So, let's go to page 72 to --
12 sorry, page 72 as well. The first paragraph
13 where it says, furthermore, the particular
14 features, structures or characteristics may be
15 combined in any suitable manner in one or more
16 embodiments without limitation.

17 Do you see that?

18 A. Yes.

19 Q. So again, that's telling us the
20 disclosure includes combinations of these
21 embodiments were possible, correct?

22 MR. CHAPMAN: Objection to form.

23 A. I understand.

24 Q. So going back to the figures, a
25 person of ordinary skill would understand that

1 BRUNSKI, Ph.D

2 you can take, for example, the spring retention
3 feature in 81, and you could conceivably move
4 it to engage the threads instead of the coping,
5 correct?

6 A. You mean 87, right, not 81?

7 Q. Yes, sorry, Figure 87, the feature
8 that's marked as piece 81?

9 MR. CHAPMAN: Again, sorry. I
10 think I've lost the question. I'm not
11 sure if John has.

12 A. Yeah.

13 Q. Do you see the -- where we are,
14 piece 81 in Figure 87?

15 A. Yes.

16 Q. So a person of ordinary skill could
17 would understand that they could take a spring
18 retention feature like that, and move it to
19 engage the threads instead of the coping,
20 correct?

21 MR. CHAPMAN: Objection to form.

22 A. You're saying move that kind of a
23 structure down to the threaded region?

24 Q. Yeah, could you?

25 A. Well, I guess you could try, but

1 BRUNSKI, Ph.D

2 it's not disclosed. I mean -- I mean, I guess
3 it's possible to do that, but.

4 Q. And why isn't it disclosed? I
5 mean, if it's here in Figure 87 and then we
6 read on 72 where it says to mix and match, why
7 wouldn't that be disclosed?

8 MR. CHAPMAN: Objection to form.

9 A. Well, I think Figure 75 is what
10 they disclosed. That's, you know, described in
11 detail as you know, giving a release, etc. So
12 I can't speculate on why they didn't, or why --
13 well, maybe ask the question again and I'll try
14 to respond.

15 Q. Well, are they required to describe
16 it in detail to disclose it?

17 MR. CHAPMAN: Objection to form.

18 A. In my experience, it's usually
19 called out pretty discreetly usually.

20 Q. But if it says on 72 that we can
21 combine particular features, structures, or
22 characteristics in any suitable manner without
23 limitation, isn't that disclosing that we can
24 take this and put it down at the bottom if
25 that's what a POSA would understand, a person

1 **BRUNSKI, Ph.D**

2 **of ordinary skill?**

3 MR. CHAPMAN: Objection to form.

4 A. I guess you could do it.

5 **Q. Would a person of ordinary skill**
6 **understand that you could do it?**

7 A. I think so.

8 **Q. Let's go to page 96.**

9 MR. CHAPMAN: I don't know if you
10 are at a logical point, but it's been a
11 bit more than an hour.

12 MR. GIBBONS: Yeah.

13 A. I could use a bathroom break.

14 MR. GIBBONS: Okay. Yeah, we can
15 take a break here. We'll be back at
16 10:35.

17 (Whereupon, an off-the-record
18 discussion was held.)

19 BY MR. GIBBONS:

20 **Q. Okay, we're back on the record.**

21 **Dr. Brunski, again, did you talk**
22 **with anyone about the substance of your**
23 **testimony?**

24 A. No.

25 **Q. Okay. So before we were talking**

1 BRUNSKI, Ph.D

2 about ways to attach the cap -- or, I'm sorry,
3 the post to the coping without using a
4 separable cap, correct?

5 A. Correct.

6 Q. So let's go to page 83 of
7 Exhibit 1012. The paragraph that begins, the
8 separable mechanical attachment means?

9 A. Okay.

10 Q. And it lists a bunch of -- it says,
11 it can conclude any combination of techniques
12 frictional forces from interference, adhesives,
13 and at the end, it says, thermally or
14 electromagnetically feasible materials,
15 fracturing structures.

16 Do you see where it says that?

17 A. Yes.

18 Q. So, would you be able to combine
19 these techniques with the threads on Figure 75
20 to create a release mechanism?

21 MR. CHAPMAN: Objection, compound.

22 A. Would you clarify what you mean in
23 combination with threads?

24 Q. For example, could you create a
25 thread that had an adhesive so it engaged the

1 BRUNSKI, Ph.D

2 female threads with the help of the adhesive,
3 but then released when you applied an axial
4 force?

5 A. It sounds a little contradictory
6 though, because the adhesive would kind of
7 fight against the release force, or increase,
8 you know, if this -- if the threads are
9 sticking to the female flanks it would make it
10 harder.

11 Q. It would make it hard to screw
12 into, right?

13 A. Probably.

14 Q. Could you design threads to include
15 elastically or inelastically deformable
16 threads?

17 MR. CHAPMAN: Objection to form.

18 A. Well, certainly by, you know, you
19 have a choice of picking properties of the post
20 and its threads, so sure. You can -- that's
21 the thing you can vary. The elasticity of the
22 part. Go ahead.

23 Q. Combining this with Figure 75, a
24 person of ordinary skill can create threads
25 with elastic or inelastic deformable threads?

1 **BRUNSKI, Ph.D**

2 MR. CHAPMAN: Objection to form.

3 A. It's possible.

4 **Q. You could also design the threads**
5 **to include fractured structures like it says**
6 **here on page 83, correct?**

7 A. Don't really know what that means,
8 fracturing structures on threads. But, well,
9 maybe ask me a question further on that.

10 **Q. You can design the threads so that**
11 **they fracture to release from the female**
12 **abutment, correct?**

13 A. They would break away from the
14 female abutment. Well, all materials can
15 fracture at some point. So, I guess you know,
16 you can't -- I mean, all materials can
17 fracture. So.

18 **Q. So a person of ordinary skill could**
19 **take this fractured structures, part of this**
20 **embodiment, and combine it with what's in**
21 **Figure 75 and create fracturing threads?**

22 A. It sounds difficult. Because
23 you've got to thread them in. And I mean, I'm
24 just getting hung up on the practicality, and I
25 suppose many things are possible. Maybe some

1 BRUNSKI, Ph.D

2 things aren't as very likely. I'm not sure how
3 to answer that.

4 Q. Okay.

5 Let's go to page 96. So page 96,
6 the first paragraph, this is talking about
7 break away portions in the last sentence: The
8 break away portions are designed to fracture at
9 an axial force, exceeding the force applied to
10 align the coping to the implant abutment for
11 pickup.

12 And it's discussing Figure 70 --
13 oh, sorry, Figure 69, do you see that at the
14 top?

15 A. Yes. I'd like to go get Figure 69.

16 Q. Sure.

17 A. Okay.

18 Q. So you see on 69 it has that break
19 away portion that fractures?

20 A. And what is the -- could you
21 identify what is the break away portion of the
22 fractures?

23 Q. So it's a small break away, tabs 59
24 in the flange portion.

25 (Reporter clarification)

1 BRUNSKI, Ph.D

2 A. Yeah, I see 59.

3 Q. So those are little break away tabs
4 that fracture?

5 A. Okay.

6 Q. So this is an example of what we
7 were reading, correct, on page 83, about
8 fracturing structures?

9 A. Okay.

10 Q. So a person of ordinary skill could
11 take this, this fracturing structures
12 characteristic, and apply it to the bottom of
13 the post as well, right, instead of the top of
14 the post?

15 MR. CHAPMAN: Objection to form.

16 A. I guess it's possible.

17 Q. And create threads that fracture?

18 A. Fracture when?

19 Q. When you apply an axial force to
20 remove it?

21 A. So you want to repeat the question?

22 Q. So a person of ordinary skill would
23 understand that you could apply that
24 characteristic of Figure 69, you could create a
25 fracturing structure in a screw that's at the

1 BRUNSKI, Ph.D

2 bottom, rather than at the top of the post,
3 correct, to release from the female abutments?

4 MR. CHAPMAN: Objection to form.

5 A. It's conceivable.

6 Q. And why, in your opinion, why isn't
7 that sort of configuration disclosed? Because
8 you said in 143 that there's only one release
9 limitation disclosed in paragraph 143 of your
10 declaration?

11 MR. CHAPMAN: Objection to form.

12 A. Well, I think in the, you know,
13 there's several different kind of embodiments
14 that are being shown here. A lot of them are
15 up at the cap level of the -- of the structures
16 that are shown, not down at the thread level.
17 Whereas Figure 75 is the one that deals with
18 what's going on like at a thread level. So in
19 terms of the only disclosed embodiment with --
20 you know, in terms of the split post that's the
21 only closed embodiment that can be pulled out
22 without having to be unscrewed.

23 Q. But why wouldn't a person of
24 ordinary skill understand that you can create
25 Figure 75 with fracturing threads?

1 **BRUNSKI, Ph.D**

2 A. Well, it's a design problem. You
3 know, you have to consider threading it in and
4 not wanting the threads to fracture as you're
5 threading it in.

6 **Q. But assuming you could design it**
7 **like that, that would be covered by this**
8 **disclosure, correct?**

9 MR. CHAPMAN: Objection to form.

10 A. And by this disclosure, you mean
11 this, you know, 12 -- 1012.

12 **Q. Yeah, 1012 taken as a whole?**

13 A. Yeah, it's possible.

14 **Q. Let's go to page 98. Oh, sorry,**
15 **page 100, page 100 of Exhibit 1012.**

16 **So the second paragraph where we**
17 **read before similarly and interference fit?**

18 A. Yes.

19 **Q. Now that would be a release**
20 **mechanism that doesn't include a split post,**
21 **correct?**

22 MR. CHAPMAN: Objection to form.

23 A. Well, the release mechanism in this
24 case would be just pulling out the Leinsing
25 type of cylinder. It's pulling out the

1 BRUNSKI, Ph.D

2 cylinder that I referred to Mr. Leinsing's
3 declaration.

4 (Reporter clarification)

5 Q. So that would be an example of
6 what's being referred to, correct?

7 A. I think so.

8 Q. And so that would have a release
9 mechanism that doesn't include a split post,
10 correct?

11 A. That's correct.

12 Q. And so how does this not disclose
13 an embodiment without a split post?

14 MR. CHAPMAN: Objection to form.

15 A. I guess theoretically it does, but
16 from a practical point of view, you know, I'd
17 have to analyze this further, but it doesn't
18 seem very practical to me as a person of skill
19 in the ordinary art.

20 Q. So in 143, when you say the only
21 disclosed embodiment is Figure 75, you're
22 saying that it's the only disclosed practical
23 embodiment?

24 A. Well, the only one that's disclosed
25 in enough detail that I can understand it or

1 BRUNSKI, Ph.D

2 follow what's going on.

3 Q. Well, did you read page 100 when
4 you analyzed Exhibit 1012?

5 A. Yes.

6 Q. And did you understand it when you
7 read it?

8 A. I think so.

9 Q. And so why -- why if you say now
10 that it discloses the Leinsing-type post, why
11 didn't you read it to disclose it then?

12 MR. CHAPMAN: Objection to form.

13 A. Well, it seems not very intuitive
14 to me.

15 Q. Okay. But you -- you also said at
16 the beginning that you don't have a lot of
17 experience in the denture conversion space,
18 correct, specifically in denture conversions?

19 A. Not being a clinician, that's true.

20 Q. And so, if it -- the fact that it
21 didn't seem intuitive to you, could have to do
22 with your lack of familiarity with these kind
23 of parts?

24 (Reporter clarification)

25 MR. CHAPMAN: Objection to form.

1 BRUNSKI, Ph.D

2 A. I take your point, yes.

3 Q. Let's go to page 101. It says:
4 Other means of attaching/joining a secondary
5 separable portion include insert molding, use
6 of adhesives, waxes, solders or other metallic
7 materials, heat staking and ultrasonic bonding.

8 You see that paragraph?

9 A. Yes.

10 Q. So it says the secondary separable
11 portion. Why wouldn't a person of ordinary
12 skill apply these means of attaching a
13 secondary separable portion to what's shown in
14 Figure 75?

15 MR. CHAPMAN: Objection to form.

16 Objection, compound.

17 A. I mean, I guess you could think
18 about doing that, the question is what -- well,
19 I'm not sure what they had in mind. I don't
20 know what heat staking is. Maybe clarify that
21 for me.

22 Q. Well, in your experience you've
23 never come across heat staking?

24 A. That term is not familiar, no.

25 Q. What about ultrasonic bonding?

1 BRUNSKI, Ph.D

2 A. Heard of it.

3 Q. Could you use ultrasonic bonding to
4 create a secondary separable portion of Figure
5 75?

6 MR. CHAPMAN: Objection to form.

7 A. And I suppose you could.

8 Q. How would you do that?

9 A. Well, I guess where you want the
10 bonding to occur, you would use the ultrasonic
11 method that's described. I'm not as familiar
12 with that myself.

13 Q. In general terms, do you -- how
14 does ultrasonic bonding work?

15 A. As I said, I'm not familiar with
16 it.

17 Q. Okay. What about waxes or I guess,
18 what about solders going backwards?

19 A. Well, certainly I've heard of
20 solders.

21 Q. Could you use solders to create a
22 separable portion of Figure 75?

23 MR. CHAPMAN: Objection to form.

24 A. Well, where -- are we talking about
25 at the cap region or like near where the

1 BRUNSKI, Ph.D

2 numeral 42 is or?

3 Q. To create a release mechanism that
4 would disengage from the threads, it's down at
5 the bottom?

6 A. Okay. Again, it's hard to imagine
7 exactly how to do that with titanium, assuming
8 this is a part made of titanium. It's
9 speculative, I don't know.

10 Q. Did you think through these
11 possibilities as you wrote your report?

12 A. Not in detail, no.

13 Q. And why not?

14 A. I was just analyzing what was in
15 front of me that seemed like the most complete
16 embodiment that we have here.

17 Q. Okay. But it does say here that
18 other means of attaching and joining the
19 secondary separable portion include these,
20 right?

21 A. Yes, it says that.

22 Q. Don't you think you should have
23 thought through these in more detail?

24 MR. CHAPMAN: Objection to form.

25 A. Sure, that would help.

1 BRUNSKI, Ph.D

2 Q. Before -- at least before saying
3 conclusively in paragraph 143 that there's only
4 one disclosed embodiment?

5 MR. CHAPMAN: Objection to form.

6 A. Well, in reading the specification,
7 this is the one that is described in the most
8 detail, so that you can understand what's going
9 on. As opposed to piecing together a lot of
10 the other things.

11 Q. But doesn't the specification say
12 you have to piece together the other things if
13 it's possible?

14 MR. CHAPMAN: Objection to form.

15 A. It does say that, yes.

16 Q. So a person of ordinary skill would
17 have to do that to determine what's disclosed,
18 right?

19 A. It would help, yes.

20 Q. Let's go to the next paragraph.

21 Break away portions may also be
22 formed by two shop molding, dispensing, or
23 otherwise placing a second mechanically
24 thermally or electromagnetically fusible
25 material on a portion of the fastener to

1 BRUNSKI, Ph.D

2 provide the break away function.

3 Did you, as you were writing your
4 report, did you think about ways that you can
5 incorporate break away portions on Figure 75?

6 MR. CHAPMAN: Objection to form.

7 A. No, I didn't.

8 Q. Why didn't you?

9 A. Again, because I understood how
10 this worked as an embodiment. And it was the
11 most completely described version of what was
12 being, you know, I was reading about.

13 Q. Okay. Can you think of a way that
14 you could create separable break away portions
15 with two shop molding, like, could you create
16 threads that separate with that method?

17 A. I don't know what two shop molding
18 is.

19 Q. Okay. What about placing a
20 secondary mechanically, thermally, or
21 electromagnetically fusible material, could you
22 attach it -- the threads or a portion of the
23 fastener like that?

24 MR. CHAPMAN: Objection, compound.

25 A. I'm not familiar enough with that

1 BRUNSKI, Ph.D

2 method to know.

3 Q. Okay. If you're not familiar with
4 these methods, why do you feel comfortable
5 saying that there's only one disclosed
6 embodiment in paragraph 143?

7 MR. CHAPMAN: Objection to form.

8 A. Well, as I said, it's described
9 most clearly and in the most detail.

10 Q. But did you read these paragraphs?

11 A. I must have.

12 Q. And if you -- you didn't understand
13 them, presumably you should have looked them
14 up, right?

15 MR. CHAPMAN: Objection, form.

16 A. It would have been a good idea,
17 yes.

18 Q. And again, going to your
19 declaration, paragraph 143, you say, none of
20 the priority applications support the full
21 scope of the limitations. Because they're not
22 limited to temporary screws that have a split
23 post with deflecting sections as in the only
24 disclosed embodiment of Figure 75. So again,
25 that's a -- that's a binary proposition,

1 BRUNSKI, Ph.D

2 correct, in the sense that if there are more
3 enclosed embodiments then your conclusion is
4 invalid, right?

5 MR. CHAPMAN: Objection to form.

6 A. Well, it hinges around the word
7 disclosed. As I said, this one, I -- it's
8 called out clearly.

9 Q. Does it need to be called out
10 clearly to be disclosed?

11 A. I think so.

12 Q. Is that the standard you used to
13 determine what was disclosed?

14 A. Well, I tried to match the
15 embodiment with descriptions. And you know,
16 this hangs together.

17 Q. What hangs together?

18 A. The description and you know, the
19 Figure 5 -- 75 description fits this
20 embodiment.

21 Q. Okay. And so when you're trying to
22 figure out what's disclosed, in your mind, you
23 thought it's disclosed if it's called out
24 clearly and it hangs together?

25 A. Well, it's a question of what's

1 BRUNSKI, Ph.D

2 trying to fit -- well, it says here, I'm sorry,
3 maybe ask the question again if you would.

4 Q. So the standard you used to decide
5 whether something was disclosed or not is
6 whether it's called out clearly, right, that's
7 what you said?

8 A. And written up.

9 Q. And written up? And so if it -- in
10 your opinion it wasn't called out clearly and
11 written up, then you wrote that it's not
12 disclosed?

13 A. Well, it's disclosed in enough
14 detail that I can see it.

15 Q. Okay. But I mean, let's go to
16 page 101, there's several things here that you
17 told me you didn't understand. But you can see
18 them, correct?

19 A. I'm sorry, the last thing you said
20 was what?

21 Q. There's several concepts here like
22 adhesive, waxes, solders, heat staking
23 ultrasonic bonding, these are disclosed where
24 you can see them, correct?

25 A. Yes.

1 BRUNSKI, Ph.D

2 Q. So why aren't these disclosed
3 variations on what's in Figure 75?

4 A. I don't know that they're described
5 in enough detail that I know how it relates to
6 the structure of this thing. There's no
7 structure put with it to allow me to see how
8 this works or would work.

9 Q. Let's go to figure or paragraph 139
10 of your declaration. So this is kind of going
11 back a little. So figure or paragraph 139
12 talks about the examiner's questions about the
13 thread profile and threading shape being not
14 the same and different?

15 A. Yes.

16 Q. Do you remember that in the
17 prosecution history?

18 A. Yes.

19 Q. And paragraph 139 notes that the
20 patent owner told the examiner that the thread
21 profile were not the same and different, and
22 then provided this diagram that's on page 89 of
23 your declaration, right?

24 A. Yes.

25 Q. And then the examiner according to

1 BRUNSKI, Ph.D

2 the prosecution history, took the point and
3 agreed that this material was present in the
4 disclosures, correct, this limitation?

5 MR. CHAPMAN: Objection to form.

6 A. When you say this limitation, just
7 clarify what you're talking about?

8 Q. That Figure 75 showed a screw with
9 a thread pattern or a thread profile that's
10 different from the definitive screw?

11 A. Yes.

12 Q. And then the examiner determined
13 that the claims were supported, correct, and
14 issued claims based on these disclosures?

15 A. Yes.

16 Q. And so the examiner just got this
17 wrong?

18 MR. CHAPMAN: Objection to form.

19 A. Well, there's -- there was no
20 question that the threading of the -- the
21 buttress threading and the threading of the
22 definitive screw differs. So -- but does that
23 mean that what is -- how is the limit -- is
24 that the only thread that can be used or can
25 there be other different thread geometries?

