

Exhibit 2004

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

ORTHOCISION, INC
Petitioner,

V.

PAINTEQ, LLC
Patent Owner,
Case No. IPR2022-00625
U.S. Patent No. 11,020,129
Issue Date: June 1, 2021

Title: Drill-Less Method of Fusing a Sacroiliac Joint

DEPOSITION

OF

TROY DREWRY

NOVEMBER 15, 2023

1 The deposition of TROY DREWRY is taken on this,
2 the 15th day of November, 2023, on behalf of the Patent
3 Owner, Painteq, LLC, pursuant to notice and consent of
4 counsel, beginning at approximately 9:05 a.m. at The Inn
5 at Ole Miss Hotel and Conference Center, Chancellor's
6 Room.

7 This deposition is taken pursuant to the terms
8 and provisions of the Federal Rules of Civil Procedure.

9 All forms and formalities, including the
10 signature of the witness, are waived, and all objections
11 are reserved, except as to form of the question, to be
12 disposed of at or before the hearing.

13
14
15
16
17
18
19
20
21
22
23
24
25

A P P E A R A N C E S

FOR THE PETITIONER:

WILLIAM K. NELSON, ESQ.
Sierra IP Law, PC
7030 North Fruit Avenue, Suite 110
Fresno, California 93711
559-436-3800
wnelson@sierraiplaw.com
(VIA VIDEOCONFERENCE)

FOR THE PATENT OWNER:

ANDRIY LYTVYN, ESQ.
THOMAS J. BANKS, ESQ.
Hill, Ward & Henderson
101 East Kennedy Boulevard, Suite 3700
Tampa, Florida 33602
813-221-3900
andriy.lytvyn@hwhlaw.com
thomas.banks@hwhlaw.com

ALSO PRESENT:

Stephen Kelly, Hill, Ward & Henderson
(VIA VIDEOCONFERENCE)

COURT REPORTING FIRM:

ALPHA REPORTING CORPORATION
AMY McCULLOUGH, CCR, LCR
236 Adams Avenue
Memphis, Tennessee 38103
901-523-8974
www.veritext.com

EXAMINATION INDEX

DEPONENT TROY DREWRY:

BY MR. LYTVYN

6

BY MR. NELSON

148

EXHIBIT INDEX

EXHIBIT NO.

DESCRIPTION

PAGE

EXHIBIT 2003 Intervertebral Disk Document

137

OBJECTION INDEX

BY MR. NELSON 10

BY MR. NELSON 27

BY MR. NELSON 36

BY MR. NELSON 42

BY MR. NELSON 45

BY MR. NELSON 67

BY MR. NELSON 73

BY MR. NELSON 74

BY MR. NELSON 76

1	BY MR. NELSON		88
	BY MR. NELSON		90
2	BY MR. NELSON		91
	BY MR. NELSON		92
3	BY MR. NELSON		94
	BY MR. NELSON		95
4	BY MR. LYTVYN		.161
	BY MR. LYTVYN		.161
5	BY MR. LYTVYN		.163
	BY MR. LYTVYN		.163
6	BY MR. LYTVYN		.164
	BY MR. LYTVYN		.166
7	BY MR. LYTVYN		.167
	BY MR. LYTVYN		.167
8	BY MR. LYTVYN		.172
	BY MR. LYTVYN		.172
9	BY MR. LYTVYN		.174
	BY MR. LYTVYN		.177
10	BY MR. LYTVYN		.177
	BY MR. LYTVYN		.180
11	BY MR. LYTVYN		.180
	BY MR. LYTVYN		.181
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25	REPORTER'S CERTIFICATE		183

1 TROY DREWRY,
2 having been first duly sworn, was examined and testified
as follows:

3
4 EXAMINATION

5 BY MR. LYTVYN:

6 Q. Mr. Drewry, will you -- am I pronouncing this
7 correctly? Mr. --

8 A. That --

9 Q. -- Drewry?

10 A. Yes, that's correct.

11 Q. Please state your full name for the record.

12 A. Troy D. Drewry.

13 Q. And what is your home address?

14 A. 4229 Waymar Drive, Memphis, Tennessee, 38117.

15 Q. And is there any reason today why you wouldn't be
16 able to provide honest and truthful testimony?

17 A. No, sir.

18 Q. In preparation for today's deposition, have you
19 reviewed any of the materials?

20 A. Yes, sir, I have.

21 Q. And which materials have you reviewed?

22 A. My -- the '129 patent, my declaration, I guess,
23 the Board's decision, prior art references and then the
24 information included in my declaration.