1 BRUNSKI, Ph.D

2 Q. Well, the examiner seemed to think
3 that there were because the examiner approved
4 the claims. So did the examiner get that
5 wrong?

6 A. Well, in saying that the threading
7 profile is different encompasses, as I said in
8 the report, encompasses any and all thread
9 pattern or profile differences.

10 Q. Right. That's the claimed
11 language, and that's the claim language that
12 the examiner approved based on these
13 disclosures?

14 A. Right. It's in here. Let me just
15 read my opinion. I'm saying in my opinion, the
16 buttress thread of the Figure 75 embodiment
17 does not constitute an adequate written
18 description of or enable the full scope of the
19 quote threads in a pattern that is shaped
20 differently and quote threading profile that is
21 different. Limitations. Which encompassed any
22 and all thread patterns. So in other words,
23 the examiner allowed a claim that seems much
24 broader than what is shown in the embodiment.

25 Q. Sure. So let me give you

1 BRUNSKI, Ph.D

2 Exhibit 1001. And this is the 992 patent,
3 correct?

4 A. Yes.

5 Q. So let's go to page 43. Which are
6 the claims. So this is -- this claim language
7 in claim one and claim nine, that's what you're
8 saying is broader than what's disclosed,
9 correct?

10 A. Yes.

11 Q. Now, the patent examiner asked
12 specifically about the descriptions, the
13 written specifications support for this thread
14 profile limitation about different threads,
15 different thread profiles, different from the
16 male threading profile, right?

17 MR. CHAPMAN: Objection to form.

18 A. Right.

19 Q. And then after asking about that
20 profile limitation, and receiving the patent
21 noted answered, the examiner determined that
22 based on the whole disclosure that these claims
23 were supported, correct, because they were
24 allowed?

25 MR. CHAPMAN: Objection to form.

1 BRUNSKI, Ph.D

2 A. Yes.

3 Q. And so in your opinion, why did --
4 where did the examiner go wrong there?

5 A. Threads in a -- at line 53, the
6 claim says, a distal shaft portion with threads
7 in a pattern that is shaped differently from a
8 pattern of the threads of the definitive screw.
9 It's a much broader allowance than one would
10 have thought looking at this picture, which has
11 clearly a different thread than the definitive
12 screw, but it raises the question of how do you
13 define different. Anything else? I mean.

14 Q. Well, are you limited to just
15 looking at what's in Figure 75 in determining
16 whether it's disclosed or not?

17 A. Well, as I said in my opinion that
18 embodiment doesn't constitute an adequate
19 written description of or enable a full scope
20 of threads in a pattern that's shaped
21 differently, which encompasses any and all
22 thread patterns. And as I go on to say, you
23 know it would include also a hypothetical
24 undisclosed reverse buttress thread like Figure
25 A and Gracco.

1 BRUNSKI, Ph.D

2 Q. But isn't the reverse buttress
3 thread a well-known profile of the asymmetric
4 threads, like it's a well-known asymmetric
5 thread profile?

6 MR. CHAPMAN: Objection to form.

7 A. But the claim isn't limited to
8 well-known asymmetric buttress threads.

9 Q. The claim is limited to buttress
10 threads?

11 A. No, it says it's limited to threads
12 in a pattern that is shaped differently from a
13 pattern of the threads of the definitive screw.

14 (Reporter clarification)

15 Q. Right. And Figure 75 shows a
16 buttress thread, right?

17 A. Right.

18 Q. And the written description talks
19 about asymmetric threads generally, right?

20 MR. CHAPMAN: Objection to form.

21 Q. And a person of ordinary skill
22 would understand that a reverse buttress thread
23 is also an asymmetric thread, right?

24 A. But it would be odd to put it in
25 that way if you're also trying to pull this

1 BRUNSKI, Ph.D

2 thing out. So.

3 Q. Why is that?

4 A. Because in this, according to the
5 analysis of Gracco, it's good to the have
6 the -- it's useful to have the proximal flanks
7 of these threads oriented the way they are in
8 Figure 75 in order to allow it to be pulled
9 out.

10 Q. Gracco says it's easier in their
11 experiment to pull out when they're oriented
12 like Figure 75 than it is reversed, right?

13 A. Correct.

14 Q. It doesn't say that reversing it
15 wouldn't be easier than having a symmetrical
16 thread, does it?

17 So if you had a reverse buttress
18 thread, that would be easier to pull out than a
19 symmetric thread that fills the female threads,
20 right?

21 MR. CHAPMAN: Objection to form.

22 A. I guess that would be true.

23 Q. And so a person of ordinary skill
24 would understand that you could reverse that
25 and have the same effect, it would be easier to

1 BRUNSKI, Ph.D

2 pull out than a symmetric thread?

3 MR. CHAPMAN: Objection to form.

4 A. Well, my problem is that the claims
5 the way they're written, it basically
6 encompasses everything. And then the question
7 is, they're going to be -- it's going to be
8 different, but no guidance on to how to define
9 different.

10 Q. Well, it says it's different from
11 the pattern of the threads of the definitive
12 screw, right?

13 A. Yes.

14 Q. It says: Where in the temporary
15 screw is rotatable in a distal direction to
16 engage the threads of the implant abutment.

17 So we know from the claims that
18 they have to be different and they have to
19 engage the female abutment threads, right?

20 A. Yes.

21 Q. And a reverse buttress thread would
22 satisfy those claims, right?

23 MR. CHAPMAN: Objection to form.

24 Q. It would be different, right, than
25 the definitive screws threads?

1 BRUNSKI, Ph.D

2 A. Yes.

3 Q. And it would engage the female
4 abutment threads?

5 A. If designed correctly, yeah.

6 Q. Yeah. So that would fall within
7 this claim and then a person of ordinary skill
8 looking at the disclosures would look at Figure
9 75 and the accompanying description that talks
10 about asymmetric threads, and they would know
11 that asymmetric threads includes a reverse
12 buttress thread, right?

13 MR. CHAPMAN: Objection to form.

14 A. They would know that a reverse
15 buttress is an asymmetric thread pattern.

16 Q. They would know that it has the
17 same advantages using a buttress thread because
18 it's easier to pull out, than using a
19 symmetrical thread that fills the female
20 abutment, right?

21 A. I'm not sure I would agree that the
22 reverse buttress would be easier to pull out
23 necessarily than -- I'm not sure.

24 Q. Well, it would have less surface
25 engagement, right, than a symmetrical thread?

1 **BRUNSKI, Ph.D**

2 A. But the surface engagement that it
3 might have could involve these, you know,
4 significant -- let's say it's perpendicular to
5 the direction of pulling it out, and it would
6 bind I think more than a conventional V. shaped
7 thread.

8 Q. Well, assuming it's made out of
9 metal, right? If you made the screw out of
10 plastic with the reverse buttress thread it
11 would be easier to pull out, right?

12 MR. CHAPMAN: Objection to form.

13 A. I wouldn't say necessarily because
14 you got to -- sort of the way that's shaped, it
15 would interlock more strongly than in the case
16 of a conventional V. shaped through thread
17 which would allow some -- well, less friction
18 or less interdigitation than in this reverse
19 buttress situation.

20 Q. Well, so let's -- let's see where
21 was the -- where were we before with the
22 diagram -- oh, here we go.

23 Page 161 paragraph 270.

24 MR. CHAPMAN: Of?

25 MR. GIBBONS: Of the declaration.

1 BRUNSKI, Ph.D

2 Q. Exhibit 1002. So if you designed
3 the asymmetric buttress thread like this one,
4 with less of a steep angle, it would be easier
5 to pull out than a symmetric thread that fills
6 the abutment threads, right?

7 (Reporter clarification)

8 A. But we were talking about in the
9 reverse buttress thread case the other flank is
10 what's kind of resisting the pull out force.

11 Q. Right. But even if you used it
12 where the flank on the right in this diagram is
13 the one facing up, right, so in this diagram at
14 the top you say distal toward screw tip, right?

15 A. Yes.

16 Q. And there's an arrow pointing to
17 the right?

18 A. Yes.

19 Q. If we switched that to say the
20 right is proximal towards screw head, right?

21 A. Yeah, for the purpose of this
22 discussion, yeah.

23 Q. Yeah, so you could design it so
24 that the reverse buttress thread is oriented
25 like that with the right being the screw head,

1 BRUNSKI, Ph.D

2 and pulling that out would be easier than
3 pulling out a symmetric thread, like is shown
4 on the left side of the diagram, right?

5 A. It's really hard to say from this
6 diagram. So I'm not sure.

7 Q. I mean, it would have to be, right,
8 because the thread depth is shorter?

9 A. Right. But the angle of that
10 flank, I don't know whether it's bigger or less
11 than the conventional thread that we're talking
12 about. It's very hard for me to make a guess
13 on that.

14 Q. You can design it so that the angle
15 is less than the symmetric thread, right, and
16 still be a reverse buttress thread?

17 A. I think so.

18 Q. And in that case, it would be
19 easier to pull out, right, than the symmetric
20 thread?

21 A. Probably, yes.

22 Q. So if that is disclosed, if a
23 person of ordinary skill knew that you could do
24 that to Figure 75, isn't that another
25 embodiment?

1 BRUNSKI, Ph.D

2 MR. CHAPMAN: Objection to form.

3 Q. You could use a reverse buttress
4 thread with this kind of form, with a smaller
5 angle than the symmetric thread on the left?

6 MR. CHAPMAN: Is that the question?

7 Sorry.

8 A. Just repeat.

9 Q. You could use for Figure 75, you
10 could design it so it has this reverse buttress
11 thread, here's the head to the right, you can
12 design it that way, right, and that's an
13 asymmetric thread?

14 MR. CHAPMAN: Objection to form.

15 A. Yes.

16 Q. So how is that embodiment not
17 disclosed if a person of ordinary skill would
18 know that asymmetric includes that?

19 A. I think the problem I'm having is
20 when I read the patent, I'm expecting to see
21 called out more succinctly, you know, typical
22 embodiments that are well defined, not that I'm
23 sitting there myself, it's more difficult to be
24 in a position of sitting as a person thinking,
25 oh, how about this, how about that. Certainly,

1 BRUNSKI, Ph.D

2 I can do some of that, but usually, the
3 embodiments are defined. So that they're clear
4 that somebody knows where they are in terms of
5 what is being claimed.

6 Q. But I mean, going from a buttress
7 thread to a reverse buttress thread isn't that
8 big of a leap conceptually?

9 MR. CHAPMAN: Objection to form.

10 A. Well, it might be to -- yeah, I
11 don't know how to answer that 'cause it's the
12 intuition of making it a reverse buttress and
13 then thinking about pulling it out or having it
14 released, that's obviously going against what
15 has already just been argued, that you got it
16 drawn this way for a reason.

17 Q. Well, you might say that it works,
18 doesn't work as well as the buttress thread,
19 right, but it would still work better than the
20 symmetrical thread. Is that what you're
21 saying?

22 MR. CHAPMAN: Objection to form.

23 A. Well, I wouldn't know that without
24 doing some analysis and, you know, it would be
25 more helpful if the patent itself had presented

1 BRUNSKI, Ph.D

2 typical embodiments, you know, that were
3 described in as much detail as Figure 75.

4 Q. But is that the standard you used
5 to decide what's disclosed if it's presented in
6 as much detail as Figure 75?

7 A. Well, I'm not a lawyer so I don't
8 get the, you know, I'm not sure about the exact
9 standards I should be using, for sure.

10 Q. Okay. Let's go to paragraph 157 of
11 your declaration. Do you see it's discussing
12 Figure 75?

13 A. Yes.

14 Q. And it says, both screws appear to
15 have the same maximum thread diameter in these
16 two figures?

17 A. Yes.

18 Q. Why do you say they appear to have
19 the same maximum thread diameter?

20 A. I wanted to get the picture that --

21 Q. That we just had out?

22 A. Maybe so. The one from the
23 prosecution history.

24 Q. So that's on page 89 of your
25 declaration?

1 **BRUNSKI, Ph.D**

2 A. Yeah. In looking at the definitive
3 screw, it has to fit through an opening in the
4 coping, and then you have the threaded region
5 below that, and it looked to me that a
6 reasonable sort of match between these two
7 pictures is to say that this diameter is likely
8 to be about what that diameter is. And that's
9 why I say they look like they had -- I mean,
10 they don't look like they have the same
11 diameter in this sketch by matching it to the
12 parts, at first glance it looks like they have
13 the same diameter.

14 **Q. And by maximum thread diameter,**
15 **we're talking about the distance between the**
16 **peak of this thread and then the peak of the**
17 **thread on the other side?**

18 (Reporter clarification)

19 A. Yes.

20 **Q. So the -- going from one peak to**
21 **another perpendicular across the fastener?**

22 A. Yeah, the maximum diameter.

23 **Q. Yeah, okay. So you say they appear**
24 **to have the same maximum thread, but how could**
25 **it engage with the female threads if it had the**

1 **BRUNSKI, Ph.D**

2 **same maximum thread diameter as the definitive**
3 **screw?**

4 A. Well, I understand the point, but
5 that's -- as that's the best estimate I could
6 make without knowing dimensions, and getting
7 into more detail. I'm not giving any further
8 dimensional information on this. So as a first
9 shot at looking what's here, that was the
10 assumption.

11 Q. Well --

12 A. About the same diameter.

13 Q. Based on -- based on geometry,
14 right, it couldn't fit into the female
15 abutments if it had the same diameter, right?

16 A. Well, I know what you mean. That's
17 true, yes.

18 Q. And so someone, a person of
19 ordinary skill, looking at these disclosures
20 knows it has to be at least a little smaller to
21 be able to engage the threads like the
22 description says it does?

23 A. Probably. But how much -- I mean,
24 again, I couldn't get into that in terms of
25 what's offered in this diagram.

1 BRUNSKI, Ph.D

2 Q. So let's compare that to -- let's
3 compare that to paragraph 315.

4 A. Okay.

5 Q. So this portion of the report is
6 talking about whether claim six would have been
7 obvious, correct?

8 A. Yes.

9 Q. And you're talking about how the
10 person of ordinary skill would supposedly piece
11 these different prior art references together?

12 A. Yes.

13 Q. So paragraph 315 -- so, one of the
14 claim limitations is that it has a smaller --
15 yeah, okay. So 315 says, although Figure 12 --
16 I'm so sorry. I'm on the wrong paragraph.
17 Hold on. 346. Let's go to 346. Apologies,
18 Doctor.

19 So this one is talking about your
20 conclusion that claim ten is obvious, correct?

21 A. Correct.

22 Q. And then the same thing is you
23 know, talking about how a person of ordinary
24 skill would put together Bernhard, Poovey and
25 Gracco. So you say:

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2 As explained above, it would have
3 been obvious to use a temporary screw with
4 flexible buttress threads in Bernhard's system.
5 Moreover this asymmetric buttress thread would
6 have the same thread pitch as but a shorter
7 thread depth, and therefore a smaller maximum
8 thread diameter than the symmetric threads in
9 4654 and the matching symmetric threads of
10 shaft 754 of the threaded fastener?

11 So you're saying it's obvious this
12 claim -- this claim would be obvious in part
13 because it would have a smaller maximum thread
14 diameter for a person of ordinary skill to put
15 this prior art together. You're saying a
16 person of ordinary skill would know that it has
17 a smaller maximum thread diameter, right?

18 A. Well, I was driving at -- trying to
19 achieve this comment that and the claim that
20 there's a pitch angle that's different from the
21 pitch angle of the thread of the female
22 threading.

23 Q. Right.

24 A. So I was trying to show how to
25 achieve that.

1 BRUNSKI, Ph.D

2 Q. And to achieve that you use a
3 smaller maximum thread diameter, right?

4 A. Correct.

5 Q. And so my question is: Why -- why
6 is this person of ordinary skill smarter than
7 the one back in paragraph 157?

8 MR. CHAPMAN: Objection to form.

9 A. Let me go back to -- where were we
10 with the other pitch angle?

11 Q. 157.

12 So would you agree that the person
13 of ordinary skill standards should be the same
14 across all portions of your report?

15 A. Well, see the problem in 157 -- the
16 argument by the patent owner to the examiner
17 that the pitch angle of the asymmetric threads
18 40 of the temporary screw of 75 is clearly
19 different, I was searching for a way of even
20 beginning to address this question. Because I
21 don't even know from the patent diagrams how
22 would I know the pitch angle of the female
23 threads for the -- you know, definitive screw.
24 The drawings aren't showing me the pitch angle.
25 There's no information on the pitch angle in

1 BRUNSKI, Ph.D

2 the drawings.

3 Q. Well, in paragraph 346, the person
4 of ordinary skill gets there pretty quickly.
5 They say you get a smaller maximum thread
6 diameter. So why wouldn't they understand that
7 reading the disclosures?

8 MR. CHAPMAN: Objection to form.

9 A. Well, I'm saying that it's -- I
10 don't see how it's clearly different than the
11 pitch angle of the symmetric threads looking at
12 Figure 75, 'cause I don't know actually how to
13 measure it for the definitive threads, you
14 know, to even make the comparison, so I was
15 trying to begin to make an effort by looking at
16 the thing, okay, it's the same diameter, it
17 gives me an idea of what would it be or how to
18 compute it. So -- but yeah, there's a lot of
19 missing information in trying to do this
20 analysis. Where as back in the one you're
21 talking about with Bernhard, I'm trying to show
22 that by a certain design, you could get to a
23 case where, yes, the pitch angle is different.

24 Q. So why wouldn't that same analysis
25 apply here if a person of ordinary skill was

1 BRUNSKI, Ph.D

2 able to get it with just the prior art, why
3 couldn't a person of ordinary skill be able to
4 reach the same conclusion with what's in the
5 361 application in the disclosures?

6 MR. CHAPMAN: Objection to form.

7 A. Of the 361? Clarify you're jumping
8 to the 361, I'm not sure what do you mean.

9 Q. Like Figure 75, you're saying there
10 wasn't enough information in Figure 75 to get
11 there, right, to know whether the thread
12 diameter was smaller, right?

13 A. Yeah, I mean. I don't --

14 Q. That's what you just told me was
15 there wasn't enough information?

16 MR. CHAPMAN: You guys are talking
17 over each other.

18 A. Sorry.

19 Q. I mean, right, did I hear you
20 right?

21 A. Well, let me read. See, it starts
22 with -- I'm on page 898 of my report at the
23 bottom:

24 In particular, the patent owner
25 argued that Figure 75 clearly shows that the

1 BRUNSKI, Ph.D
2 temporary thread pitch angle that's different
3 from a pitch angle of threads of the implant
4 abutment and definitive screw in Figure 9.
5 This conclusory statement by patent owner
6 doesn't identify which angle is the pitch angle
7 but instead just asserts that the pitch angle
8 of the threads of the temporary screw in Figure
9 75, is clearly different than the pitch angle
10 of the threads of the definitive screw.

11 I was trying to get at even the
12 beginning analysis of this where I don't -- he
13 says it's clearly different but like, how do I
14 know that? I don't know what the pitch angle
15 is of the definitive screw. It's not given in.

16 Q. Well, let's go back to paragraph
17 156. The equation you have.

18 A. Yeah.

19 Q. So thread the tangent of pitch
20 angle, λ , equals thread pitch over pi
21 times maximum thread diameter, right?

22 A. Right.

23 Q. So we know the thread pitch has to
24 be the same for the threads to be able to
25 engage, right?

1 BRUNSKI, Ph.D

2 A. Yes.

3 Q. And so, if you change the thread
4 diameter by definition, the pitch angle's going
5 to change, right?

6 A. Correct.

7 Q. And we know that the thread
8 diameter has to be different because otherwise
9 it won't fit into the female abutment, right?

10 A. I understand, but so what should I
11 pick? I mean, again, I was beginning to make
12 an analysis whereas later what we're talking
13 about is, you know, showing how to use it in
14 the Bernhard analysis.

15 Q. Well, so sticking with paragraph
16 157, the argument that the pitch angle is
17 clearly different is incorrect, right? That's
18 not true, is it, based on what we just said?