25 Q. Which -- which information outside of the prior

1 art references and what you just mentioned?

2 A. Prosecution history, I did look back through
3 that, and then some -- I -- I listed a prior art reference
4 in my background section. I reviewed that one as well.
5 And then maybe some additional articles associated with
6 the SI fusion that I had included so that's --

7 Q. Okay. But not -- nothing else outside of what's
8 already in the record?

9 A. No, sir.

10 Q. And about how much time did you -- would you say
11 you spent reviewing all of these documents?

12 A. Probably about 15 to 20 hours.

13 Q. Okay. And anything jump out at you from your
14 declaration that you would like to correct or change at
15 this time?

16 A. No. I think I -- I think I -- there were a
17 couple of typos and stuff but nothing that's material to
18 my opinions or changes anything in that way.

19 Q. And have you conferred with Mr. Nelson, the
20 counsel for Orthocision, in your preparation for today's
21 deposition?

22 A. Yes, sir, yes, sir, I have.

23 Q. And about how much time would you say you spent
24 with --

25 A. We've had a couple of calls over the last week or

1 two.

2 Q. And about how long did these calls last?

3 A. Three or four hours total.

4 Q. Okay.

5 MR. LYTVYN: Mr. Banks, would you hand Mr. Drewry
6 the '129 patent, please. And when I refer to the '129
7 patent, just for the record, it's Patent 11,020,129.

8 BY MR. LYTVYN:

9 Q. And a few ground rules for the deposition. I
10 know you've been deposed before. If you need a break, let
11 us know. We plan on taking regular breaks about every
12 hour or so. Please make all of your answers verbal so
13 this way they show up in the transcript. This deposition
14 is not being video recorded so any nods or hand gestures
15 are not going to be reflected in the record.

16 If I ask a question and you don't fully understand the
17 question, please ask me, and if you answer the question,
18 we're going to presume that you understood the question.
19 Is that fair?

20 A. Yes, sir. That's fair.

21 MR. NELSON: My apologies. I -- I can make out
22 Mr. Drewry, but I'm having trouble tracking Mr. Lytvyn.
23 If we can -- I don't know -- maybe move the mic a little
24 bit more towards him or do something to make it a little
25 clearer.

1 MR. LYTVYN: Can we go off record for a second so
2 we can figure this out.

3 (WHEREUPON, THERE WAS A SHORT BREAK, AND THE
4 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

5 BY MR. LYTVYN:

6 Q. So right before we went off the record, we
7 covered some ground rules, and any -- any questions at
8 this point --

9 A. No, sir.

10 Q. -- Mr. Drewry?

11 MR. BANKS: All right. I'm handing the witness
12 previously marked Exhibit 1001.

13 BY MR. BANKS:

14 Q. And before we dive in, you've served as an expert
15 witness in IPR proceedings, correct?

16 A. Yes, sir, I have.

17 Q. So you're aware that this transcript is going to
18 be filed with the United States Patents Office and it's
19 going to be a part of the public record.

20 A. Yes, sir, that's correct. I understand that.

21 (WHEREUPON, THERE WAS AN INTERRUPTION, AND THE
22 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

23 THE REPORTER: Can --

24 THE WITNESS: Do you want to admit him?

25 THE REPORTER: Yeah. That's Mr. Kelly.

1 (WHEREUPON, AT THIS TIME, MR. KELLY ENTERED THE
2 PROCEEDINGS VIA ZOOM, AND THE PROCEEDINGS THEN CONTINUED
3 AS FOLLOWS:)

4 BY MR. LYTVYN:

5 Q. And in the previous I- -- IPRs that you -- in
6 which you have opined on obviousness of patent claims, do
7 you remember what the outcome was?