19 A. I'm saying it isn't -- it isn't
20 clearly different than the pitch angle of the
21 symmetric partly because I'm saying, more than
22 likely, the diameter of the Figure 75 implant
23 or you know, screw is about the same. Now I
24 could have said, okay, it's, you know, ten
25 percent less, but the point is it's not clearly

1 BRUNSKI, Ph.D

2 different in terms of what's provided in this
3 set of pictures.

4 Q. But you agree it has to have the
5 same pitch to be able to fit in the same female
6 abutment?

7 A. Yes.

8 Q. It also has to have the same
9 diameter or a smaller diameter, right, for the
10 buttress threads to fit into those symmetrical
11 threads? If they have the same thread diameter
12 it wouldn't go in, right?

13 MR. CHAPMAN: Objection to form.

14 A. Unless you know, I guess it's
15 conceivable that somebody would make a buttress
16 thread geometry that somehow has a little spike
17 that does traverse all the way, and I don't
18 know, I think it's speculative. And I think
19 the real point is that even if I took a
20 slightly less diameter, it's not clearly
21 different than the pitch angle of the symmetric
22 threads of the definitive screw.

23 Q. Well --

24 A. They appear to have.

25 Q. If you look at the equation, you

1 BRUNSKI, Ph.D

2 keep thread pitch P the same and you change the
3 value for D, it has to give you a different
4 value for lambda, just mathematically?

5 (Reporter clarification)

6 A. You mean, if I decrease D, or if I
7 change D, yes, that's right.

8 Q. Yeah, it has to, right?

9 A. Yes.

10 Q. So it's clear that that pitch angle
11 is different?

12 MR. CHAPMAN: Objection to form.

13 A. As I said, as a reader reading at
14 that point, it's not clearly different because
15 I don't know dimensions, you know, I think the
16 point that -- and you know, the analysis by the
17 equation, yes.

18 Q. Yeah, well, so going back to
19 paragraph 346, without any of those diagrams,
20 without Figure 75, without that equation, the
21 person of ordinary skill apparently concluded
22 fairly easily that they would need a smaller
23 maximum thread diameter, right?

24 (Reporter clarification)

25 A. In order to fit the -- yeah.

1 BRUNSKI, Ph.D

2 Q. So it seems like, doesn't the
3 disparity between these two make it seem like
4 the person of ordinary skill you use in the
5 description analysis, is less capable than the
6 person of ordinary skill you use for the
7 obviousness analysis?

8 A. I see your point, yes.

9 Q. Those are inconsistent, right?

10 MR. CHAPMAN: Objection to form.

11 A. Well, I was again, back in the
12 paragraph 157, I was trying to estimate as best
13 I could at that point. You know, what's
14 clearly different. And it appears that based
15 on what I could tell from what was shown in
16 that prosecution information, they're about the
17 same diameter. Yes, it's true, that bears more
18 analysis, but at least at that stage I'm making
19 an estimate of things.

20 Q. Right, and so -- I mean, would you
21 agree that the person of ordinary skill
22 standards should be the same across all parts
23 of your report?

24 A. That does make sense, yes.

25 Q. So if the standard you used is

1 BRUNSKI, Ph.D

2 different than one or both of them is
3 incorrect, right, one of both of your
4 conclusions?

5 MR. CHAPMAN: Objection to form.
6 Compound.

7 A. I wouldn't say they're incorrect,
8 but I take your point.

9 Q. Okay.

10 MR. CHAPMAN: Is this a good time?

11 MR. GIBBONS: Probably. Should we
12 break for lunch?

13 MR. CHAPMAN: Yeah. Off the
14 record.

15 (Whereupon, an off-the-record
16 discussion was held.)

17 BY MR. GIBBONS:

18 Q. Let's go back on the record.

19 All right, Dr. Brunski, during
20 lunch did you discuss with counsel the
21 substance of your testimony?

22 A. No.

23 Q. So I'd like to go to Exhibit 1002
24 in the PGR and IPR, and that's the Bernhard
25 reference, right?

1 **BRUNSKI, Ph.D**

2 MR. CHAPMAN: 1003, right?

3 MR. GIBBONS: Yes, 1003. Thank
4 you.

5 A. Yes.

6 **Q. That's the Bernhard reference?**

7 A. Yes.

8 **Q. And you noted in your declaration**
9 **that the applicant is Nobel Biocare Services?**

10 A. Yes.

11 **Q. Has Nobel commercialized a product**
12 **using this technology?**

13 A. I don't know, no, I don't know.

14 **Q. Was this application prosecuted**
15 **until a patent was issued?**

16 A. Rephrase the question.

17 **Q. Has there been a patent issued as a**
18 **result of this application?**

19 A. I don't know.

20 **Q. You didn't investigate whether it**
21 **was -- it resulted in a patent?**

22 A. I did not investigate that, no.

23 **Q. And you didn't look into whether**
24 **Nobel has a commercialized product using this**
25 **technology?**

1 **BRUNSKI, Ph.D**

2 A. I didn't.

3 **Q. Why not?**

4 A. It didn't seem relevant. Counsel
5 did not bring it forward, so I didn't think it
6 was important.

7 **Q. Okay. And to be clear, we don't**
8 **want you to talk about what counsel did or**
9 **didn't tell you.**

10 A. Okay.

11 **Q. I just want to make sure that's**
12 **clear. Were you aware of the Bernhard**
13 **application before this engagement?**

14 A. No, I wasn't.

15 **Q. Did you read through the entire**
16 **application in conjunction with preparing your**
17 **opinion?**

18 A. Yes.

19 **Q. What does Bernhard say about**
20 **screws?**

21 MR. CHAPMAN: Objection to form.

22 A. Well, I mean, certainly screws play
23 a role in holding the coping down, I mean
24 there's -- I'm not sure, maybe hone it more
25 specifically or --

1 BRUNSKI, Ph.D

2 Q. Okay. Well, let's go to page 27.
3 Let's go to paragraph 006, so you see about
4 halfway down the paragraph, there's a sentence
5 that starts:

6 However, such provisional dental
7 prosthetic systems and methods often require
8 use of devices, such as long pressing screws,
9 which interfere with the clinicians ability to
10 determine and obtain a proper fit for the
11 prosthesis with respect to opposing dentition.

12 So one of the problems that
13 Bernhard is trying to solve is the use of
14 screws in the open tray method, correct?

15 A. Right, the long screws, yes.

16 Q. Now, going down to paragraph 007,
17 the sentence beginning:

18 Provisional dental prosthetic
19 systems are often limited due to the use of
20 other devices such as long processing screws,
21 which interfere with the ability for a
22 clinician to obtain a proper fit.

23 Do you see that?

24 A. Yes.

25 Q. And again, this is criticizing the

1 BRUNSKI, Ph.D

2 use of these screws in the open tray technique,
3 correct?

4 MR. CHAPMAN: Objection to form.
5 (Reporter clarification)

6 A. Yes.

7 Q. Let's go to paragraph 009. Oh,
8 sorry, let's go to paragraph 72 on page 31.
9 Sorry, paragraph 73, you see it says:

10 For attachment to a dental
11 component, such as implant 110, the abutment
12 120, can include one or more corresponding
13 connection features to attach to the implant
14 and reduce the likelihood of inadvertent
15 removal.

16 So this is the snap fit features,
17 right, that Bernhard discusses?

18 A. Well, yeah, certainly in the patent
19 there's discussion of that. I don't know if
20 it's in this paragraph, but you're saying snap
21 fit.

22 Q. Snap fit. This is the snap fit
23 that it's referring to here?

24 MR. CHAPMAN: Objection to form.

25 A. Well, I was just asking about your

1 BRUNSKI, Ph.D

2 characterization of paragraph 73. Maybe just
3 start again with that.

4 Q. So do you understand paragraph 73
5 to be referring to the snap fit and/or friction
6 fit connections?

7 A. Not as far as we had gotten.

8 Q. Oh, I see what you're saying.

9 Okay.

10 So let me back up.

11 For attachment to a dental
12 component, such as implant 110, the abutment
13 120, can include one or more corresponding
14 connection features to attach to the implant,
15 and reduce the likelihood of inadvertent
16 removal. As described above, in some
17 embodiments the abutment can be attached to the
18 implant using a coupling screw.

19 So the coupling screw is used to
20 attach the implant to the abutment, correct?

21 A. Well, I'm reading the sentence: As
22 described above, in some embodiments -- and
23 where did you leave off, just maybe read it
24 again?

25 Q. As described above, in some

1 BRUNSKI, Ph.D

2 embodiments, the abutment can be attached to
3 the implant using a coupling screw.

4 So this is different from the
5 prosthetic to take impressions, this is
6 attaching the implant to the abutment?

7 A. Right.

8 Q. Right? And so using the coupling
9 screw, reduces the likelihood of inadvertent
10 removal, right?

11 A. Of the abutment.

12 Q. Of the abutment from the implant.

13 And then it talks about the
14 possibility of using resiliently deformable
15 members which are received -- this is later in
16 the paragraph -- to receive, which are received
17 into a corresponding connection feature in the
18 implant which can advantageously provide a snap
19 fit and/or friction fit connection.

20 So this is talking about a snap fit
21 or a friction fit between the implant and the
22 abutment, correct?

23 A. Correct.

24 Q. In this paragraph. So it's saying
25 essentially, you can switch them back and

1 BRUNSKI, Ph.D

2 forth, you can use a screw, or a snap fit, the
3 screw reduces the likelihood of inadvertent
4 removal, right, it's more secure than the snap
5 fit?

6 MR. CHAPMAN: Objection to form.

7 A. Yeah, reduce the likelihood of
8 inadvertent removal, yeah, that was at the
9 beginning, yes.

10 Q. Page 32, let's go to paragraph 82.
11 Talking about attaching the coping to the
12 abutment. You see it says, in some embodiments
13 the coping can include additional connection
14 features to reduce the likelihood of
15 inadvertent detachment of the coping from the
16 abutment. For example, in some embodiments the
17 coping and the abutment can be attached using a
18 separate fastener such as a prosthetic screw.

19 And this prosthetic screw is the
20 final attachment, correct?

21 MR. CHAPMAN: Objection to form.

22 Q. It's not the one used in the
23 impression taking procedure?

24 A. Definitive.

25 Q. Definitive. Right. So this is

1 BRUNSKI, Ph.D

2 after the impression taking process, you used
3 this prosthetic screw to attach the prosthesis
4 to the abutment itself?

5 MR. CHAPMAN: Objection to form.

6 A. Form it as a question.

7 Q. So this is the one -- this is this
8 prosthetic screw is used after the impression
9 taking procedure when you're attaching the
10 prosthesis to the abutment itself, correct?

11 A. Yes.

12 Q. It says: The prosthetic screw can
13 pass through a bore of the coping and
14 positively engage a connection feature of the
15 abutment.

16 Then the next sentence: This can
17 advantageously further reduce the likelihood of
18 inadvertent detachment of the coping from the
19 abutment. So again, this is -- this is a screw
20 being used to make the connection more secure,
21 correct?

22 A. Well, it's attaching the coping to
23 the abutment.

24 Q. Right.

25 A. And making that secure.

1 BRUNSKI, Ph.D

2 Q. Right. So this is a means for
3 reducing the likelihood of inadvertent
4 attachment, correct?

5 A. In that context, yeah.

6 Q. Yeah.

7 Let's go to paragraph 105.
8 Page 35. About third of the way down: As
9 shown in step 316, in order to more securely
10 fasten the prosthesis to the anchoring unit, a
11 clinician can use a fastener e.g. prosthetic
12 screw to fasten the prosthesis and cope into
13 the anchoring unit.

14 So again, this is using a
15 prosthetic screw to more securely fasten the
16 prosthesis, correct?

17 MR. CHAPMAN: Objection to form.

18 A. I read it as more securely fasten
19 the prosthesis to the anchoring unit.

20 Q. Yeah. It's being used to create a
21 secure attachment that won't inadvertently
22 detach, correct?

23 MR. CHAPMAN: Objection to form.

24 A. Correct.

25 Q. The last sentence says:

1 BRUNSKI, Ph.D

2 Accordingly the entire provisional prosthetic
3 system can be attached to using threads,
4 thereby further reducing the likelihood that
5 the components of the system will become
6 inadvertently detached from each other.

7 So again, this is using the
8 prosthetic screw at the conclusion of the
9 procedure, correct, not during the impression
10 taking?

11 A. I believe that's correct, yeah.

12 Q. Let's go to paragraph 120.

13 Page 37. Is this also similarly a discussion
14 of using the prosthetic screw at the conclusion
15 of the conversion process?

16 MR. CHAPMAN: Objection to form.

17 A. Repeat the question.

18 Q. Is this discussing the prosthetic
19 screw in the same context as the last
20 paragraph?

21 MR. CHAPMAN: Same objection.

22 Q. In other words, at the conclusion
23 of the conversion process rather than during
24 impression taking?

25 A. I need some time to just read this.

1 BRUNSKI, Ph.D

2 Q. Sure.

3 A. Well, I think the way I read this
4 is: A clinician can use this fastener to
5 fasten the prosthesis to the abutment. During
6 this step can insert a separate fastener such
7 as a screw or a bolt into the recently created
8 through hole. The separate fastener can
9 positively engage a connection feature on the
10 abutment such as internal threading, such that
11 the prosthesis and coping is or are attached to
12 the abutment via the separate fastener.
13 According to the entire provisional prosthetic
14 system can be attached using threads.

15 So I think this is a step, it's
16 an -- it's talking about provisional
17 prosthesis, so it's not the final prosthesis.
18 Sometimes there is an interim step where
19 they're fitting a prosthesis that eventually
20 will be the final prosthesis.

21 Q. Right. But this is at the end of
22 the -- I guess, the provisional prosthesis
23 portion of that, right?

24 A. I think that's fair.

25 Q. This isn't during the impression

1 BRUNSKI, Ph.D

2 taking stage?

3 A. I don't see the impression
4 mentioned here. I think it's subsequent to
5 that.

6 Q. Yeah. And they're putting -- it
7 talks about the through hole through the
8 prosthesis, so they're putting a screw in to
9 securely attach it to the abutment?

10 A. I believe that's correct.

11 Q. Okay. Let's go to page 44, to
12 paragraph 168. Certain embodiments of systems
13 and methods -- do you see that paragraph?

14 A. Yes.

15 Q. Provide an efficient work flow
16 execution post surgery, which can reduce the
17 risk of site contamination and extensive tissue
18 swelling, thus reducing healing time. For
19 example, systems and methods using a
20 provisional connection feature as described
21 herein, can reduce e.g. substantially eliminate
22 the use of screwing and unscrewing components
23 in patients, which takes chair time.

24 So according to this paragraph,
25 someone reading this would interpret this to

1 **BRUNSKI, Ph.D**

2 **mean using fewer screws helps with a more**
3 **efficient work flow post surgery, correct?**

4 MR. CHAPMAN: Objection to form.

5 A. Yeah, let me just read this again.
6 It is post surgery. My reading of this is that
7 this is at a period of time where since there
8 is tissue swelling and things like that that
9 they're talking about post surgery, there may
10 be instances where the clinician wants to make
11 some changes to the prosthesis, or do some
12 inspection. So they're talking about having a
13 provisional connection feature that could
14 reduce or reduce the swelling, and therefore
15 the screwing and unscrewing of components in
16 patients which takes chair time. So there's
17 sort of talking about the problem that they
18 want to have things be stable, but you know,
19 not have too many screws to monkey around with.

20 **Q. Right. And so post surgery, would**
21 **that be post implant surgery?**

22 A. I believe that's what they mean,
23 yes.

24 **Q. And so this is one of the examples**
25 **of when these systems and methods could be used**

1 **BRUNSKI, Ph.D**

2 **is for the impression taking procedure, right?**

3 A. I'm not sure that that paragraph is
4 about impressions. Let's see.

5 **Q. Because the provisional connection**
6 **features are the snap fits that Bernhard**
7 **discloses, right?**

8 A. I'm not sure of the time course of
9 it. This paragraph, I'm not sure where it fits
10 into the time course of what they're describing
11 about surgery and impressions. I don't see the
12 word impression mentioned in this paragraph,
13 so.

14 **Q. It's not limited to impressions,**
15 **but that would be one example of when those**
16 **provisional connection features could be used,**
17 **correct?**

18 A. Yes.

19 **Q. Yeah. And so this paragraph is**
20 **saying, one of the benefits of a system with**
21 **fewer screws is more efficient work flow**
22 **execution post surgery, right?**

23 A. Reduced chair time, yes.

24 **Q. Yeah, and it can reduce the risk of**
25 **site contamination and extensive tissue**

1 BRUNSKI, Ph.D

2 swelling?

3 (Reporter clarification)

4 MR. CHAPMAN: Objection to form.

5 A. Yeah, I'm not a hundred percent
6 sure about this paragraph, but in terms of
7 where it fits into the care picture --

8 Q. Did you read this paragraph before
9 when you prepared your opinion?

10 A. Well, a lot of paragraphs I read.
11 Let me just read it again. So they're talking
12 about something that can help, and that isn't
13 screwing and unscrewing. Okay.

14 Q. And so if your system has less
15 parts that need to be screwed and unscrewed, it
16 says it can help reduce the risk of site
17 contamination, right?

18 A. It says that, yes.

19 Q. And it could also help reduce the
20 risk of extensive tissue swelling?

21 A. It says that, yes.

22 Q. And it can even reduce healing
23 time?

24 A. Yes.

25 Q. Let's go to paragraph 171. The

1 BRUNSKI, Ph.D
2 last sentence advantageously. It says:
3 Advantageously certain embodiments of the
4 adapter having a provisional connection feature
5 can provide a system that is relatively easy to
6 use, e.g. having less parts such as less
7 screws. So this paragraph is saying relatively
8 easy to use is equivalent to fewer screws,
9 correct?

10 A. It's implying that.

11 Q. And the reverse is true. It's
12 saying the fewer screws you have, the easier
13 the system's going to be, right?

14 MR. CHAPMAN: Objection to form.

15 A. That is reasonable.

16 Q. So based on these portions of
17 Bernhard, well, I guess, back up.

18 So your declaration, let's see --
19 let's go to page 155. So ground four, so
20 ground four says: Claims one three, five
21 through seven, and nine through 12, would have
22 been obvious based on Bernhard in view of
23 Poovey and Gracco. And this is the same --
24 essentially all of your obviousness analysis
25 includes Bernhard, correct?

1 BRUNSKI, Ph.D

2 A. Yes.

3 Q. For this ground, for grounds five
4 and six as well?

5 A. Let me just check. Yep.

6 Q. And let me give you your PGR
7 declaration as well. That's Exhibit 1002 in
8 the PGR. And your PGR declaration -- sorry.
9 Okay. Your PGR declaration, ground three
10 includes Bernhard, correct?

11 MR. CHAPMAN: Are you looking at a
12 specific page?

13 MR. GIBBONS: I'm just looking at
14 the table of contents, page 4.

15 A. I'm sorry. What are you asking?

16 Q. In the PGR, similar to the IPR,
17 ground three says: These claims that it
18 identifies would have been obvious based on
19 Bernhard in view of Poovey and Gracco?

20 A. Yes.

21 Q. That is based on in part of
22 Bernhard, correct?

23 A. Yes.

24 Q. And then ground four, is also based
25 in part on Bernhard?

1 BRUNSKI, Ph.D

2 A. Yes.

3 Q. Now my question is: After going
4 through what Bernhard just said about screws,
5 why would a person of ordinary skill take
6 Bernhard, and say, I think what I should do is
7 add in a screw?

8 MR. CHAPMAN: Objection to form.

9 A. I mean, basically the logic is that
10 what Bernhard mainly came up with and analyzed
11 the problem correctly, is that it would be good
12 to have something that would simplify the whole
13 impression taking technique, and forget about
14 whether it involves screws or not at the
15 moment, the idea was to have a snap off kind of
16 apparatus, that could be coming off with the
17 impression so that the coping would be
18 available, and it was sort of like having the
19 advantages of the closed -- closed impression,
20 closed tray thing, but you know, now in -- with
21 a simplified way of doing with the implant with
22 this snap off thing. So, in a sense, he's
23 not -- the advantage is something -- a way of
24 getting a quick impression, or to quicken the
25 impression process and have this thing come off

1 BRUNSKI, Ph.D

2 with the coping.