8 MR. NELSON: Objection. Relevance.

9 MR. LYTVYN: Sure.

10 A. (No response).

11 BY MR. BANKS:

12 Q. So specifically in IPR2022-00840, petitioner,
13 Exactech, retained you to provide expert testimony; is
14 that correct?

15 A. Yes, sir, that's --

16 Q. Do you recall --

17 A. -- correct.

18 Q. -- do you remember that IPR?

19 A. I -- I recall doing it but --

20 Q. Okay.

21 A. -- I -- I'm not sure that I recall much.

22 Q. Sure. So I'll just -- I'll just briefly touch on
23 this. So the Board ultimately found that your
24 testimony -- and I'll provide the direct quote for the
25 record. This is from the Board, neither petitioner, nor

1 Mr. Drewry address dissertation (phonetic) that the
2 fastener be selectively secured to the tibia.

3 So the reason I wanted to get this into the record is
4 this IPR, which was decided just a little bit over a year
5 ago on November 9th, 2022, the Board found that your
6 opinion failed to address the material limitation of a
7 claim.

8 Have you changed the way you approach obviousness,
9 analysis subsequent to the testimony in that case?

10 A. No, sir, I have not.

11 Q. Okay. Let's take a look at the document that
12 Mr. Banks just handed you. It's -- could you flip over
13 and look through -- through this document.

14 A. Can I do what? I'm sorry.

15 Q. Just look over those documents.

16 Do those look familiar to you?

17 A. (Examining document). Yes. This appears to be a
18 full copy of the '129 patent.

19 Q. And about how many hours would you say you spent
20 analyzing this patent?

21 A. In total?

22 Q. Yes.

23 A. Probably five or six hours since I was retained
24 for the project.

25 Q. So you're fair -- fairly familiar with its

1 contents; is that fair?

2 A. Yes, sir, I am.

3 Q. If you could, flip to Column 12, please.

4 A. All right. I'm there.

5 Q. Line 49 in Column 12, do you see Numeral 1?

6 A. (Examining document). I do.

7 Q. And what is your understanding of that paragraph
8 that begins with Numeral 1?

9 A. The first independent claim of the '129 patent.

10 MR. NELSON: Counsel, which pa- -- which column
11 and line was this so I can follow?

12 MR. LYTVYN: It's the '129 patent, Column 12,
13 Line 49. That's the beginning of Claim 1.

14 MR. NELSON: Claim 1. Okay.

15 BY MR. LYTVYN:

16 Q. So for the record, I would like you to go through
17 limitation by limitation and explain your understanding of
18 this claim as we sit here today, so go ahead and read --
19 read in the preamble into the record and explain what that
20 means and then we'll just go limitation by limitation. I
21 will stop you if we cover too much or too little.

22 A. Okay. (Examining document). So the first line
23 of the preamble is that the first claim is a method of
24 forming an implant void in a sacroiliac joint without the
25 use of a rotary cutter instrument, the method comprising

1 the steps of. The first step is locating an insertion --

2 Q. I'm sorry. Before -- before you move to the
3 first step.

4 So what is your understanding just in -- in a few
5 words of the preamble? What -- what does that mean in
6 just vernacular?

7 A. It's a surgical procedure of forming an implant
8 void in the sacroiliac joint without the use of a rotary
9 cutter instrument.

10 Q. Have you ever witnessed such a procedure before?

11 A. Not in -- not in an SI joint. Can we say, SI
12 joint, for short just to --

13 Q. Abso- --

14 A. -- maybe help her?

15 Q. -- absolutely, yes.

16 A. Okay. So SI joint.

17 Q. So what is the extent of your experience with
18 such methods specifically pertaining to SI joint?

19 A. So about, God, 20 years ago I worked with a
20 surgeon by the name of Bruce Dall, D-A-L-L, from
21 Kalamazoo, Michigan, and he was kind of the forefather of
22 SI fusion. And I developed a custom instrument, an
23 implant set, for him to be able to do some of the first SI
24 fusion procedures, again, about two decades ago.

25 So I did create the instruments. We did cadaver labs

1 where we tried out the instruments and the prototypes and
2 then we actually made them, and then I went to surgery in
3 Michigan and watched him perform his first surgeries.

4 And more recently probably a couple years ago or about
5 the time I was retained for this project, I was actually
6 engaged with a company designing and developing a SI joint
7 implant and instrument system that was based on a
8 technique without using rotary cutting instruments as
9 well.

10 Q. So the instruments that you designed for your
11 colleague, could you describe which instrument that set
12 contained.

13 A. So we were using -- we had adapted our spinal
14 intradiscal instruments that we use for putting cages in
15 the spine. We modified them to work in the SI joint. It
16 was a posterior approach. It used working channels or
17 tubes. The instruments were placed through them. And the
18 initial set that we built was based on cylindrical reamers
19 and cylindrical cages.

20 Q. And about how long -- how extensive of a project
21 was -- was that?

22 A. How extensive?

23 Q. Yes.

24 A. I mean, it was -- the good news is -- is we had
25 the system already for the spine. We used it. It was

1 reproducible. It performed the way it was intended. We
2 had to make a few adjustments and modifications to the SI
3 joint. Mostly just the length of the cage was about all
4 we changed, but the -- the technique that we used in the
5 spine transferred almost instrument by instrument to the
6 SI application that we were doing.

7 Q. So could -- could you identify the instruments --
8 each individual instrument that was used to perform that
9 procedure per the design.

10 A. Sure. So initially the surgeon would put a
11 K-wire or a guide wire into the SI joint from posteriorly.
12 So the patient was laying on their stomach. We put a
13 K-wire down on both sides if we were doing both sides. He
14 would identify his insertion point where he wanted the
15 implant to go.

16 And then we had a cylindrical working channel that had
17 tines, is what we called them, T-I-N-E-S, which are like
18 insertion arms, I think is what's referred to in this '129
19 patent. So those went actually into the joint space and
20 docked the working channel or the tube to the spine. The
21 K-wire was going through the center of that, and then we
22 were able to pass cannulated instruments over that guide
23 wire.

24 Again, there were -- the original set was a drill, a
25 reamer, and then we had a rasping instrument that

1 roughened the bone. And then we were able to screw the
2 cage over that K-wire into the SI joint, and then we
3 removed everything out.

4 Q. So the instruments were the K-wire, the working
5 channel with tines, a drill, a reamer, a rasp and then
6 the -- you said the implant was screwed into the joint, so
7 I'm assuming there was a -- some kind of an insertion tool
8 to accomplish that.

9 A. Yeah. There was an inserter that would go on the
10 implant and a T-handle that you were able to screw it into
11 the disc space --

12 Q. Okay.

13 A. -- or into the -- the joint space.

14 Q. So that was your first experience with SI joint
15 fusion, correct?

16 A. The first instrument and implant --

17 Q. Yeah.

18 A. -- I designed for it, yes.

19 Q. And then you also mentioned you had subsequent
20 experience more recently.

21 About what year was that?

22 A. Within the last two years.

23 Q. Okay. And what -- could you describe that
24 project and what that involved.

25 A. So it was for my -- that original instrument set

1 I designed and developed while I was an employee at a
2 company called Medtronic. I was hired as a consultant by
3 Medtronic to come back and develop a second generation SI
4 joint system that was based on our spinal implant systems
5 that got away from rotary cutters and used more
6 traditional, rectangular spinal cages and instrumentation.

7 Q. And were you retained specifically to design the
8 instrument set that didn't involve a drill, or was it your
9 own prerogative to come up with something that -- what --
10 what were the parameters of the project that were given to
11 you?

12 A. They basically said they needed a new set. What
13 did you want to -- I -- I had full design control over the
14 system. And prior to leaving the company, I had designed
15 and developed with my team of engineers a non-rotary
16 cutting spinal instrument set that used rectangular cages
17 and tools, and we -- our goal was to apply that to the SI
18 joint.