3 Q. Right, and it achieves that
4 advantage by eliminating the screw, the
5 processing screws, correct?

6 MR. CHAPMAN: Objection to form.

7 A. Well, it would eliminate the --
8 let's say the tall screws that are used in the
9 open tray kind of technique.

10 Q. Right.

11 A. It's giving you kind of a closed
12 tray technique with this snap off feature.

13 Q. Right. It specifically says like
14 we read that using less screws makes it easier
15 to use, right?

16 A. As a general statement, that is
17 true.

18 Q. Yeah. It also says that one of the
19 benefits of its invention -- this is paragraph
20 168, is using fewer screws makes it more
21 efficient, reduces risk of site contamination,
22 reduces healing time, right?

23 A. Yeah, as a general approach, yes.

24 Q. And it even says, one of the
25 benefits is to reduce or substantially

1 BRUNSKI, Ph.D

2 eliminate the use of screwing and unscrewing
3 components, right?

4 A. You know, again, as a general goal,
5 that's laudable.

6 (Reporter clarification)

7 Q. And so why would a person of
8 ordinary skill be motivated after reading
9 Bernhard, after considering Bernhard in its
10 whole, to say, huh, I should add in a screw?

11 A. Well, because you're getting the
12 advantage of the snap off doing the closed tray
13 kind of impression. And I'm not sure what's
14 the adding of the screw, which -- what are you
15 talking about?

16 Q. Well, so your combinations say that
17 you would take the snap on feature of Bernhard
18 and add in the temporary screw of Poovey,
19 correct?

20 A. Right.

21 Q. So why would you -- why would
22 someone think that they should add in a
23 temporary screw at all, because isn't Bernhard
24 saying that this is a triumph of engineering to
25 eliminate screws?

1 **BRUNSKI, Ph.D**

2 A. In some ways, the snap off kind of
3 connection has its own sort of weak spots. So.

4 **Q. Why is that?**

5 A. Well, because snap off, if you
6 think about it, it's a -- his method is to kind
7 of have a little like O ring or a snap kind of
8 a feature which is delicate and perhaps as
9 tricky to use as screws. So the thought is if
10 you could combine it with Poovey where you have
11 a screw that can hold it down and get a little
12 bit more stability, and also have it engaged
13 with the female thread that's already in the
14 abutment, then you might have something that's
15 useful. So it's the question of the advantages
16 over the disadvantages.

17 **Q. Is that what you said in your**
18 **opinion?**

19 MR. CHAPMAN: Objection to form.

20 A. Well, I'm going to read it. Let me
21 just review.

22 **Q. Let's go to paragraph 67, in**
23 **particular.**

24 A. It's in the --

25 **Q. Of your declaration.**

1 BRUNSKI, Ph.D

2 A. Of the PGR?

3 Q. Of IPR.

4 A. What was the paragraph?

5 Q. Paragraph 67. So that first
6 sentence: In my opinion, Bernhard's hybrid
7 pickup process using temporary coping abutment
8 connectors combines the best aspects of the
9 open tray and closed tray techniques.

10 A. Yes.

11 Q. Right. So if it combines the best
12 aspects as is, why would a person of ordinary
13 skill feel the need to move beyond it at all?

14 MR. CHAPMAN: Objection to form.

15 A. Let me just review my report here.
16 Well, I think the idea is that if you look
17 in -- even in Bernhard, there's some commentary
18 about the fact that it's like the belt and
19 suspenders, that the advantage of having this
20 hybrid pickup process which can detach easily,
21 it's very good, but it's, you know, I'm saying
22 as a person of skill in the art if you also
23 have the opportunity to hold it down with a
24 temporary screw, a Poovey type screw, it gives
25 more stability to the system and but you still

1 BRUNSKI, Ph.D

2 retain the idea that it's -- it can come off
3 with like a closed tray kind of a situation.

4 Q. And where in Bernhard does it say
5 that?

6 MR. CHAPMAN: Objection to form.

7 Q. You just said Bernhard said that.

8 A. Paragraph I'm referring to is if
9 you look at 82.

10 Q. Of Bernhard?

11 A. Yeah. It reads that: In some
12 embodiments the coping 130 can include
13 additional connection features to reduce the
14 likelihood of inadvertent detachment of the
15 coping from the abutment. For example, in some
16 embodiments the coping and the abutment can be
17 attached using a separate fastener such as a
18 prosthetic screw 138, the prosthetic screw 138
19 can pass through a bore in the coping 130, and
20 positively engage a connection feature of the
21 abutment 120 such as the threaded bore 128, or
22 of the coupling screw 16. Thereby, securely
23 attaching the coping to the abutment. This can
24 advantageously further reduce the likelihood of
25 inadvertent detachment of the coping from the

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2 abutment. It should be noted that in some
3 instance the bore 139 is not included on the
4 coping, but can be formed at a later time.

5 The point is that there is an
6 illusion to having additional -- reduce the
7 likelihood of inadvertent detachment of the
8 coping.

9 Q. But that's at the conclusion of the
10 impression taking process, right?

11 A. I don't read it that way.

12 Q. It doesn't say this is a
13 provisional connection feature?

14 MR. CHAPMAN: Objection to form.

15 Q. Does it say that it's a provisional
16 connection feature?

17 A. No, not in that paragraph.

18 Q. In Bernhard whenever it's talking
19 about the temporary fastener, it uses the words
20 provisional connection, doesn't it?

21 MR. CHAPMAN: Objection to form.

22 A. That I'm not sure about.

23 Q. Isn't that something that you would
24 have learned from reading it?

25 A. Well, I'm not sure.

1 BRUNSKI, Ph.D

2 Q. Because before we read this, and we
3 talked about how the prosthetic screw refers to
4 the end of the process where you attach the
5 prosthesis on to the abutment, correct?

6 It's a temporary prosthesis, it's a
7 provisional prosthesis, but this is the end of
8 the conversion process, right? Because this
9 provisional prosthesis is going to be there for
10 some amount of time before the permit
11 prosthesis is attached, right?

12 A. Yeah, although, I'm wondering if
13 we're getting confused between impressions
14 versus a provisional prosthesis.

15 Q. I don't think I'm getting confused.
16 Are you getting confused?

17 MR. CHAPMAN: Objection to form.
18 Argumentative.

19 Q. Because it doesn't say provisional
20 prosthesis here. This is talking about the
21 conclusion of the denture conversion process,
22 right? You're attaching the temporary
23 prosthesis after you're done with the
24 impressions.

25 A. Well, let me read for a second. I

1 BRUNSKI, Ph.D

2 guess my reading of like paragraphs of 80, 81
3 and 82, these are descriptions that are not
4 necessarily linked to a particular stage of the
5 care of whether it's impression, or
6 provisionals, or final.

7 Q. Well, they can be like for 80 it
8 says, such as provisional connection feature
9 126, correct?

10 Can you point me to anywhere in
11 Bernhard where it refers it a threaded fastener
12 as a provisional connection feature?

13 A. Well, I wanted to look at Figure 1
14 because that -- maybe ask the question again if
15 you would.

16 Q. Can you point to me anywhere in
17 Bernhard where it refers to a threaded fastener
18 as a provisional connection feature?

19 A. I can't as I sit here.

20 Q. And in fact, the advantage of
21 Bernhard is eliminating the use of screws as
22 provisional connections, correct?

23 A. There is language in that
24 direction, yes.

25 Q. So why would someone who looks at

1 **BRUNSKI, Ph.D**

2 **Bernhard think that it would be an improvement**
3 **over this to add back in a screw over a**
4 **provisional connection?**

5 A. Well, I'm addressing it from the
6 standpoint of advantages during the impression
7 procedure. It's a way of connecting the coping
8 to the abutment better than just with a snap.
9 So as to get the closed tray advantages.

10 **Q. But would a person of ordinary**
11 **skill with just Bernhard know that? What in**
12 **Bernhard teaches that?**

13 MR. CHAPMAN: Objection to form.

14 A. Well, in my paragraph 67, it says:
15 Bernhard teaches that one can detach the coping
16 from the abutment without having to unscrew it
17 as in a closed tray impression process, using
18 the temporary connection feature which is the
19 snap, and without needing to predrill large
20 through holes in the open tray process.

21 **Q. But that's because it eliminated**
22 **the screw, right?**

23 A. It eliminated the screw or it's
24 gotten rid of some screws, but now it's
25 replacing it with a snap feature that has its

1 BRUNSKI, Ph.D
2 own weaknesses to some degree. But then can be
3 strengthened by putting in the Poovey idea,
4 'cause now you can take both of them off, so
5 the Poovey screw gives you some stability of
6 the otherwise snap fit coping, but then allows
7 you to still take it off. During the
8 impression process.

9 Q. Can you show me in Bernhard where
10 it talks about the weaknesses of a snap fit?

11 A. That's what I read into paragraph
12 82, where it says: Further reduce the
13 likelihood of inadvertent detachment of the
14 coping 130 from the abutment.

15 Q. I mean, but again, that's talking
16 about the definitive screw, right, at the end
17 of the process?

18 A. Well, not necessarily, I mean --
19 you know, in our conversation this morning, I
20 can read -- I can get ideas that aren't
21 necessarily linked to -- I'm using the ideas
22 that I get as I'm reading this, not necessarily
23 for every procedure.

24 Q. Okay. But given what, you know,
25 the rest of the things that Bernhard says about

1 BRUNSKI, Ph.D

2 screws, are you saying that taken by itself
3 despite everything else suggests using screws
4 as a provisional connection?

5 A. They don't know that I would
6 call -- a provisional connection I would tend
7 to call it, isn't more analogous to the
8 temporary screw, you know, that we talked about
9 this morning. The Poovey screw is like a
10 temporary screw.

11 Q. Exactly.

12 A. But it's not provisional, it's
13 during an impression.

14 Q. So the temporary screw that you're
15 saying we would incorporate from Poovey, would
16 be used for the provisional connection feature
17 that Bernhard uses?

18 A. I'm having trouble with the
19 terminology for provisional.

20 Q. That's just what your declaration
21 says, that's how they would be combined.

22 You wouldn't combine Poovey's
23 temporary screw with the definitive screw,
24 right, you wouldn't replace Bernhard's
25 definitive screw with Poovey's temporary screw?

1 BRUNSKI, Ph.D

2 A. No, I wouldn't.

3 Q. And so, anytime Bernhard talks
4 about using the prosthetic screw, it's talking
5 about using it to create a secure connection
6 for the provisional prosthesis, right?

7 A. I'm still not sure that provisional
8 prosthesis is what he is always talking about.
9 I'm talking about impressions.

10 Q. Right.

11 So let's go to paragraph seven of
12 Bernhard. Actually, let's go to paragraph six:
13 In one method, a provisional dental prosthetic
14 system can be attached to the patient's jaw
15 prior to fabrication and installation of a more
16 permanent dental prosthetic system. This can
17 provide the patient with an interim prosthetic
18 solution which is directly attached to the
19 patient's jaw. However, such provisional
20 dental prosthetic systems and methods often
21 require use of devices such as long processing
22 screws, which interfere with the clinicians
23 ability to determine and obtain a proper fit
24 for the prosthesis with respect to opposing
25 dentition.

1 **BRUNSKI, Ph.D**

2 A. I --

3 MR. CHAPMAN: I don't think there's
4 a question.

5 **Q. So the provisional prosthetic**
6 **system is what you're attaching to the abutment**
7 **long term, it's not something that you can**
8 **attach temporarily and then quickly remove,**
9 **correct?**

10 A. Well, see, this term provisional
11 dental prosthetic, or a provisional dental
12 prosthetic system can be attached prior to
13 fabrication and installation of a more
14 permanent dental prosthetic system. This can
15 be -- okay, see, the provisional prosthesis is
16 something that is often used -- well, maybe not
17 in this day and age, but at one point the
18 patient would wear a provisional prosthesis
19 while the permanent one was being made. So.

20 **Q. With the impressions that you took,**
21 **right?**

22 A. Well, it depends on -- yeah, I
23 mean, at some point an impression was taken.

24 **Q. Right. So the provisional**
25 **connection features are for that impression**

1 **BRUNSKI, Ph.D**

2 **taking process?**

3 A. No, I don't think so. I think
4 they're talking about actually holding on to
5 the jaw, a provisional dental prosthetic
6 system. Imagine a set of dentures that's
7 provisionally being held on by screws while the
8 better one is being made. So.

9 Q. Right. But that's not -- where in
10 Poovey does it -- sorry, where in Bernhard does
11 it talk about using that as the provisional
12 connection feature?

13 MR. CHAPMAN: Objection to form.

14 A. I'm not sure what you mean by
15 provisional connection feature.

16 Q. So let's go to paragraph 09.

17 A. Okay.

18 Q. About halfway down the page on the
19 right column: The method can also include the
20 step of temporarily coupling a coping to the
21 abutment --

22 A. I'm sorry, nine?

23 Q. Yeah, paragraph 9. Go to the
24 second column.

25 A. Okay, and where are we?

1 BRUNSKI, Ph.D

2 Q. It's the method can also include?

3 MR. CHAPMAN: About eight lines
4 down.

5 A. The method can also include, okay.

6 Q. The step of temporarily coupling a
7 coping to the abutment via a provisional
8 connection feature.

9 A. Okay.

10 Q. So point to me in Bernhard where it
11 discusses using a temporary or a threaded screw
12 to temporarily couple a coping to the abutment
13 via provisional connection feature. Where does
14 it -- where does it teach that?

15 A. Well, it doesn't say it in here.
16 It's talking about, this step of temporarily
17 coupling the coping to the abutment via
18 provisional connection feature can include the
19 step of engaging a snap fit connection feature
20 on the coping with a corresponding snap fit
21 connection on the abutment.

22 Q. Yeah, and then farther down the
23 paragraph, maybe ten lines up, it starts with
24 the method can also include.

25 A. The method can also include.

1 BRUNSKI, Ph.D

2 Q. The step of coupling the coping to
3 the abutment via a second connection feature.
4 The second connection feature being different
5 from the provisional connection feature. In
6 some embodiments the step of coupling the
7 coping to the abutment via a second connection
8 feature can include the step of fastening the
9 coping to the abutment using a threaded
10 fastener.

11 A. Let me just read what you read
12 here.

13 Q. So my question is: When anywhere
14 in Bernhard does it refer to using a threaded
15 fastener for a provisional connection feature
16 rather than the second connection feature?

17 A. I don't know the answer to that.

18 Q. It doesn't, correct?

19 MR. CHAPMAN: Objection to form.

20 A. I don't know.

21 Q. Don't you think that would have
22 been important to examine in detail for your
23 opinion?

24 MR. CHAPMAN: Objection to form.

25 A. I'm not sure since in the way I've

1 BRUNSKI, Ph.D
2 described it, it is a methodology that kind of
3 stands on its own. Whatever, you know -- parts
4 of the Bernhard's system we're still using, but
5 the idea is to keep the feature of a snap, but
6 improve it by holding it down a little bit
7 better and also, you know, using the Poovey
8 screw, which also can be engineered to be of
9 the right resilience to have it hold the thing
10 down but also come off.

11 Q. But don't we know that it's an
12 improvement because the 992 patent and 781
13 patent made that clear?

14 MR. CHAPMAN: Objection to form.

15 A. Well, this is a 2017 patent.

16 Q. Right, and it doesn't say anything
17 about using a threaded fastener as a
18 provisional connection feature, right?

19 MR. CHAPMAN: Counsel, you're
20 interrupting the witness when he's
21 trying to answer the questions.

22 A. No, I mean, it's prior art that can
23 be used the way I'm trying to use it.

24 Q. And so we only know that a threaded
25 fastener is an improvement over the snap fit

1 BRUNSKI, Ph.D

2 because Dr. Kofford invented it, right?

3 MR. CHAPMAN: Objection to form.

4 A. At that point in time, I don't know
5 whether that would be.

6 Q. Well, we know that now, right?

7 MR. CHAPMAN: Objection to form.

8 A. Well, this is 2017.

9 Q. Right, and so how would someone in
10 2017 know that it was an improvement based on
11 Bernhard?

12 MR. CHAPMAN: Objection to form.

13 A. What is Kofford state then, that
14 you're assuming?

15 Q. So the 992 patent?

16 A. Right.

17 Q. It uses a threaded temporary screw
18 rather than Bernhard's snap fit connection,
19 right?

20 A. And this -- that predates this?

21 Q. It post dates it -- it's the 992
22 patent?

23 A. Yes.

24 Q. So my question is, what in 2017 in
25 Bernhard would tell a person of ordinary skill

1 **BRUNSKI, Ph.D**

2 **that that's an improvement over what Bernhard**
3 **taught them?**

4 A. Well, Bernhard is -- the
5 breakthrough was, hey, here's a method of a
6 coping coming away and preserving like the
7 closed tray methodology.

8 **Q. Without a screw, right?**

9 A. Yeah, and that's the downside is,
10 it's a little bit risky because the snap isn't
11 always as strong as it might be so let's -- in
12 our argument, let's use a screw to hold it down
13 that also comes off during the impression
14 process.

15 **Q. But where in Bernhard does it talk**
16 **about the weaknesses of a snap fit like that?**

17 A. That's why I said that's the way I
18 read paragraph 82 as alluding to that.

19 **Q. Talking about the prosthetic screw,**
20 **the second connection feature?**

21 A. It isn't that specific. It's -- it
22 reads: In some embodiments the coping can
23 include additional connection features to
24 reduce the likelihood of inadvertent detachment
25 of the coping from the abutment. For example,

1 BRUNSKI, Ph.D

2 in some embodiments the coping and the abutment
3 can be attached using a separate fastener such
4 as a prosthetic screw.

5 Okay. This can -- they're
6 basically alluding to the fact that the idea of
7 using a screw could help hold down the coping.
8 And we're saying, because there is some
9 possible likelihood of inadvertent detachment
10 of the coping. In a sense I don't care when
11 that is, whether it's an impression or whatever
12 it is, the thought is that the snap kind of a
13 situation is liable to have some weakness to
14 it.

15 **Q. Well, and that's why it's used as a**
16 **provisional connection, right?**

17 A. Yeah, I'm having trouble with the
18 terminology provisional connection.

19 **Q. Because if you read -- if you read**
20 **paragraph 82 as suggesting the use of a screw**
21 **as a provisional connection, doesn't that wipe**
22 **out the benefits of Bernhard?**

23 MR. CHAPMAN: Objection to form.

24 A. I don't have an answer to that, I'm
25 sorry.

1 BRUNSKI, Ph.D

2 Q. Okay. Let's go to paragraph 58 in
3 your declaration.

4 A. Okay.

5 Q. You write, Bernhard discloses, and
6 then you list a bunch of provisional connection
7 features, right?

8 A. Yes.

9 Q. Is threaded fasteners one of these?

10 A. No.

11 Q. Can you show me in Bernhard where
12 he discloses grooves as a provisional
13 connection feature?

14 A. I would assume it's in one of these
15 paragraphs here. But in the drawings like in
16 Figure 8, there's like, line 708 is pointing to
17 a little O ring that's in a groove, that is
18 part of the snap fit.

19 Q. That's in Figure 8?

20 A. Yeah.

21 Q. What line?

22 A. If you look at 708, it's pointing
23 to a -- what looks to be like the O ring, maybe
24 I can give you a better --

25 Q. So if we go to paragraph 130

1 **BRUNSKI, Ph.D**

2 **doesn't it describe P 708 as a retention**
3 **spring?**

4 A. I'm sorry. Let me -- what was it?
5 708?

6 **Q. Paragraph 130, piece 708.**

7 A. That the retention spring 708.

8 **Q. Right.**

9 A. It can be a groove honestly.

10 **Q. So 708 in Figure 8 is not a groove,**
11 **right?**

12 A. But it's in, I mean, it's hard to
13 see, but it's held in some sort of groove,
14 otherwise it can't -- I mean it's part of the
15 structure.