19 Q. And which tools were involved in that particular
20 set?

21 A. So, again, it was -- we had an insertion
22 mechanism where the surgeon was able to identify where he
23 wanted to start his surgical procedure, how and in what
24 direction he wanted to enter the SI joint. Then we had --
25 were able to put a K-wire in the space. We dilated over

1 the K-wire to increase the diameter of the incision.

2 Then we were able to put a tubular retractor or a
3 working channel over those dilators to provide a pathway
4 for the surgeon to enter the instruments. And then we had
5 box chisels. We had rasps. We had combined box chisels
6 and rasps.

7 We had instrument trials so the surgeon -- after doing
8 all of that work, he was able to put the trial down there
9 and see what size implant he needed, and then once he
10 pulled the trial out and knew which implant he needed, he
11 was able to pass that implant with the inserter into place
12 and unscrew the instrument.

13 And this set, unlike the rotary cutting set, had a
14 slap hammer attachment on all of the instruments so that
15 we were able to -- again, if they were able -- if they got
16 stuck or they were -- got lodged into the joint space, we
17 were able to use the slap hammer to get those out.

18 Q. Which instruments were prone to getting lodged in
19 the SI joint?

20 A. Really any one that you're using to cut with so
21 the -- the box chisel and rasp. We had rasp -- solid rasp
22 on their own, and sometimes the trials would get stuck so
23 you would need a slap hammer to get the trial out. And if
24 for some reason the surgeon wasn't happy with the location
25 of the implant or it was off, he was able to use the slap

1 hammer on the inserter and reposition the implant if he
2 needed as well. So we made all of the instruments that
3 went down the working channel compatible with a slap
4 hammer.

5 Q. And how would a slap hammer get attached to these
6 tools?

7 A. We kind of had a -- the -- it was actually a very
8 similar slap hammer to the patent that I referenced in my
9 background section, so there's actually a -- an
10 illustration of that similar slap hammer that we could see
11 it, if you want to see it.

12 But basically on the back of the instrument, we had an
13 undercut and a -- a ring around the instrument, and the
14 slap hammer was able to come in from the side and snap in
15 and was affixed to the instrument and allowed for the slap
16 hammer to function on that instrument.

17 Q. And what -- the slap hammer involved, what --
18 what kind of slap hammer was it?

19 A. The ones that we used for this one was, again,
20 pretty much the standard slap hammer that we used in that
21 spine instrument set that I illustrated in my declaration.

22 Q. So just describe what -- what it looked like and
23 what its function, what -- what was the standard slap
24 hammer at that time.

25 A. So, I guess, on the distal end or the end further

1 away from the surgeon is where that connection mechanism
2 happened with the instrument. Then it had a long shaft
3 and there was a head on the back of the shaft, and then
4 there was a slap hammer that went up and down on the shaft
5 that provided the extraction force as you moved it up
6 against the -- the back head of the slap hammer.

7 Q. Okay. Fair enough. And the box chisel -- you
8 mentioned the box chisel was one of the instruments.
9 Would you describe to me what kind of instrument a box
10 chisel is.

11 A. The ones we had for this set had two cutting
12 blades on the front, so on the -- we'll call that the
13 distal end, again, further away from the surgeon. So we
14 had cutting tips on the top and bottom.

15 Then we had kind of ridges or blades that followed the
16 top and bottom of the box chisel all the way back, and
17 then we had a secondary or -- I guess we'd call that
18 proximal cutting edges that allowed for bony removal and
19 decortication of the bone. So we had multiple cutting
20 edges and rasps and teeth along the top of that
21 instrument.

22 Q. And what was the purpose of having this stacked
23 configuration where you had multiple blades distally
24 spaced from one another?

25 A. Well, we just learned from use in the spine that

1 the vertebral bodies and in the joint space there is bone
2 and then there's a cartilaginous endplate on both of the
3 vertebral bodies, and then in the spine there's obviously
4 the disc.

5 So what we learned through a couple of decades of
6 using these in the spine is that we could have this first
7 cutting edge come in and start to peel off the cartilage
8 on the bone, and then the rasp would follow that and start
9 scraping any remnants off of the bone.