16 **Q. Can you show me anywhere else where**
17 **it uses a groove?**

18 MR. CHAPMAN: Objection to form.

19 A. Numeral 202 here looks like it
20 could be, but I'm not sure.

21 **Q. What figure?**

22 A. 202. This is Figure 10.

23 **Q. 202. I think that's 802, so if we**
24 **go to paragraph 133, doesn't it describe 802 as**
25 **an annular slot?**

1 BRUNSKI, Ph.D

2 A. Which could be fairly called a
3 groove, could it not?

4 Q. Well, it could be, but doesn't
5 paragraph 58 in your declaration mention slot
6 separately? So where does it disclose a
7 groove?

8 A. I'm sorry. Your question, you mean
9 in Bernhard?

10 Q. Yeah.

11 A. What did you look it up as, what
12 was the word you found?

13 Q. So paragraph 133 refers to piece
14 802 as an annular slot?

15 A. Slot.

16 Q. Right?

17 A. Right, and I called it a slot in
18 paragraph 57?

19 Q. But no, my question was, can you
20 show me where it discloses a groove? You say
21 in 58 that it discloses a groove. I want to
22 know where it discloses that?

23 MR. CHAPMAN: Objection to form.

24 A. Well, I think it -- I'm calling the
25 slot that I'm referring to is the same one we

1 BRUNSKI, Ph.D

2 just talked about. In 133, what was the
3 number, eight?

4 Q. 802.

5 A. I can't find 802. Is it 802 or 202
6 in the line in Figure 10, I can't read the
7 numeral very well. Did you say it's 802?

8 Q. Yeah.

9 A. Slot annular slot 802 for receiving
10 the retention spring 708.

11 Q. Is it in any drawings?

12 MR. CHAPMAN: Objection to form.

13 A. What, the 802?

14 Q. A groove?

15 A. Well, it's an annular slot. I
16 would call that a groove.

17 Q. Well, but Bernhard doesn't call it
18 a groove. Show me -- can you show me anywhere
19 where Bernhard discloses something that
20 Bernhard calls a groove?

21 A. Not off the top of my head, no.

22 Q. What about Bayonet mounting
23 structure, you've got that in quotes. Can you
24 show me where Bernhard calls it a Bayonet
25 mounting structure?

1 **BRUNSKI, Ph.D**

2 A. Where are you finding that?

3 **Q. Paragraph 58 of your declaration.**

4 (Reporter clarification)

5 A. I found resilient fingers, but I
6 have not found Bayonet mounting structure.

7 **Q. Why don't we go to paragraph 73.**

8 A. Okay.

9 **Q. Does that paragraph describe a**
10 **Bayonet mounting structure?**

11 A. Other types of connection features,
12 this is -- such as a Bayonet mounting structure
13 can also be used.

14 **Q. What's a Bayonet mounting**
15 **structure?**

16 A. I would assume it's something like
17 a Bayonet slipping into a slot or a sheet but.

18 **Q. Do you think that would be a**
19 **practical provisional connection?**

20 (Reporter clarification)

21 A. I suppose if it were engineered,
22 right.

23 **Q. But it doesn't spell it out in**
24 **detail, does it?**

25 A. Not here.

1 BRUNSKI, Ph.D

2 Q. And can you point me to any
3 drawings where a Bayonet mounting structure
4 exists?

5 A. No, I do not have that.

6 Q. So in paragraph 58 of your
7 declaration, you say Bernhard discloses all
8 these features, but you can't point to where in
9 the drawings that they're found, right?

10 MR. CHAPMAN: Objection to form.

11 Objection, compound.

12 A. Well, I'd have to spend time more
13 carefully to go through all of these paragraph
14 numbers to just double check, but for now I
15 really can't answer that.

16 Q. And isn't this interpretation of
17 what Bernhard discloses more generous than your
18 interpretation of the 361 priority applications
19 disclosures?

20 MR. CHAPMAN: Objection to form.

21 A. I hear you. And I take your point.

22 Q. When you say I take your point,
23 does that mean yes?

24 A. I understand that you can see it
25 that way.

1 BRUNSKI, Ph.D

2 Q. Because, didn't you tell me that
3 when we were looking at the 361 priority
4 application that it needed to be called out in
5 detail like in Figure 75?

6 A. Yes, I said it needed to be spelled
7 out clearly.

8 Q. But here in 58, you say Bernhard
9 discloses a Bayonet mounting structure, right?

10 A. Yes.

11 Q. But Bernhard doesn't have any
12 picture of a Bayonet mounting structure, does
13 it?

14 A. Not that I've seen so far.

15 Q. And when I asked you what it was,
16 you weren't even sure what it was, right?

17 MR. CHAPMAN: Objection to form.

18 A. I had a sense of it, but you're
19 right, yes.

20 Q. So why are you using two different
21 standards to evaluate the 361 applications
22 disclosures from other prior art?

23 MR. CHAPMAN: Objection to form.

24 A. I didn't think I was, but I hear
25 your characterization.

1 BRUNSKI, Ph.D

2 MR. CHAPMAN: We've been going
3 about an hour. I don't know if this is
4 a good place to start.

5 MR. GIBBONS: Sure, we can take a
6 break. Off the record.

7 (Whereupon, an off-the-record
8 discussion was held.)

9 BY MR. GIBBONS:

10 Q. Okay, Dr. Brunski, I am sure I know
11 the answer, but did you discuss the substance
12 of your testimony?

13 A. No.

14 Q. Let me give you Exhibit 1005. So
15 this is the Poovey application, correct?

16 A. Yes.

17 Q. Has anyone commercialized a product
18 based on the technology in Poovey?

19 A. I don't know.

20 Q. Was it prosecuted until the
21 issuance of a patent?

22 A. I don't know the answer to that.

23 Q. Were you aware that this was an
24 application, not a patent?

25 A. Yes.

1 BRUNSKI, Ph.D

2 Q. Okay. Would it have been relevant
3 to know if it was abandoned?

4 A. No.

5 Q. Why not?

6 A. Well, it's still an idea.

7 Q. Sure, it's an idea.

8 MR. CHAPMAN: Counsel, I think Mr.
9 Brunski was in the middle of an answer
10 there.

11 A. No, it's an idea that is
12 interesting to me.

13 Q. But in knowing whether a person
14 would have a reasonable expectation of success
15 in making a product with it, wouldn't it be
16 helpful to know if it was abandoned because,
17 for example, it was impractical?

18 MR. CHAPMAN: Objection to form.

19 A. It would be interesting to know but
20 I think, you know, it wouldn't affect me that
21 much.

22 Q. It wouldn't bear at all on your
23 conclusion that a person of reasonable -- or a
24 person of an ordinary skill would have a
25 reasonable expectation of success with it?

1 **BRUNSKI, Ph.D**

2 A. I think what, you know, with my
3 knowledge of materials and stuff, I would not
4 necessarily put this on the shelf as totally
5 wrong headed.

6 **Q. Okay. But to be clear, you didn't**
7 **investigate whether it was prosecuted to the**
8 **issuance of a patent?**

9 A. I didn't investigate that, no.

10 **Q. You didn't investigate whether**
11 **anyone commercialized it?**

12 A. I didn't investigate it, no.

13 **Q. Were you aware of Poovey before**
14 **this engagement?**

15 A. No.

16 MR. CHAPMAN: Objection. Are you
17 referring to the gentleman or the
18 application?

19 **Q. The application.**

20 A. I was not aware of it, no.

21 **Q. Okay. Let's go to page 12 of**
22 **Poovey. So 21, would you agree with me that 21**
23 **discloses the relevant screw that you reference**
24 **in your declaration?**

25 A. Yes.

1 BRUNSKI, Ph.D

2 Q. Okay. What is heat labile -- what
3 is heat labile plastic?

4 (Reporter clarification)

5 A. I remember -- I think I looked it
6 up and it's basically, heat-labile means it's
7 sensitive to heat, you know, heat-labile,
8 affected by heat plastic.

9 Q. Okay. Affected how?

10 A. Perhaps to soften it or perhaps to
11 maybe even stiffen it but, you know, it's
12 sensitive to heat.

13 Q. What other applications is
14 heat-labile plastic used or labile?

15 A. I can't think of anything offhand.
16 I don't know the specific example for you.

17 Q. Okay. And here in paragraph 21, it
18 says: In certain embodiments the impression
19 coping securing screw, comprises threads made
20 of metal or plastic and coated with a
21 heat-labile plastic or silicone, right?

22 A. Yes, that's what it says.

23 Q. And then the sentence before that
24 says: The coping securing the impression
25 coping securing screw, comprising at least one

1 BRUNSKI, Ph.D

2 material selected from a heat-labile plastic
3 and silicone, right?

4 A. Were you reading 21 there? I
5 missed something. Would you please start over?

6 Q. Sure. So essentially, the first
7 paragraph of 21 discloses a screw that's made
8 completely from heat-labile plastic and
9 silicone, right?

10 A. Well --

11 Q. Or one of the two?

12 A. Yeah.

13 Q. One of the two.

14 So that would be the entire screw
15 post threads head, right?

16 (Reporter clarification)

17 MR. CHAPMAN: Objection to form.

18 So please proceed.

19 A. In certain embodiments the
20 impression coping securing screw comprises
21 plastic or silicone. I'm sorry. Read that
22 wrong. In certain embodiments the impression
23 coping securing screw comprises threads made of
24 metal or plastic and coated with a heat-labile
25 plastic or silicone.

1 BRUNSKI, Ph.D

2 Q. Right. Yeah, so this discloses a
3 screw that's either entirely made of one of
4 those materials, or made of metal and coated,
5 or metal or plastic, and coated with
6 heat-labile plastic or silicone.

7 (Reporter clarification)

8 MR. CHAPMAN: Objection to form.

9 Q. Essentially the whole screw can be
10 this special plastic or silicone, or the
11 threads can be coated with it, right?

12 A. Or it can be metal or plastic and
13 coated with this heat-labile plastic or
14 silicone.

15 (Reporter clarification)

16 Q. So it discloses both versions,
17 right?

18 MR. CHAPMAN: Objection to form.

19 A. Yeah, that sentence makes it sound
20 like, well, coating is possible. And it can be
21 metal or plastic.

22 Q. And then it says: At the time of
23 removal, the heat-labile plastic or silicone
24 threads, or heat-labile plastic or silicone
25 coated threads are activated to allow the

1 **BRUNSKI, Ph.D**

2 **impression coping to be disengaged from the**
3 **implant. Right?**

4 A. Correct.

5 **Q. Now, how would they be activated?**

6 A. Well, it's not clear, although it
7 could be that if it's heat-labile, maybe
8 there's some kind of heat treatment that needs
9 to be done. Or maybe in some other
10 formulation, somebody injects something on to
11 it or activates it in some way chemically. Not
12 clear from the writing.

13 **Q. Where does it mention chemical**
14 **injections?**

15 A. Well, it doesn't say that, but when
16 I see the word activated, it makes me think of
17 something like that.

18 **Q. Okay.**

19 **How -- what kind of a mechanism**
20 **would be able to apply heat to activate**
21 **heat-labile plastic?**

22 A. Well, they're not clear about this
23 in the patent, but presumably one might have
24 some dental device, some sort of in office
25 device, that could sort of locally heat

1 BRUNSKI, Ph.D

2 something up inside of an impression coping or
3 something, or inside near the implant, wherever
4 you need to it shine the light, let's say, like
5 shining a light on it.

6 Q. Okay. How could you shine a light
7 on a heat-labile screw or heat-labile plastic
8 or silicone screw, how could you shine a light
9 on it if it's inside an abutment?

10 A. Or even in an implant, I guess is
11 what they say. Well, it might have to be
12 targeted, so that maybe it's almost like a heat
13 gun. I mean, we're speculating, I don't know
14 what the inventor had in mind on that, but
15 presumably some local way of applying heat.

16 Q. So to be clear, you're saying
17 Poovey discloses this. But you aren't sure how
18 exactly it would be activated?

19 MR. CHAPMAN: Objection to form.

20 A. I can't tell, you know, just from
21 that paragraph.

22 Q. And so this would be another
23 example of applying a more generous standard
24 person of ordinary skill standard to this than
25 to the 361 application, right?

1 **BRUNSKI, Ph.D**

2 MR. CHAPMAN: Objection to form.

3 A. Well, it also would depend on what
4 are the claims that are coming out of this.

5 **Q. Well, but we're not worried about**
6 **the claims, we're just worried about what's**
7 **disclosed, right?**

8 MR. CHAPMAN: Objection to form.

9 A. Yes, I'm reading what's disclosed.

10 **Q. So let's go back to the heat gun**
11 **idea. Have you seen a heat gun like that?**

12 A. No, I haven't.

13 **Q. Are you aware of the existence of**
14 **such a heat gun?**

15 A. I have a large heat gun for my
16 automobile, but this would have to be -- I'm
17 not familiar with what's out there, but -- or
18 maybe it would even be something the size of a,
19 you know, the typical instrument that a dentist
20 uses to, you know, just squirt water in your
21 mouth or something, something that's small like
22 that. Or if there were local heat, it would be
23 applied.

24 **Q. Now, to use this in the way you're**
25 **suggesting in your obviousness analysis, the**

1 BRUNSKI, Ph.D

2 prosthetic or the impression taking material
3 would be on top of the coping at this point,
4 right?

5 A. Yes.

6 Q. And the coping would be underneath
7 that, so impression material, coping, temporary
8 screw, abutment?

9 A. Correct.

10 Q. How could you heat up the
11 heat-labile plastic without damaging the
12 prosthetic or the coping?

13 A. Well, maybe the choice of the
14 polymer or plastic for the Poovey screw itself
15 would be sensitive to different ranges of heat
16 than the coping itself might be, if the coping
17 were plastic, for example. You would have to
18 engineer it this way.

19 Q. At the very least you would have to
20 heat the coping enough to transfer sufficient
21 heat to the screw though, right?

22 (Reporter clarification)

23 A. If you were doing it with some sort
24 of device that we don't have in front of us.
25 It's hard to speculate.

1 BRUNSKI, Ph.D

2 Q. To get the coping that hot, you'd
3 have to heat the impression material
4 sufficiently to transfer the heat to the
5 coping, right?

6 A. Well.

7 Q. Would you agree this sounds
8 impractical?

9 A. It sounds clumsy to some degree.

10 Q. Talking on an all on four
11 configuration to be able to have the benefits
12 of Bernhard, right, you'd have to heat them all
13 up simultaneously, right, all four abutments?

14 MR. CHAPMAN: Objection to form.

15 A. You know let me just interject, I
16 -- my suggestion of using Poovey was not to do
17 it in this way. The idea I would get out of
18 this is that it's possible to make a flexible
19 screw that doesn't need to be heat activated,
20 it could be just some correct formulation of
21 the silicone polymer, maybe with a filler that
22 has the properties that you want to be able to,
23 you know, draw it out of the, you know, the
24 abutment site the way, so -- so I would not
25 even worry about the heat 'cause that wouldn't

1 BRUNSKI, Ph.D

2 be my approach.

3 Q. Okay. So you would agree that
4 wouldn't be a practical approach?

5 A. It sounds messy to me, yes.

6 Q. Okay. Well, let's talk about
7 silicone. Are you aware of how small the
8 screws in denture conversions are?

9 A. Yes, I've seen examples.

10 Q. Do you know the standard -- for
11 example, do you know the screw gage for the
12 NeoConvert system for the abutment?

13 A. I've seen a picture of it, I mean,
14 it's -- we're talking about like a millimeter.

15 Q. Would like M 1.4, M 1.6, how big
16 would a screw like that be?

17 A. That's a metric, I mean, we've
18 actually used those at Stanford, it's smaller
19 to do screw implants in mice. In any event,
20 it's quite small, for sure.

21 Q. So would it be possible to produce
22 a screw made out of silicone that small?

23 A. I think the way people, I mean,
24 silicone is used in denture lining
25 applications, and if you look up information

1 BRUNSKI, Ph.D

2 about that, it's not too hard to cast, so you
3 could perhaps cast something that small. And
4 if it's the right formulation, you can have an
5 modulus where it's reasonably stiff.

6 **Q. What do you mean by cast?**

7 A. Just have a liquid formulation -- I
8 mean, a lot of silicone parts are made by
9 casting or what's the word, molding, putting it
10 into a mold. So there's ways of doing that.

11 **Q. Okay.**

12 A. And just generally it doesn't have
13 to be as flexible as you tend to think of
14 silicone being.

15 **Q. Would it be possible to mold a**
16 **screw with the threading necessary to fit into**
17 **one of these abutments?**

18 A. Could be, in this day and age.
19 We've gotten screws made at Stanford that are
20 half millimeter, that are actually screws made
21 out of reabsorbable polymer. They're not cast.
22 But I wouldn't put it past somebody to be able
23 to do that.

24 **Q. And have you ever seen a screw made**
25 **out of silicone that's as small as the ones**

1 BRUNSKI, Ph.D

2 we're talking about?

3 A. I haven't seen one, no.

4 Q. Have you ever heard of one being
5 used in any setting?

6 A. No.

7 Q. Do you think it would be difficult
8 to make a screw threading that small out of
9 silicone, even if you could?

10 A. I don't know how difficult, you
11 know, things are pretty advance these days. I
12 wouldn't put it past somebody to be able to do
13 that.

14 Q. What about in 2017?

15 A. Not that long ago, but I wouldn't
16 say that it's impossible or something, no.

17 Q. But you're not aware of a
18 well-known technique for doing it?

19 A. Well, my -- you know, my experience
20 would say that it's probably molding, it would
21 be the way to go, because the machine would be
22 difficult so.

23 Q. But as you're sitting here you
24 can't say that it would be possible, you can
25 say -- only say that you think it could be

1 BRUNSKI, Ph.D

2 possible?

3 MR. CHAPMAN: Objection to form.

4 A. The latter, I would say.

5 Q. Now, the definitive screw in
6 Poovey, on page 9, does that show symmetric or
7 asymmetric threads?

8 A. Those are symmetric.

9 Q. And are those the same or different
10 from the definitive screws threads?

11 A. Are you talking about in his
12 definitive screws in whose?

13 Q. In Poovey. So if you look at
14 Figure 7, do -- are the screw threads on the
15 temporary screw in 13 different from the screw
16 threads on the definitive screw in 7?

17 A. It's hard to tell from that
18 picture.

19 Q. Does it look like they're the same?

20 A. This is Figure 7?

21 Q. Yeah.

22 A. Generally, they look the same.
23 Obviously the size scale is different but.

24 Q. So the idea here with Poovey is
25 assuming it works of course, with the silicone

1 BRUNSKI, Ph.D

2 or the plastic, that you can take a screw
3 that's exactly the same dimensions as the
4 definitive screw, activate it, and it can
5 release, right?

6 A. Yes.

7 Q. And that's without any, you know,
8 mismatch between the screw threading, it's just
9 the same screw, just made out of plastic or
10 silicone?

11 A. Yes.

12 Q. Now, let's go to paragraph 266 of
13 your declaration. So the last sentence: A
14 POSA wishing to simplify Bernhard's hybrid
15 pickup process would be motivated to use a
16 threaded temporary screw instead of, or in
17 addition to, a snap fit connection.

18 How would using a threaded
19 temporary screw in addition to a snap fit
20 connection simplify Bernhard?

21 A. Well, it's simplifying it in the
22 sense that you got more stability and less
23 worry about the snap off being a little bit
24 unstable. So the pickup process could go more
25 smoothly.

1 BRUNSKI, Ph.D

2 Q. So it's not simplifying it in the
3 sense of making more simple?

4 A. Well, there's not -- there
5 aren't -- they're not fewer parts, but it's the
6 pickup process is now, the whole impression
7 process is simpler 'cause it's like the closed
8 tray.

9 Q. So how would you use -- how do you
10 envision using a temporary screw in addition to
11 a snap fit connection?

12 A. Well, you wouldn't have to, but it
13 could, you know, I suppose you could still have
14 it, you know, without monkeying with it, just
15 still use it and have the screw in addition to
16 the snap fit.