10 And then the second or proximal cutting edges would
11 actually cut into the bone and provide the void or the
12 implant geometry so that the implant would fit into the
13 bone. So we were able to -- with one instrument we were
14 able to remove the cartilage, decorticate the bone and
15 provide a void that was shaped for the implant.

16 Q. And that's the instrument that you use for this
17 SI joint fusion set that you designed recently.

18 A. Yes. We applied the same one from the spine.

19 Q. And does the SI joint have similar-type cartilage
20 that you encounter spinal applications?

21 A. Yes. It's similar in the sense that it is the
22 protective coating on the bone that has to be removed.
23 You have to get the implant in contact with bone or it
24 won't fuse or it won't heal, so we had to get that
25 cartilage off. The cartilage in the SI joint was very

1 similar to the cartilage on the endplate to the vertebral
2 bodies.

3 Q. And is the -- forgive my ignorance but is the
4 cartilage -- is it a type of a bone or --

5 A. Well, it kind of transitions. You know, the end
6 or the side of the cartilage closer to the joint is more,
7 I guess, slippery or provides the motion in the joint, and
8 then as you go back through the cartilage, it kind of
9 changes consistency from being kind of shiny and slippery
10 to more dense tissue.

11 And then there's a barrier where the cartilage
12 connects to the bone that becomes more bone like, so as --
13 as you move through that cartilage, there's a transition
14 in the material properties. And the -- the cartilage in
15 the SI joint is very similar to the cartilage in the -- on
16 the vertebral bodies in the spine.

17 Q. So the reasons for using this stacked tool that
18 has multiple cutting edges is to come in and remove the
19 cartilage and then cut the bone tissue to create the void
20 for the implant.

21 Is -- is that a fair characterization?

22 A. Yes, sir. That's fair.

23 Q. Okay. Let's continue with analysis of Claim 1 of
24 the '129 patent. I think we've spent a fair amount of
25 time on the -- the background of SI -- before we move on.

1 Sorry. We discussed two of your experiences with SI joint
2 fusion specifically.

3 Anything else specific to SI joint you -- you would
4 like to add, or does that basically sum up your experience
5 with SI joint fusion?

6 A. No. We did -- you know, early on in my career we
7 did -- it wasn't uncommon for surgeons that were working
8 on spinal deformities in children in particular that had,
9 like, muscular dystrophy or cerebral palsy or some other
10 muscular disease. They would take the spinal rods along
11 the back and they would run them all the way along the
12 back of spine and they would bend them, and they would go
13 through the sacrum into the ilium.

14 And they would fuse those patients to the -- they
15 would fuse the SI joint and they'd fuse the spine to the
16 pelvis just so they could keep the kids upright. You
17 know, they would hump over in their wheelchairs and they
18 just weren't able to support their upper body.

19 So we had experience with surgeons that would just go
20 in there and kind of clean out the joint space, put bone
21 graft in there and put rods and screws there, which was
22 a -- a little different technique than what's being
23 described here in the SI fusion prior art and patents, but
24 it -- it showed that surgeons knew that this was a joint
25 that could be fused, needed to be fused in the right

1 patients and they had methods that they used to do that.

2 Q. Okay. So let's move on to the method steps of
3 this method that's claimed in Claim 1. If you could, read
4 into the record the first step that starts with, locating,
5 and then let's have a conversation about it.

6 A. Yeah. (Examining document). Locating an
7 insertion point in the SI joint. The insertion point
8 defining an intended location for the implant void.

9 Q. So what -- what is your understanding of this
10 step? What -- what are we talking about here?

11 A. Well, you know, during pre-operative planning and
12 when the surgeon initiates surgery, he kind of starts with
13 the end in mind. Like, where does this implant -- where
14 does he want it to be and what is it -- where does it need
15 to be located to perform its function?

16 So the first thing he does is decide where he's going
17 to start and what's his angle going to be, where is his
18 insertion location, and so that's the first step he does
19 in performing this procedure.