17 Q. Wouldn't that increase the pullout
18 force necessary, if you had the snap on coping
19 and the pullout screw?

20 (Reporter clarification)

21 A. Perhaps a little bit, but that can
22 be engineered by, you know, properties of the
23 screw and the properties of the snap fit
24 connection.

25 Q. Well, this is -- this sounds less

1 BRUNSKI, Ph.D

2 simple than Bernhard's snap fit coping, doesn't
3 it?

4 MR. CHAPMAN: Objection to form.

5 A. Well, I wouldn't, you know, I would
6 just go with what I just said.

7 Q. Okay. How about instead of a snap
8 fit connection? Was -- as we discussed before,
9 Bernhard's whole thing was getting rid of
10 screws, so how would it simplify Bernhard to
11 add in a screw?

12 A. Well, it's more stable and
13 reliable. That's what I would say.

14 Q. Doesn't Bernhard say that it could,
15 you know, increase chair time?

16 A. I don't envision it taking anymore
17 chair time than using a snap fit.

18 Q. We're talking about what Bernhard
19 says. Doesn't Bernhard say it would take more
20 chair time?

21 MR. CHAPMAN: Objection to form.

22 A. I think it's hard to generalize
23 with, you know, screws are used all the time,
24 so I don't think the industry is suddenly never
25 going to have screws, so there's a certain

1 BRUNSKI, Ph.D

2 amount of tolerance of screws.

3 Q. We're talking about what a person
4 of ordinary skill would do after reading
5 Bernhard, right?

6 A. Yes, that's right.

7 Q. And a person of ordinary skill
8 after reading Bernhard wouldn't turn around and
9 say, I'm going to add in another screw, right?

10 MR. CHAPMAN: Objection to form.

11 A. Well, I'm not sure we're adding
12 another screw, we're taking an impression with
13 this screw. I'd have to go and count up. You
14 know, I don't know how to answer your question
15 for sure.

16 Q. Well, so you're envisioning using
17 the threaded temporary screw instead of the
18 snap fit coping, right?

19 A. Right.

20 Q. So that would be adding in a screw
21 that Bernhard doesn't include, right?

22 A. Yes, that's true.

23 Q. And no person who reads Bernhard
24 would say, I think -- I think what would really
25 help us is another screw?

1 BRUNSKI, Ph.D

2 coping on stably and then getting it off.

3 Q. So let's go to paragraph 306 of
4 your declaration. You say: I note that the
5 central benefit of both Bernhard and Poovey is
6 the ease with which the impression components
7 can be removed by applying an axial force
8 during pickup processing.

9 (Reporter clarification)

10 A. Yes.

11 Q. But now you're saying that a POSA
12 who combined those two would have to make it
13 even easier to remove the components?

14 A. Well, we're also talking about one
15 of the engineering variables that you can
16 manipulate at this point is the threading on
17 this screw.

18 Q. You can do anything, but why would
19 a person who combined these two think they
20 needed to do anything else?

21 MR. CHAPMAN: Objection to form.

22 A. Well, they might -- I mean, who
23 knows how it would work out. I mean, it
24 depends on the properties of the polymer that
25 you have. Maybe you need more help to get the

1 BRUNSKI, Ph.D

2 force that you'd like.

3 **Q. But does Poovey say that you need**
4 **more help?**

5 A. No, but I, as a person of art, I
6 might want to, you know, once I learn more
7 about how impressions are done and what the
8 forces would be, I might have to engineer to
9 optimize the kind of force that is required to
10 take things off.

11 **Q. If Poovey works like it says it**
12 **does, and the silicone threads are flexible,**
13 **why would you need to adjust it?**

14 A. Well, like I'm saying, maybe
15 they're not -- maybe the kinds of pullout
16 forces that you get given the size that you're
17 describing, you know, the metric one millimeter
18 diameter, maybe you have to do more than just
19 change the mechanical properties of, let's say,
20 the silicone that you're using and fiddle
21 around with thread design to see how that
22 contributes to the pullout force.

23 **Q. And what in Poovey tells you --**
24 **would tell a person of ordinary skill if they**
25 **should fill around like that?**

1 **BRUNSKI, Ph.D**

2 A. I don't know that he teaches it.
3 But I think somebody who is interested in the
4 problem of removing impressions and copings
5 would be thinking about that problem.

6 **Q. Why would they be thinking about**
7 **that?**

8 A. Well, because you don't want to
9 have to require the force to take off a coping
10 etc. during impressions. You don't want it to
11 be too much force, 'cause that may damage the
12 implant that's underneath the bone.

13 **Q. Well, it's not too much force?**

14 MR. CHAPMAN: I think Dr. Brunski
15 was trying to finish his answer. Are
16 you finished, your answer?

17 A. Yeah, go ahead and ask.

18 **Q. How can it be too much force**
19 **because in 306 you say the central benefit is**
20 **the ease with which the impression components**
21 **can be removed?**

22 A. Ease in the sense that it's coming
23 off as like the closed tray method. Not ease
24 as a measure of the force. The force that it
25 requires, who knows what it is, maybe it's --

1 BRUNSKI, Ph.D
2 well, this is something you'd worry about and
3 want to know what should a typical force be in
4 removing an impression, you know, together with
5 a coping. You wouldn't want to that to be ten
6 pounds or something. If there's some kind of
7 target that you try to hit where, okay, it
8 comes out -- you're balancing between the screw
9 has to hold the coping down so there has to be
10 a certain amount of retentive pressure that
11 it's applying to the coping, but then you don't
12 want it to be too loose in holding the coping
13 down, but you don't want it to be so engaged
14 that it's hard to pull off with a force that's
15 too large.

16 Q. Well, if you're this concerned
17 about the pullout of the screw, wouldn't it be
18 easier to go back to Bernhard's snap fit?

19 A. Well, again, we're trying to get
20 rid of some of the problems with the snap fit.
21 Which is already a technology that's maybe a
22 little bit too sensitive, you know, you're
23 talking about something that's, you know,
24 resistance to sideways forces maybe isn't so
25 great, since it's a snap fit kind of thing.

1 BRUNSKI, Ph.D

2 Q. How did you come across the Gracco
3 reference?

4 A. You know, in discussions with
5 counsel, you know, saw this literature about
6 Gracco's testing 'cause we're trying to
7 understand the role of threads and anchorage
8 and, you know, as a function of thread design.

9 Q. Did you do your own prior art
10 searches?

11 A. I have, I have some 'cause I have
12 done some work in the area of screw threads and
13 so I have some knowledge of that field anyway.

14 Q. But did you do your own prior art
15 search for this opinion?

16 A. I didn't do a prior art search, no.

17 Q. So you didn't find Gracco yourself?

18 A. That's true.

19 Q. What does Gracco add to the
20 equation?

21 MR. CHAPMAN: Objection to form.

22 A. It adds some insight into the role
23 of thread design and how it affects the pullout
24 force for a screw shaped object.

25 Q. Okay. But I mean, again, if

1 BRUNSKI, Ph.D

2 Bernhard and Poovey, you know, work as they say
3 they do, a person of ordinary skill wouldn't
4 need to worry about fiddling with the screw
5 threads, right?

6 MR. CHAPMAN: Objection to form.

7 A. Well, like I said, it's kind of a
8 design problem. You want to have the Poovey
9 screw be strong enough or get enough screw down
10 force that it holds the coping correctly. But
11 then when you take it off, you don't want it to
12 be on too strong, so the thread design is one
13 variable in the problem. So we're talking
14 about the material properties of the Poovey
15 screw, the geometry, the size, the diameter of
16 the, you know, the thread pattern etc. So
17 these are all things to think about in
18 designing it.

19 Q. But as a practical matter, Poovey
20 says that a screw, the exact same as the
21 definitive screw would be fine, because it's
22 flexible, right?

23 A. Well, this is something that you'd
24 have to, I think -- just because he says that
25 doesn't mean that every application that's the

1 BRUNSKI, Ph.D

2 answer.

3 Q. And I mean, really the only reason
4 to bring in Gracco is so that you can get an
5 asymmetric screw thread like the disclosure in
6 the priority applications, right?

7 (Reporter clarification)

8 MR. CHAPMAN: Objection to form.

9 A. No, I think it's just part of the
10 design process of trying to think what would
11 be, you know, what do I have at my disposal to
12 change, you know, the force to withdraw a
13 screw. I was just going to add Gracco is one
14 paper to look, you know, to look at for that.

15 Q. Poovey was before Bernhard,
16 correct?

17 A. 2016, yeah.

18 Q. So if a person of ordinary skill
19 would be motivated to combine them why didn't
20 Bernhard incorporate Poovey in its own
21 application?

22 MR. CHAPMAN: Objection to form.

23 A. Well, I don't know the answer to
24 that.

25 Q. Would it have been simpler than a

1 **BRUNSKI, Ph.D**

2 **snap fit?**

3 MR. CHAPMAN: Objection to form.

4 A. I would say more reliable.

5 **Q. Okay. But again, Bernhard doesn't**
6 **mention any reliability problems, does he?**

7 A. Well, it's that paragraph about
8 sometimes dislodging how did the phraseology,
9 at least in paragraph 82 --

10 **Q. About the definitive screw?**

11 A. No, the thought that further reduce
12 the likelihood of inadvertent detachment of the
13 coping from the abutment. You know, there's a
14 couple of places where they're worried about
15 that issue, and with a screw like this that
16 holds it down, more securely, you have a more
17 secure reliable attachment of the coping.

18 **Q. Which would you would want for the**
19 **definitive screw, right?**

20 A. For that as well, sure.

21 **Q. But not necessarily for a screw**
22 **that you're removing within an hour?**

23 MR. CHAPMAN: Objection to form.

24 A. Well, I think you need it during
25 the impression process because that is -- that

1 BRUNSKI, Ph.D

2 can also dislodge things, I think that's what
3 this secure part is, it's holding the coping
4 down so that you get a good fidelity in the
5 impression.

6 Q. But don't we know that that's the
7 case because of the 992 patent?

8 MR. CHAPMAN: Objection to form.

9 A. I don't follow.

10 Q. Don't we know that that's an
11 advantage of this technology because
12 Dr. Kofford invented the technology?

13 MR. CHAPMAN: Objection to form.

14 A. Yeah, I don't know how to answer
15 that. I mean, inventions in that area are
16 good, sure.

17 Q. It seems like you're recreating the
18 prior art analysis, the obviousness
19 combinations based on what's in the 992 patent?

20 MR. CHAPMAN: Objection to form.

21 A. Well, I think, no, as an exercise,
22 I think this is a reasonable exercise to go
23 through. To look at what's out there at that
24 time in the history of these things, and see
25 what you come up with.

1 BRUNSKI, Ph.D

2 Q. Okay. Let me give you Exhibit
3 1006. Is this the Gracco reference?

4 A. Yes.

5 Q. Which you didn't find, correct?

6 A. Correct.

7 Q. Can you describe to me the
8 experiment that's being conducted in this
9 study?

10 A. Basically, the authors installed
11 six different types of screws, different
12 geometries of screws in a synthetic bone
13 material, and then basically just measured the
14 pullout force by loading this up in a tensile
15 testing machine -- loading up the samples or
16 the specimen in a tensile testing machine and
17 just measuring the force to pull out the screw.

18 Q. And these were self-tapping screws,
19 correct?

20 A. These are mini screws,
21 12 millimeters in length -- ten millimeters in
22 external diameter screws --

23 (Reporter clarification)

24 The implants are self-drilling and
25 self-tapping with a cutting flute at the apex

1 BRUNSKI, Ph.D

2 of the screw.

3 Q. Because they're self-tapping by
4 definition they match the threading of the
5 material around them, correct?

6 A. That's true.

7 Q. Because they're creating the
8 threading?

9 A. Correct.

10 Q. And so what this is measuring is
11 the force necessary to degrade the material
12 around them, right?

13 A. Well, when you say degrade, they're
14 coming out because they're fracturing the
15 material around them, yes.

16 Q. Right, 'cause the screws didn't
17 fracture, right?

18 A. Correct.

19 Q. So it's examining based on the
20 design of the screw, the force needed to
21 fracture the material around them?

22 A. That's a way of saying it, yes.

23 Q. Now, for the type of temporary
24 screws we're talking about, wouldn't it be
25 important to not fracture the threading around

1 **BRUNSKI, Ph.D**

2 **it?**

3 A. Yeah, I mean, this isn't the model
4 experiment that's perfect in every respect, but
5 it does give a sense of the role of the thread
6 geometry on the resistance to pulling out the
7 screws.

8 **Q. But does it say anything about the**
9 **role of thread geometry in pulling out from**
10 **threads that they don't degrade?**

11 A. I think it's, you know, looking at
12 this literature, I think I'm pretty comfortable
13 that the geometry features here in this kind of
14 experiment would probably follow similarly if
15 it had been done in a slightly different way,
16 let's say, you know, having them tested in a
17 material where it was polymerized around -- if
18 they had done a different experiment in which,
19 let's say, they were installed in some sort of
20 resin they could polymerize around them, and
21 then you try to pull them out. You know, like
22 for example, the B example where it's --
23 they're pulling a buttress thread, it's almost
24 intuitively clear that something like that
25 where you have the flanks oriented that's going

1 BRUNSKI, Ph.D

2 to give you less of a pullout than some of
3 these other geometries, like for example, A or
4 C. But I would agree, yes, it's not the
5 perfect test.

6 Q. And A, B, C and D in the figure,
7 you would say those are asymmetric threads,
8 right?

9 A. Yeah, A, B and C and D, yes.

10 Q. Those are all asymmetric thread
11 profiles?

12 A. Yeah, D is a little hard to see,
13 but yes.

14 Q. And Gracco is from 2002 or 2012?

15 A. 2012.

16 Q. Were these well-known thread
17 profiles?

18 A. I don't know that I can answer
19 that. I mean in terms of orthodontics, this is
20 the context for this work. I don't know
21 whether they were. No doubt they were, you
22 know, in discussion of at that time. They
23 wouldn't have tested just random designs.

24 Q. Does anything in the reference
25 indicate that these are novel thread profiles?

1 BRUNSKI, Ph.D

2 MR. CHAPMAN: Objection to form.

3 A. I didn't see any comment on that.

4 Q. And so in the disclosure in the 361
5 application, if it says asymmetric threads, a
6 person of ordinary skill would probably have in
7 mind at least these four, right?

8 MR. CHAPMAN: Objection to form.

9 A. Could be, yes.

10 Q. As possibilities?

11 A. Yes.

12 Q. Let's go to 1008. Exhibit 1008.

13 And this is the dairy reference, correct?

14 A. Yes.

15 Q. I imagine you didn't investigate
16 whether this has been commercialized?

17 A. I didn't, no.

18 Q. Did you investigate whether a
19 patent was issued on the basis of this
20 application?

21 A. No, I didn't.

22 Q. So this I take it, you're citing
23 for the idea of the split post, correct, is
24 that what this adds to the combination?

25 A. Yes.

1 BRUNSKI, Ph.D

2 Q. So I mean, to start with, why would
3 a person of ordinary skill take this split post
4 and turn it into a screw, if the whole point of
5 this system is to eliminate the screw?

6 MR. CHAPMAN: Objection to form.

7 A. Well, it gives -- if we build that
8 into the Poovey plastic screw, it's -- it gives
9 you this additional design variable which is
10 the flexible legs. So it's yet another way you
11 control what's going on in a -- in the
12 extraction.

13 Q. We know that with hindsight, but
14 why would a person take a system designed to
15 replace screws and put a screw back in?

16 MR. CHAPMAN: Objection to form.

17 A. Well, because it's art that's out
18 there and let's try it. I mean, it's something
19 to try.

20 Q. That is the only -- that's the only
21 thing you can think of for what might possibly
22 motivate someone, let's try it?

23 A. Well again, like in the case of
24 trying to understand the variables that you
25 want to be able to control, this gives you

1 BRUNSKI, Ph.D

2 further insight into what would control an
3 extraction force.

4 **Q. Okay. When adding in this split**
5 **post make the Poovey screw less simple?**

6 A. Somewhat. But it's being -- let's
7 say cast or molded anyway. And I don't know
8 that this would add that much to the problem.

9 **Q. Wouldn't that help much to the**
10 **problem of manufacturing?**

11 A. It wouldn't add that much more of
12 an issue to the problem of making it or
13 manufacturing it.

14 **Q. Would it add anything significant**
15 **to the pullout?**

16 MR. CHAPMAN: Objection to form.

17 A. Well, it could because by
18 engineering the length or width of the slot you
19 have a design variable that you can manipulate.

20 **Q. But I mean, in the end, isn't it**
21 **still simpler just to use a snap on coping?**

22 A. As I said, I think that was a big
23 advance, Bernhard's advance, because it was,
24 hey, you got a technique that's further closed,
25 it's basically like a closed tray system, but

1 BRUNSKI, Ph.D

2 it has that problem of a little bit of
3 fragility and snap on connection.

4 Q. I think we can take a break. And
5 then I'll have my last questions. We're good
6 to stop here.

7 (Whereupon, an off-the-record
8 discussion was held.)

9 BY MR. GIBBONS:

10 Q. Dr. Brunski, I anticipate this is
11 the last time I'll ask you this. Did you speak
12 with your counsel about the substance of your
13 testimony?

14 A. No, I didn't.

15 Q. Let's go to paragraph 37 of your
16 IPR declaration. Page 29 in the bottom left
17 corner.

18 A. All right. What paragraph?

19 Q. 37. So it says: I understand that
20 one must also consider objective evidence that
21 the claims subject matter would not have been
22 obvious, if any such evidence is presented.

23 And then it includes a list of
24 objective evidence of nonobviousness, correct?

25 A. Yes.

1 BRUNSKI, Ph.D

2 Q. Did you consider any such evidence
3 in reaching your conclusions?

4 A. Only what was in my report.

5 Q. Okay. And I think your report, if
6 we're going to paragraph, starting at 386?

7 A. I'm getting there. Yep, here's
8 386.

9 Q. So it says: I understand that
10 objective evidence of nonobviousness must be
11 considered in determining whether a patent
12 claim would have been obvious, correct?

13 A. Yes.

14 Q. I also understand that patent owner
15 may attempt to introduce evidence that it
16 contends is objective evidence of
17 nonobviousness, correct?

18 A. I understand that, yes.

19 Q. That's what it says?

20 A. Yes.

21 Q. Where is that understanding come
22 from?

23 A. I'm being told this by
24 understanding of what's going on in the legal
25 side.

1 BRUNSKI, Ph.D

2 Q. Okay. So this isn't based on your
3 awareness of, for example, commercial success
4 of the products at issue?

5 MR. CHAPMAN: Objection to form.

6 A. I'm sorry, would you rephrase that.

7 Q. This understanding of what patent
8 owner may attempt to introduce, this isn't
9 based on your own understanding of, for
10 example, the commercial success of patent
11 owner's products?

12 A. Yes, that's not coming from that.

13 Q. Okay. Are you aware of whether or
14 not patent owners products have been
15 successful, the Smart Denture Conversions
16 products?

17 A. Only in so far as I see that it's
18 on the market and, you know, it's on the web
19 and you know, it exists and it's a commercial
20 product.

21 Q. You haven't heard about Smart
22 Denture Conversions from any of your friends in
23 the industry or anything like that?

24 A. I actually hadn't, no.

25 Q. And then what about the NeoConvert

1 BRUNSKI, Ph.D

2 product that petitioner markets, have you heard
3 anything about its commercial success?

4 A. No, I haven't.

5 Q. And from any of your friends in the
6 industry?

7 A. No.

8 Q. Now it says: Because of this
9 possibility, I've been asked to consider
10 whether patent owner's commercial product
11 practices i.e. has a nexus with any of the
12 claims of the 992 patent.

13 Is that your standard for
14 determining whether it has a nexus, if it
15 practices the claims directly?

16 A. Well, the sentence, it says: I've
17 been asked to consider whether patent's owner
18 commercial product practices any of the claims
19 in the 992 patent or as a nexus, is there a
20 connection between the commercial product and
21 the claims.

22 Q. Right. And is this sentence saying
23 that it could only have a nexus with the
24 obviousness, or the claims if it practices
25 them?