20 Q. Let's move on to the next step.

21 A. Introducing a working channel into the insertion
22 point. The working channel having an insertion end and a
23 working end. The insertion end of the working channel
24 further comprising a first iliac contour and a first
25 sacral contour and insertion arms.

1 Q. Okay. So what's -- what's going on here?

2 A. So the working channel I mentioned was kind of --
3 in some instances it could be a tube or it could be
4 another geometry, but it's a -- it's a cylinder or a tube
5 that has a working end so that would be the end that the
6 surgeon puts the instruments through and looks down the
7 tube.

8 The insertion end would be the tip away from the
9 surgeon that goes into the joint space. They call for --
10 what is it -- insertion arms. So these are two pieces of
11 metal that extend from the end of that working channel and
12 actually go into the disc space, and that allows the
13 instrument to kind of dock on the anatomy and not move and
14 gives the surgeon a kind of fixed working channel or a
15 pathway that he's able to pass all of his instruments
16 through.

17 And then finally those tubes are contoured because the
18 anatomy is different on both sides of the joint. The
19 sacrum is a little flatter. The ilium is a little
20 straighter, and so as you put that tube down, they taper
21 the tips of that so that it can intimately fit with both
22 of those bones as it's placed into the joint space.

23 Q. Thank you. Next step.

24 A. Inserting the insertion arms into the SI joint at
25 the insertion point such that the first sacral contour is

1 seated against the sacrum bone and the first iliac contour
2 is seated against the ilium -- or an ilium. So, again, I
3 -- I think I touched on that a little bit.

4 As they put those tines into the joint space, the ends
5 of the working channel conform to the anatomy in the bone,
6 and that just provides a rigid working pathway for the
7 surgeon to perform the surgery.

8 Q. Okay. The next step.

9 A. Introducing an abrading device into the working
10 channel. The abrading device comprising an abr- --

11 Q. We -- we can -- we can stop there.

12 A. Okay.

13 Q. What is your understanding of this step?

14 A. So, again, as I mentioned, an abrading device
15 would be something that cut the tissue, abraded the
16 tissue. It was used to remove that cartilage that I
17 mentioned and then also could be used to decorticate the
18 bone and provide a void in the -- the environment that the
19 implant would be placed.

20 Q. Okay. And what is your understanding of the last
21 line of that step? The abrading device comprising, what
22 does that signify to you regarding the subsequent parts --
23 parts of this claim?

24 A. That they go on to describe --

25 MR. NELSON: Objection. Ambiguous.

1 A. I think it -- because there's a colon there, they
2 -- the next limitations go on to describe the abrading
3 device.

4 BY MR. LYTVYN:

5 Q. Thank you. So let's -- let's move on to -- to
6 the next limitation, which is now we get into --

7 MR. LYTVYN: I just wanted this to be clear for
8 the record, Mr. Nelson, that we're transitioning from
9 talking about limitations that are phrased in terms of
10 steps to limitations that are phrased in terms of
11 structural components. I just wanted to make that
12 distinction clear for the record and wanted to confirm
13 that Mr. Drewry understands those differences.

14 BY MR. LYTVYN:

15 Q. So let's continue with Line 66 of Column 12.

16 A. All right. (Examining document). So the next
17 step is an abrading head at a distal end of the abrading
18 device. The abrading head having.

19 Q. What's your understanding of these two lines that
20 you just read?

21 A. That the abrading head is at the distal end of
22 the instrument, which, again, is away from the surgeon, so
23 it's the end of the instrument closest to the patient.

24 Q. Okay. And what is your understanding of the
25 significance of the term, having, with a colon after it?

1 A. I guess going on continuing to describe the
2 abrading head device.

3 Q. Thank you. So now we are on Column 3 (sic) of
4 the '129 patent. Please read the first part of the
5 abrading head.

6 A. Sure. (Examining document). So it says,
7 abrading surfaces on each of the first pair of opposing
8 sides. The abrading surfaces comprising one or more
9 teeth, barbs, blades, ridges, slots, broaches or other
10 members capable of abrading a cortical bone of the
11 sacroiliac joint.