1 **BRUNSKI, Ph.D**

2 A. I think that's what I'm saying,
3 yes.

4 **Q. Okay. And so if that's not the**
5 **correct standard, then that would invalidate**
6 **your opinions in this section, correct?**

7 MR. CHAPMAN: Objection to form.

8 A. That's sort of a legal question
9 that I don't know the answer to it.

10 **Q. Now, you concluded that patent**
11 **owner's commercial product does not practice**
12 **the 992 patent claims, correct?**

13 A. Well, it looks like it's doing some
14 of the -- it's resembling some of the
15 embodiments, but not this Figure 75 embodiment.
16 So I'm just going to say, I mean, there are
17 claims that I assume would be relevant here.

18 **Q. Okay. Are you aware of the Kofford**
19 **patent, the 345 patent?**

20 A. Yes.

21 **Q. So looking at Exhibit 1013?**

22 A. Yep, got it.

23 **Q. So were you aware that the Kofford**
24 **patent was issued based on the 361 application?**

25 A. I've heard that, yes.

1 BRUNSKI, Ph.D

2 Q. And that's the same 361 application
3 that the patent owner contends establishes its
4 priority date for the 992 patent?

5 A. I believe that's correct.

6 Q. Are you aware of the differences
7 between the claims in the Kofford patent and
8 the 992 patent?

9 MR. CHAPMAN: Objection to form.

10 A. I don't recall as I sit here.

11 Q. So if the Kofford patent goes to
12 embodiments that have a separable cap, you
13 would agree that that material is in the 361
14 application, correct?

15 MR. CHAPMAN: Objection to form.

16 A. Yep. I've seen embodiments look
17 like this device, yes.

18 Q. And would you agree that the
19 embodiments covered by the Kofford patent have
20 the same advantages and benefits as the ones
21 covered by the 992 patent?

22 MR. CHAPMAN: Objection to form.

23 A. Just rephrase that or state it
24 again.

25 Q. Well would you agree that the

1 BRUNSKI, Ph.D
2 advantages of the embodiments with separable
3 caps, which are covered by 992 -- or by the
4 Kofford patent, they have the same advantages
5 in the process of denture conversions as the
6 ones covered by the 992 patent that -- let
7 me -- that was a really long question. Let me
8 start over.

9 So the 361 application discloses
10 embodiments with and without separable caps,
11 right?

12 A. Okay, yes.

13 Q. Both versions have the same
14 benefits over the previous art, right?

15 MR. CHAPMAN: Objection to form.

16 A. I'll accept it as you go on.

17 Q. For example, they both let you use
18 a closed tray impression process, right?

19 A. Yes.

20 Q. But they give you the accuracy and
21 stability of the open tray process, right?

22 A. Right.

23 Q. Both embodiments?

24 MR. CHAPMAN: Objection to form.

25 Q. Or all embodiments, I mean. So for

1 BRUNSKI, Ph.D

2 example, the ones with and without separable
3 caps would allow you to eliminate the
4 processing screws from the open tray process,
5 right?

6 A. Yes.

7 Q. And so the benefits of both
8 embodiments, with and without separable caps,
9 are the same, right?

10 MR. CHAPMAN: Objection to form.

11 A. Well, they could be, yeah.

12 Q. And so if patent owner's products
13 are separable cap products, wouldn't that be
14 relevant to the nonobviousness of the
15 nonseparable cap products?

16 MR. CHAPMAN: Objection to form.

17 A. Just phrase that again?

18 Q. If patent owner's products
19 incorporate the separable caps, right?

20 A. Yep.

21 Q. Wouldn't their commercial success
22 be relevant to the 992 patent's embodiments
23 that don't have separable caps?

24 MR. CHAPMAN: Objection to form.

25 A. I guess, I'm not sure where you're

1 BRUNSKI, Ph.D

2 going in terms of -- we're talking about
3 commercial things on the market or just
4 theoretically?

5 Q. In theory, we can say, so for
6 example, you say in 386 that -- or you say in
7 392, that because patent owner's separable
8 fasteners don't satisfy the 992 patent's
9 claimant limitations, therefore, any commercial
10 success or receive praise of the separable
11 fastener product, has no nexus with the claims
12 here, right?

13 MR. CHAPMAN: John, are you
14 paraphrasing?

15 MR. GIBBONS: I am, yeah.

16 MR. CHAPMAN: Paragraph 392?

17 MR. GIBBONS: Yes.

18 MR. CHAPMAN: Okay. Thank you.

19 Q. So let's read it, right?

20 A. Go to it.

21 Q. Paragraph 392.

22 A. Okay.

23 Q. So 392, in some, patent owner's
24 separable fasteners do not satisfy all the
25 limitations of claims one through 12.

1 BRUNSKI, Ph.D

2 Therefore, to the extent that patent owner's
3 separable fastener product has enjoyed
4 commercial success or received praise, there is
5 no nexus between that success or praise in any
6 of the claims. As a result, I understand that
7 any such evidence would not constitute
8 objective evidence of nonobviousness of any
9 claims one through 12. Right, that's what it
10 says?

11 A. Right.

12 Q. So my question is: If patent
13 owner's separable fasteners are based on
14 technology coming from the same priority
15 application, that enjoys the same benefits over
16 the existing technology as the ones covered by
17 the 992 patent, why wouldn't that be relevant
18 to the 992 patent's obviousness?

19 MR. CHAPMAN: Objection to form.

20 A. Yeah, I'm not grasping the
21 question. Sorry. Just maybe say it again.

22 Q. Sure. So the separable fastener
23 products have separable caps, right?

24 A. Could I just pause. Let me just
25 read this to make sure I can read through the

1 BRUNSKI, Ph.D

2 paragraphs.

3 Q. Sure.

4 A. Go ahead.

5 Q. So the products with separable caps
6 have the same advantages as the ones without
7 separable caps, right?

8 MR. CHAPMAN: Objection to form.

9 A. Okay. I'll take it.

10 Q. So for example, the Smart Denture
11 Conversion product that's in this diagram,
12 right, that's not like Figure 75, which is a
13 single piece temporary fastener, right?

14 A. Correct.

15 Q. But they enjoy the same advantages
16 over the open and closed tray techniques,
17 right, they allow you to have the same
18 efficiencies, the same simplicity, ease of use?

19 MR. CHAPMAN: Objection to form.

20 A. Yes.

21 Q. And they solve the same problems
22 with the open and closed tray techniques,
23 right?

24 A. Yes.

25 Q. And so if that's true, why isn't

1 **BRUNSKI, Ph.D**

2 **evidence of this product's commercial success**
3 **relevant to the claims of the 992 patent?**

4 MR. CHAPMAN: Objection to form.

5 A. Well, the word relevant, I mean,
6 it's -- I'm not sure what you -- it's relevant
7 but like that particular product isn't
8 practicing or doesn't satisfy the claim
9 limitations from the 992. So I mean, again,
10 maybe it's a legal question. I don't know how
11 to parse out what I should do with the
12 commercial success of this vis a vis the 992.

13 **Q. So you were just essentially told**
14 **to consider whether it practices the claims?**

15 MR. CHAPMAN: Objection to form.

16 A. Well, that's what I'm saying. The
17 separable fasteners don't satisfy all of the
18 limitations of claim one to 12, therefore to
19 the extent the patent owner's separable
20 fastener product has enjoyed commercial success
21 or received praise, there's no nexus between
22 that success or praise in any of the claims of
23 992.

24 So I would understand that any such
25 evidence would not constitute objective

1 BRUNSKI, Ph.D

2 evidence of nonobviousness of any of claims one
3 to 12.

4 Q. And what is the function of
5 objective evidence of obviousness? What role
6 does it play in this analysis?

7 MR. CHAPMAN: Objection to form.

8 A. Well, the degree to which it's
9 embraced by the market is some measure of,
10 let's say, it's cleverness or how much people
11 want it.

12 Q. Yeah. And so it helps you -- it
13 helps kind of gage whether an obvious analysis
14 looking backwards is actually what a person of
15 ordinary skill would have done at the time,
16 right?

17 MR. CHAPMAN: Objection to form.

18 Q. Because like you said, it shows
19 cleverness?

20 A. Yes.

21 Q. And so if the Smart Denture
22 Conversion process enjoys extraordinary success
23 because of the problems it solved, and it
24 solves them in ways similar to the 992 patent's
25 technology, isn't that evidence of

1 **BRUNSKI, Ph.D**

2 **nonobviousness for the 992 patent's claims?**

3 MR. CHAPMAN: Objection to form.

4 A. Yeah, I'm not sure that that's not
5 a legal question. I mean, I'm informed in a
6 sense that -- my understanding is that, you
7 know, it needs to be related to the claims.

8 Q. Okay. Would you think it would be
9 relevant if a larger company copied a smaller
10 company's design, would that have bearing on
11 the obviousness question?

12 MR. CHAPMAN: Objection to form.

13 A. I have no idea.

14 Q. Would that -- would that seem to
15 indicate nonobviousness if a larger company
16 essentially knocked off a smaller company's
17 design?

18 MR. CHAPMAN: Objection to form.

19 A. Well, I don't know that that
20 happened. It's a hypothetical.

21 Q. Right, hypothetical. I mean,
22 wouldn't it show a nexus with the claims?

23 MR. CHAPMAN: Objection to form.

24 A. I don't think so. I don't know.

25 Q. What about the length of time that

1 BRUNSKI, Ph.D

2 the open and closed tray techniques existed
3 before this technology was developed, did you
4 consider that in your obviousness analysis?

5 MR. CHAPMAN: Objection to form.

6 A. No, I didn't.

7 Q. Do you have any sense for how long
8 the closed and open tray techniques were
9 practiced before this technology was developed?

10 MR. CHAPMAN: Objection to form.

11 A. I'm thinking in the context of
12 dental implants, when I first got into the
13 field, people were doing largely open tray --
14 this we're talking now the '80s. So I don't
15 know exactly when I would draw the lines, but
16 it's -- so I don't know.

17 Q. Sure. But you would say open tray
18 techniques have been practiced in basically
19 their -- the same form since the '80s?

20 A. For implants, yeah, I think since
21 implants were developed.

22 Q. And what about closed tray
23 techniques?

24 MR. CHAPMAN: Objection to form.

25 A. I don't know exactly when that sort

1 BRUNSKI, Ph.D

2 of took over. It's a good question.

3 Q. Okay. And I mean, the fact that
4 these same issues that the open tray technique
5 was used for so long, without these issues
6 being solved with the long processing screws
7 and the inconvenience that we discussed
8 earlier, the fact that it was practiced for so
9 long without solving those problems suggests
10 that the 992 patent's technologies is novel and
11 not obvious, wouldn't it?

12 MR. CHAPMAN: Objection to form.

13 A. It would be evidence in that
14 direction, yes.

15 Q. It would suggest that it was
16 clever?

17 A. Yes.

18 Q. And my last question is -- well, my
19 last line of questions, you said: I've been
20 asked to consider whether patent owners --

21 MR. CHAPMAN: Where are you?

22 MR. GIBBONS: Paragraph 386.

23 MR. CHAPMAN: Thanks.

24 Q. I've been asked to consider whether
25 patent owner's commercial product practices any

1 BRUNSKI, Ph.D

2 of the claims of the 992 patent.

3 Do you see that?

4 A. I'm sorry. 386. Okay, where am I
5 now, 387?

6 Q. 386. The last sentence you say: I
7 have been asked to consider whether patent
8 owner's commercial product practices i.e. has a
9 nexus with any of the claims of the 992 patent.
10 You see that?

11 A. Yes.

12 Q. Did you also consider whether
13 petitioner's commercial product practices any
14 of the claims of the 992 patent?

15 A. I was not asked to consider that,
16 no.

17 Q. Okay. If it did practice those
18 claims, would evidence of petitioner's
19 commercial product or commercial success be
20 relevant to obviousness?

21 MR. CHAPMAN: Objection to form.

22 A. Yeah, I don't -- I see this as
23 somewhat of a legal question, and I don't feel
24 comfortable answering it. I don't know.

25 Q. Okay.

1 BRUNSKI, Ph.D

2 And I guess, at the beginning of
3 paragraph 386, you say: I understand that
4 objective evidence of nonobviousness must be
5 considered in determining whether a patent
6 claim would have been obvious to a POSA, right?

7 A. Yes.

8 Q. It sounds like you didn't consider
9 any evidence of nonobviousness?

10 MR. CHAPMAN: Objection to form.

11 A. Only the material. Only the
12 material that's here in my report.

13 Q. And your report says that you
14 didn't consider anything relevant, correct?

15 MR. CHAPMAN: Objection to form.

16 Q. You didn't think it was -- had a
17 nexus?

18 (Reporter clarification)

19 MR. CHAPMAN: Objection to form.

20 A. Sorry, ask it again.

21 Q. So you said your conclusion was
22 that because patent owner's separable
23 fasteners, this is 392, do not satisfy all the
24 limitations of claims one through 12 -- then
25 the next sentence, there is no nexus between

1 BRUNSKI, Ph.D

2 success or praise in any of the claims, right?

3 A. Yes.

4 Q. So in other words, you didn't
5 consider any evidence of nonobviousness, right?

6 MR. CHAPMAN: Objection to form.

7 Objection. Mischaracterizes his
8 testimony.

9 A. I've considered what's here. And
10 as I said the legal part of it is -- I'm
11 uncomfortable trying to inject my understanding
12 of what nexus is in this context.

13 Q. Right. Well, so what's here is in
14 evidence of the Smart Denture Conversion's
15 products commercial success, right?

16 A. Well, it's evidence that it exists.
17 It's out there in the commercial marketplace.

18 Q. Right. But you went through and
19 you analyzed whether it practices the claims,
20 and then you just dismissed any evidence of
21 commercial success, right?

22 MR. CHAPMAN: Objection to form.

23 A. Sorry, I don't think I can answer
24 that with knowledge.

25 Q. Well, just based on this, so

1 BRUNSKI, Ph.D

2 paragraphs 388 or 387 through 391, you analyzed
3 whether the separable fastener satisfies claims
4 one through 12. Right?

5 A. Yes.

6 Q. You say it doesn't, right?

7 A. Yes.

8 Q. And then you say because it
9 doesn't, there's no nexus between that success
10 or praise in any of the claims, right?

11 A. Yes.

12 Q. As a result, I understand that any
13 such evidence would not constitute objective
14 evidence of nonobviousness, right?

15 A. Right.

16 Q. So you didn't consider patent
17 owner's separable fasteners, you didn't
18 consider its commercial success, you didn't
19 consider praise for the separable fastener, you
20 didn't consider any of that, right?

21 MR. CHAPMAN: Objection to form.

22 Objection. You're misstating what the
23 report says. I think the problem is the
24 word consider. He did consider it.

25 MR. GIBBONS: Well, Counsel, you

1 BRUNSKI, Ph.D

2 can't have speaking objections.

3 MR. CHAPMAN: This is about the
4 fifth time you've asked the same
5 question.

6 MR. GIBBONS: He doesn't understand
7 the question.

8 MR. CHAPMAN: Six and a half hours.
9 I'm trying to help all of us get through
10 this. Try a different question.

11 **Q. Did you consider evidence of Smart**
12 **Denture Conversion's commercial success?**

13 A. Only in so far as the knowledge of
14 the existence of this on the market, and the
15 fact that it has a web page, and is selling,
16 and doing seemingly commercial, you know,
17 flourishing commercial company.

18 **Q. Did you consider the failure of**
19 **others to successfully arrive at the claimed**
20 **invention?**

21 MR. CHAPMAN: Objection to form.

22 A. No.

23 **Q. Did you consider deliberate copying**
24 **of the claimed invention?**

25 MR. CHAPMAN: Objection to form.

1 BRUNSKI, Ph.D

2 A. No.

3 Q. Did you consider any evidence of
4 unexpected results achieved by the claimed
5 invention?

6 MR. CHAPMAN: Objection to form.

7 A. The claimed invention is this
8 separable cap fastener.

9 Q. Of the 992 patent?

10 A. I didn't need to. No, I didn't.

11 Q. And you didn't consider evidence of
12 the praise of the claimed invention by others?

13 MR. CHAPMAN: Objection to form.

14 A. I have not seen that evidence, no.

15 Q. So in other words, you did not
16 consider any of that evidence in reaching your
17 conclusion?

18 MR. CHAPMAN: Objection to form.

19 A. Well, I thought I did, but.

20 Q. And if you -- as you say, objective
21 evidence of nonobvious must be considered, and
22 you didn't consider it, wouldn't that
23 invalidate your conclusion?

24 MR. CHAPMAN: Objection to form.

25 A. As I say, I'm not fully sure of the

1 BRUNSKI, Ph.D

2 legal parts of it, so I don't know how to
3 answer it. So.

4 Q. All right. That's all my
5 questions, Mark.

6 MR. CHAPMAN: We'll take a break.
7 I think I may have some follow-up for
8 Dr. Brunski. Give me ten minutes.

9 (Whereupon, an off-the-record
10 discussion was held.)

11 EXAMINATION BY

12 MR. CHAPMAN:

13 Q. Okay. Dr. Brunski, I have a few
14 questions for you in light of the questions
15 that Mr. Gibbons posed. Can you pull your copy
16 of Exhibit 1012. That's the 361 application.

17 A. Yep.

18 Q. Do you recall earlier today Mr.
19 Gibbons asked you some questions about Figure
20 75?

21 A. Yes.

22 Q. That's on page 38, correct?

23 A. Yeah.

24 Q. And am I correct that, well,
25 does -- what kind of thread pattern does Figure

1 BRUNSKI, Ph.D

2 75 depict?

3 A. It's an asymmetric buttress thread.

4 Q. Okay. And then Mr. Gibbons also
5 asked you to comment on the some of the text
6 that describes Figure 75. Do you remember
7 that?

8 A. Yes.

9 Q. Specifically, I'm referring to text
10 on page 97. Are you at page 97?

11 A. Yes, I'm there.

12 Q. Okay. Sorry, now you have to wait
13 for me to find where I want to go.

14 One of the sentences that Mr.
15 Gibbons asked you about, I believe, is the one
16 that begins, for example, it's the third
17 sentence?

18 A. Yes.

19 Q. For example. I'll just read it
20 into the record: For example, as shown in
21 Figure 75, an alignment fastener 39 may contain
22 a separable threaded or serrated portion 40,
23 that engages the screw's threads in the
24 abutment for pickup, but that will release with
25 axial force after.

1 BRUNSKI, Ph.D

2 And then he also took you to the
3 next sentence, which I will also read: Figure
4 75 shows a temporary attachment post 39 having
5 a slot 41, an asymmetric threads or serrations
6 40, that allow the temporary attachment post to
7 be inserted through rotation for alignment for
8 coping pickup, but may be subsequently
9 extracted with a separation force in the axial
10 direction.

11 Do you see that?

12 A. Yes.

13 Q. Now, in that sentence, am I correct
14 that this describes the threads or serrations
15 40 shown in Figure 75 as asymmetric, correct?

16 A. Yes.

17 Q. Okay. So in that sentence, what is
18 the meaning of asymmetric that is conveyed to a
19 person of ordinary skill, in light of the fact
20 that it's described in Figure 75?

21 MR. GIBBONS: Objection to form.

22 A. It looks like a buttress thread.

23 Q. Okay. Does Figure 75 depict any
24 other type of thread besides a buttress thread?

25 A. No.

1 BRUNSKI, Ph.D

2 Q. Does it depict any other type of
3 asymmetric thread besides a buttress thread?

4 A. Not to me, no.

5 Q. If you turn to page 100 of the same
6 exhibit, Mr. Gibbons asked you about the, I
7 believe, it's the third sentence that refers to
8 an interference fit?

9 A. Yes.

10 Q. Okay.

11 A. I see it.

12 Q. I want you to read the preceding
13 sentences from the beginning of that paragraph
14 as well to yourself. And then I have a
15 question for you.

16 A. You want me to read the whole
17 beginning of the paragraph onward?

18 Q. Yes, to yourself.

19 A. Okay. Okay. I got as far as
20 similarly.

21 Q. Okay, so those first two --
22 actually let's talk about the first sentence
23 first. I'll read it into the record: Although
24 the descriptions above used rotational
25 engagement on the bottom of the post with

1 BRUNSKI, Ph.D
2 internal threads of the abutment as a preferred
3 approach, this is not meant to be limited.
4 Alternate approaches for engaging a temporary
5 attachment post with abutment threads through
6 axial insertion without rotation, are
7 considered to be part of this disclosure.

8 Let me stop there. What do those
9 first two sentences tell you about what is
10 being described in this paragraph?

11 A. Well, it's describing something
12 like Figure 75. It's a temporary screw that's
13 using rotational engagement at the bottom of
14 the post with internal threads of the abutment
15 as a preferred approach, but that's not meant
16 to be limiting. And then there's an alternate
17 approach for engaging a temporary attachment
18 post with abutment threads through axial
19 insertion without rotation to be considered as
20 part of this disclosure.

21 Q. So what does that sentence that you
22 just read tell you about the interference fit
23 embodiment that Mr. Gibbons asked you about?

24 A. Well, that's not a rotational
25 engagement. It's an example of an axial

1 BRUNSKI, Ph.D

2 insertion without rotation.

3 Q. So just so I can understand what
4 you're saying, are you saying it's not screwed
5 in, it's pushed in?

6 A. Correct.

7 Q. Turn back a few pages to page 96,
8 please, and at the top of that page, do you see
9 the paragraph that discusses Figure 69?

10 A. Yes.

11 Q. Okay. Let's just refresh ourselves
12 about Figure 69 by referring to page 37.

13 A. Okay.

14 Q. And do you remember Mr. Gibbons
15 asked you some questions about this embodiment?

16 A. Yes.

17 Q. Okay. And if you would, could you
18 please refresh yourself about this embodiment
19 by turning back to page 96 and just reading to
20 yourself this paragraph.

21 A. For Figure 69.

22 Q. Figure 69 and the description of it
23 on page 96.

24 A. Okay.

25 Q. I just wanted to confirm with you

1 BRUNSKI, Ph.D

2 that reference numeral 59, that refers to what
3 I described as small break away tabs, correct?

4 A. Yes.

5 Q. And is it -- can you explain to me
6 how this embodiment works when you are pulling
7 the prosthesis and the coping off the patient's
8 jaw?

9 A. Well, it says: The cap and the
10 post do not slide axially relevant to one
11 another, instead small break away tabs 59 in
12 the flange portion are designed to yield under
13 axial force during the prosthesis and coping
14 assembly removal after the bonding step. The
15 break away portions are designed to fracture at
16 an axial force exceeding the force applied to
17 align the coping to the implant abutment for
18 pickup.

19 Q. So in this embodiment, does the
20 threaded post remain in the abutment or does it
21 get pulled out with the coping?

22 A. It says the -- it seems like the
23 screw 62 stays there.

24 Q. And what gets released along with
25 the prosthesis and the coping?

1 BRUNSKI, Ph.D

2 A. The flange portion.

3 Q. Is that the same -- is that the
4 flange portion that has those break away tabs?

5 A. Yes.

6 (Reporter clarification)

7 Q. Okay. So if the post stays in the
8 abutment, the dentist who is doing the
9 procedure is going to have to go in and unscrew
10 it from the abutment?

11 A. Correct.

12 Q. If you can put that aside for the
13 moment, please, and look at your declaration in
14 the IPR. And would you turn to the very first
15 page in the table of contents, please.

16 A. Okay.

17 Q. Do you see there's a heading V. --
18 roman V legal standards?

19 A. Yes.

20 Q. And if that -- if we turn to
21 page 11, which is where that section begins,
22 please?

23 A. Okay.

24 Q. Among the legal standards in this
25 section is one entitled, obviousness, correct,

1 BRUNSKI, Ph.D

2 do you see that?

3 A. I'm sorry, tell me again. You're
4 on page 11?

5 Q. I'm sorry. Page 11 is where it all
6 starts. I just wanted to confirm with you that
7 you have that legal standards chapter, a
8 section that addresses obviousness; is that
9 correct?

10 A. Yes.

11 Q. Okay. That's on page 14?

12 A. Yes.

13 Q. And this is your statement of your
14 understanding of the legal standards that need
15 to be applied for obviousness?

16 A. Yes.

17 Q. And am I correct that it carries on
18 through until page 17?

19 A. Yes.

20 Q. And then on page 18, I see a
21 heading written description and enablement
22 requirements.

23 Do you see that?

24 A. Yes.

25 Q. So what is this section?

1 BRUNSKI, Ph.D

2 A. I'm sorry. I don't understand the
3 question.

4 Q. All I was asking was this section G
5 on page 18, what is your understanding of what
6 this section is setting out?

7 A. It's the written description
8 requirement, I mean, enablement requirement.

9 Q. So am I correct that it's setting
10 forth the legal standard for the written
11 description analysis?

12 A. Yes.

13 Q. Okay. And did you apply that legal
14 standard when you were conducting your written
15 description analysis that's on page 18 here?

16 A. Yes.

17 Q. And when you were analyzing
18 obviousness, did you apply the legal standards
19 set forth in that section which goes from
20 page 14 to page 17?

21 A. Yes.

22 Q. Okay. Now turn to page -- I'm
23 sorry, let me go back to the table of contents.
24 Do you see on the second page of the table of
25 contents, you have a heading level of ordinary

1 BRUNSKI, Ph.D

2 skill?

3 A. What page is that on?

4 Q. It's on the second page of the
5 table of contents.

6 A. Yes, level of ordinary skill.

7 Q. So let's turn to that section,
8 please.

9 A. Okay.

10 Q. Okay. That section runs on
11 page 70, paragraph 127, all the way up to the
12 end of page 71, paragraph 130?

13 A. Yes.

14 Q. Okay. And what is -- what do those
15 paragraphs set forth?

16 A. My opinion regarding the
17 qualifications and experience of a person of
18 ordinary skill in the art.

19 Q. Did you apply that definition of
20 one of ordinary skill in the art when you were
21 conducting your written description analysis?

22 A. Yes.

23 Q. And did you apply that definition
24 of one of ordinary skill in the art when you
25 were conducting your obviousness analysis?

1 BRUNSKI, Ph.D

2 A. Yes.

3 Q. Turn please to paragraph 58 of the
4 same declaration.

5 A. Okay.

6 Q. Do you remember Mr. Gibbons asking
7 you some questions about this paragraph?

8 A. Yes.

9 Q. And this paragraph discusses the
10 Bernhard prior art?

11 A. Yes.

12 Q. And so what part of your analysis
13 did this paragraph relate to?

14 A. This was reviewing the prior art,
15 in this case Bernhard.

16 Q. Okay. And when you conducted your
17 analysis, in what way did you use the prior art
18 including Bernhard, why was that relevant to
19 your analysis?

20 A. Well, I'm interested in what is
21 known about copings and abutments and how to
22 hold them together, etc.

23 Q. Okay. If you turn -- sorry. If we
24 turn to page -- I'm sorry. Let's just go back
25 to the table of contents, I think that's just

1 BRUNSKI, Ph.D

2 the easiest way to orient you.

3 A. Okay.

4 Q. If you go to page Roman seven in
5 the table of contents at the bottom, which is
6 page 8 of the exhibit, if that helps.

7 A. Yep.

8 Q. If you look at heading E, you see
9 that?

10 A. Yes.

11 Q. So read that to yourself and then
12 I'll ask you my question.

13 A. Yes, I've seen it.

14 Q. Does heading E confirm that you
15 relied on Bernhard as part of your obviousness
16 analysis?

17 A. Yes.

18 Q. Mr. Gibbons also asked you some
19 questions about Poovey, which is Exhibit 1005.
20 Do you still have that?

21 A. Yes, someplace. Yeah.

22 Q. Okay, good, and I think Mr. Gibbons
23 asked you about paragraph 21 which is on
24 page 12 at the bottom.

25 A. Right.

1 BRUNSKI, Ph.D

2 Q. And do you recall that Mr. Gibbons
3 asked you questions about making this
4 impression coping security screw out of
5 silicone?

6 A. Correct.

7 Q. And can you tell me, is silicone --
8 what does silicone the word describe in terms
9 of a class or a group of materials?

10 A. It's a type of polymer, common
11 polymer.

12 Q. Okay. And is it just one polymer?

13 A. Well, that's the generic name. You
14 can have different formulations of silicone and
15 they vary in properties such as hardness,
16 modulus, those kinds of mechanical properties.

17 Q. If one ordinary skill set out to
18 make a flexible screw with silicone, would they
19 know which version of silicone to choose that
20 would be suitable?

21 A. I think that's kind of an
22 engineering design problem, that yes, they
23 would start to investigate what they, you know,
24 what kind of size is needed and what kind of
25 loads would it be subjected to, and therefore

1 BRUNSKI, Ph.D

2 how to size it, and what kind of properties to
3 pick. So it's a design problem at that point.

4 Q. Okay. Is that design problem
5 within the level of ordinary skill of a person
6 in the ordinary skill in the art?

7 A. I would say so.

8 Q. I'm sorry. Go back to your
9 declaration, please. And turn to paragraph 37,
10 which is on page 16.

11 A. Okay.

12 Q. Okay. And just to orient yourself,
13 do you understand what paragraph, what section
14 of your report paragraph 37 is in?

15 A. This under obviousness.

16 Q. Any particular -- if you turn back
17 to page 11, do you see that paragraph 37 is
18 under the legal standards section that you have
19 in your report?

20 A. Yes.

21 Q. Okay. So please read paragraph 37
22 to yourself, and then I have a question for
23 you.

24 A. Okay. I've read it.

25 Q. Okay. So I'm going to read into

1 BRUNSKI, Ph.D
2 the record the first sentence: I understand
3 that one must also consider objective evidence
4 that the claim subject matter would not have
5 been obvious, if any such evidence is
6 presented. At the time you submitted your
7 declaration -- and why don't we refresh
8 ourselves about that, if we turn to the back
9 you can see when you signed it.

10 A. Yeah. Wait a minute that's --
11 looking for the -- it's April 30th, 2025.

12 Q. Okay. To the best of your
13 knowledge, that's the same day that Straumann
14 filed this IPR petition, correct?

15 A. I didn't recall that, but it sounds
16 right.

17 Q. At that time, had the patent owner
18 presented any evidence of objective evidence of
19 nonobviousness that you were aware of?

20 A. No.

21 Q. Okay. Is the same true with
22 respect to the PGR petition?

23 A. Yes.

24 Q. If the patent owner does -- if the
25 patent owner does present objective evidence of

1 BRUNSKI, Ph.D

2 nonobviousness, will you consider that at that
3 time?

4 A. Sure.

5 Q. Okay. I just have one more
6 question, Dr. Brunski, if you pull up Bernhard
7 which is -- I'm sorry -- Exhibit 1003. And how
8 many figures are there in Bernhard?

9 A. 36.

10 Q. Okay. And how many pages of texts
11 of written description is there in Bernhard?

12 A. About 23, or 22 and a half.

13 Q. Okay. And you remember Mr. Gibbons
14 asked you whether in those 23 pages of text and
15 in those 36 figures you can identify for him a
16 groove as the provisional connection feature?

17 A. Yes.

18 Q. And were you able in the time
19 allotted to you to be able to find any
20 reference to a groove?

21 A. Not a groove but a slot.

22 Q. Okay. But in your declaration if
23 you turn to page 58, I'm sorry -- paragraph 58?

24 A. Yep.

25 Q. Mr. Gibbons pointed out that in

1 BRUNSKI, Ph.D

2 that paragraph you do list grooves among the
3 other connection features, correct?

4 A. Yes.

5 Q. And you have some citations here at
6 the bottom of the paragraph to various
7 paragraphs of Bernhard?

8 A. Yes.

9 Q. And various figures. If you had
10 time to go through all those paragraphs and all
11 those figures, are you confident that you would
12 find them reference to a groove that you state
13 is there?

14 A. That's what I said at the time, I
15 thought I should go through and look at those.
16 But probably I would, yes.

17 Q. Well, probably or you would?

18 A. I think I would if it's listed.

19 Q. You wouldn't have said it was there
20 if it wasn't there, correct?

21 A. Correct.

22 Q. That's all I have. Thank you.

23 CONTINUED EXAMINATION BY

24 MR. GIBBONS:

25 Q. One more question. Can you go

1 **BRUNSKI, Ph.D**
2 **through those right now and find a reference to**
3 **a groove? You can have as much time as you**
4 **want.**

5 MR. CHAPMAN: I would like to know
6 how much time is left of the seven
7 hours, before we embark on this.

8 MR. GIBBONS: I have a separate
9 hour for redirect, under the trial
10 guide. So it's 7, four and then one.

11 MR. CHAPMAN: Not if I don't use my
12 full time.

13 MR. GIBBONS: You get four. You
14 can use as much as you want.

15 MR. CHAPMAN: Jonathan, we planned
16 on a seven-hour deposition and we agreed
17 to that. We spoke yesterday and for you
18 to suggest that you get eight hours is
19 rich at this point. I'd like to know
20 how much time has been spent. Do we
21 have that, are you keeping track of
22 that?

23 A. I mean, it would be good to have a
24 PDF version, I would just search.

25 **Q. Well, there's eight paragraphs.**

1 BRUNSKI, Ph.D

2 MR. CHAPMAN: Are you referring to
3 paragraph 58?

4 Q. Yeah, it's about 14 paragraphs.

5 A. So you want me to start searching?

6 Q. Sure, if you're confident you can
7 find a groove, please tell me where the
8 reference to the groove is.

9 A. Groove here in 81.

10 Q. Okay. Paragraph 81?

11 A. Yeah.

12 Q. That's the sentences that says, in
13 some embodiments the coping 130 can include
14 slots grooves?

15 A. Yes.

16 Q. And is that referencing a figure?

17 A. Well, coping 130 is in Figure 1.

18 Q. Is there a figure number or a part
19 number for grooves?

20 A. Not in what I just found.

21 Q. Okay.

22 A. And slots also doesn't have a
23 figure or an identifying number.

24 Q. Do you want to try to find a
25 reference to grooves that has a part number, or

1 **BRUNSKI, Ph.D**

2 **would you admit that there is no such**
3 **reference?**

4 MR. CHAPMAN: Object to the form.

5 A. Well, I mean, I don't know in the
6 standard of this written document, do they need
7 to have numbers. I don't know that -- are they
8 supposed to all have numbers?

9 **Q. Well, so you --**

10 A. Anterior surfaces.

11 **Q. Would you suggest that Bernhard**
12 **could disclose grooves without having a picture**
13 **of them, is that what you're saying?**

14 A. No, I mean, this is part of, I
15 mean, this is part of the description of what's
16 in the patent, doesn't all have to be figures.

17 (Continued on next page
18 to include jurat.)

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BRUNSKI, Ph.D

Q. Okay.

MR. GIBBONS: That's it.

MR. CHAPMAN: I have no further questions.

THE COURT REPORTER: Would you like a copy of the transcript?

MR. CHAPMAN: Yes.

(Whereupon, at 4:10 p.m., the examination of this witness was concluded.)

JOHN B. BRUNSKI, Ph.D

Subscribed and sworn to before me
this ____ day of _____, 2026.

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ERRATA SHEET

Deponent: John B. Brunski

Deposition Date: February 13, 2026

Cases: *Straumann USA, LLC v. Smart Denture Conversions, LLC*,
IPR2025-00956 (P.T.A.B.)
Straumann USA, LLC v. Smart Denture Conversions, LLC,
PGR2025-00054 (P.T.A.B.)

Page	Line(s)	Currently Reads	Should Read	Reason
10	8	in pressure	impression	Incorrectly transcribed
27	23	restrictive	restricted	Incorrectly transcribed
31	8	says	shows	Incorrectly transcribed
31	9	tax	attachment	Incorrectly transcribed
31	10	thread	threads	Incorrectly transcribed
33	8–9	approximate that	proximal	Incorrectly transcribed
33	9	phase	face	Incorrectly transcribed
41	19	tall	small	Incorrectly transcribed
42	19	it's	its	Incorrectly transcribed
49	19	motion, in	motion in	Incorrectly transcribed
49	20	arrow's	arrow	Incorrectly transcribed
50	5	axle	axial	Incorrectly transcribed
52	9	asymmetric	asymmetric buttress thread	Incorrectly transcribed
56	19	in	an	Incorrectly transcribed
57	3	in	an	Incorrectly transcribed
69	20	abutments	threads	Incorrectly transcribed
71	2	crew	screw	Incorrectly transcribed

Page	Line(s)	Currently Reads	Should Read	Reason
77	21	at	of	Incorrectly transcribed
78	25	where in	wherein	Incorrectly transcribed
80	23	where in	wherein	Incorrectly transcribed
80	23	homes	holds	Incorrectly transcribed
81	3	where in	wherein	Incorrectly transcribed
87	19	discreetly	discretely	Incorrectly transcribed
89	11	conclude	include	Incorrectly transcribed
89	14	feasible	fusible	Incorrectly transcribed
94	21	closed	disclosed	Incorrectly transcribed
95	17	and	an	Incorrectly transcribed
96	18–19	person of skill in the ordinary art	person of ordinary skill in the art	Incorrectly transcribed
101	22	shop	shot	Incorrectly transcribed
102	15	shop	shot	Incorrectly transcribed
102	17	shop	shot	Incorrectly transcribed
104	3	enclosed	disclosed	Incorrectly transcribed
105	13	it's disclosed	it's not disclosed	Incorrectly transcribed
109	21	noted answered	owner answer	Incorrectly transcribed
113	14	where in	wherein	Incorrectly transcribed
121	11	sketch by	sketch – by	Incorrectly transcribed
122	7	giving	given	Incorrectly transcribed
124	9	4654	bore 654	Incorrectly transcribed
127	22	898	98	Incorrectly transcribed
127	25	that the	a	Incorrectly transcribed

Page	Line(s)	Currently Reads	Should Read	Reason
128	19	so thread the	so the	Incorrectly transcribed
136	8	pressing	processing	Incorrectly transcribed
142	4	attachment	detachment	Incorrectly transcribed
142	12	cope into	coping to	Incorrectly transcribed
144	13	according to	accordingly	Incorrectly transcribed
157	6	illusion	allusion	Incorrectly transcribed
158	10	permit	permanent	Incorrectly transcribed
169	13	Kofford state	Kofford's date	Incorrectly transcribed
173	2	P	piece	Incorrectly transcribed
176	17	sheet	sleeve	Incorrectly transcribed
182	16	the	a	Incorrectly transcribed
190	11	gage	gauge	Incorrectly transcribed
190	18-19	smaller to	smaller – to	Incorrectly transcribed
192	11	advance	advanced	Incorrectly transcribed
192	21	the	to	Incorrectly transcribed
192	24	possible	impossible	Incorrectly transcribed
200	25	fill	fiddle	Incorrectly transcribed
204	25	that every	that in every	Incorrectly transcribed
205	13	is	as	Incorrectly transcribed
208	21	ten	two	Incorrectly transcribed
211	22	discussion of at	discussion at	Incorrectly transcribed
212	13	dairy	Derey	Incorrectly transcribed
218	19	as	has	Incorrectly transcribed

Page	Line(s)	Currently Reads	Should Read	Reason
223	9	claimant	claim	Incorrectly transcribed
223	23	some	sum	Incorrectly transcribed
224	5	in	and	Incorrectly transcribed
226	22	in	and	Incorrectly transcribed
227	13	gage	gauge	Incorrectly transcribed
233	2	in	and	Incorrectly transcribed
234	10	in	and	Incorrectly transcribed
238	23	screw's	screw	Incorrectly transcribed
239	20	described in	describing	Incorrectly transcribed
240	25	on	of	Incorrectly transcribed
241	3	limited	limiting	Incorrectly transcribed
243	3	I	are	Incorrectly transcribed
243	10	relevant	relative	Incorrectly transcribed
250	4	security	securing	Incorrectly transcribed
254	12	them	the	Incorrectly transcribed
257	10	anterior	interior	Incorrectly transcribed

With the above changes, I certify that the transcript is a true and correct record of my testimony during the deposition on February 13, 2026.

John B. Brunski
John B. Brunski

3/5/26
Date