12 Q. Okay. So let's -- I think it's self-explanatory
13 in -- in light of our previous discussion, so I guess we
14 can just move on to -- to the next -- to the next
15 component of the abrading head.

16 A. The next is an, open tip comprising a cutting
17 edge disposed at a leading edge of the open tip. The
18 cutting edge configured to cut bone tissue in the
19 sacroiliac joint.

20 Q. So let's start with an open tip.

21 What -- what is your understanding of that structural
22 component?

23 A. Again, a tip of an instrument that has an
24 opening.

25 Q. So what would be -- are there other types of

1 instruments besides the ones with open tips?

2 A. I'm not sure I follow the question.

3 Q. So this particular abrading head is claimed to
4 have an open tip.

5 From your experience, have you encountered an
6 instrument that has an abrading head that does not have an
7 open tip?

8 A. Yes, sir, I have.

9 Q. And what's the distinction between an abrading
10 head with an open tip and the one that does not have an
11 open tip?

12 A. So they -- there's broaches and reamers and
13 abrading tools out there that are closed, and they're just
14 used -- one in particular is like in hip replacement
15 surgery. They go down the intramedullary canal of the
16 hip, and they're just used to scrape the bone off the --
17 the surfaces.

18 Then there's other applications like in the spine and
19 SI joints where you want a void or you want space during
20 the cutting procedure so that tissue and -- and blood and
21 bone and everything can be evacuated out of the void while
22 you're doing this procedure. So, you know, there's a lot
23 of tools out there that provide that opening or void
24 behind the cutting edges that allow for that tissue
25 removal.

1 Q. So if you were presented with two abrading heads,
2 how would you determine whether it has an open tip or not?
3 What -- what would be your steps for making that
4 determination?

5 A. Again, the ones that are not open would typically
6 be solid, so there wouldn't be -- there would be a tip on
7 it. There wouldn't be a void behind the cutting surface.
8 There would be no opening in the implant to allow for this
9 tissue removal.

10 Q. Just to be clear, we're talking -- I think you
11 misspoke. You said, implant, but we're talking abrading
12 -- about abrading heads.

13 A. Yeah. A -- an instrument. I'm sorry.

14 Q. So, again, the -- if I put two instruments in
15 front of you that you've never seen before and the
16 question before you: Does this instrument have an open
17 tip, what kind of information would you need to know about
18 the abrading head of that instrument to make a
19 determination as to whether you would classify that as an
20 open tip or not an open tip?

21 MR. NELSON: Objection. Ambiguous.

22 MR. LYTVYN: In what way, Mr. Nelson?

23 MR. NELSON: Are you talking about putting two
24 instruments in front of him and then -- (unintelligible)
25 -- and then applying those instruments in what way, so

1 it's just a little convoluted.

2 BY MR. LYTVYN:

3 Q. Is it -- is it -- is the question not clear to
4 you, Mr. Drewry?

5 A. Again, based on my explanation, if I use those
6 scenarios and I knew what the instruments were -- if it
7 was a closed broach used for hip replacement, I could look
8 at the instrument, look at it from the cutting end and see
9 that there was no void or opening behind the tip of the
10 instrument, so I would call that a closed or -- or -- you
11 know, a closed abrading instrument.

12 If I looked at an open tipped abrading instrument, I
13 would take the same instrument, and I would look at it
14 from the front and I'd look to see if there was a void or
15 a space or some lack of material behind the cutting edges
16 that allow for, again, tissue removal or bone removal.

17 Q. Okay. Fair enough.

18 MR. LYTVYN: Mr. Banks, would you be able to
19 provide Mr. Drewry with his declaration, which is Exhibit
20 1017, please.

21 MR. BANKS: Here you go, Mr. Drewry.

22 THE WITNESS: Thank you.

23 BY MR. LYTVYN:

24 Q. If you could, just flip -- flip through the
25 document.

1 Does it look familiar to you?

2 A. (Examining document). Yes, sir. It appears to
3 be my declaration and --

4 Q. And if you go to Page 104. It's at the very --
5 almost at the very end of the --

6 A. Yes, sir.

7 Q. -- document.

8 Is that your signature?

9 A. (Examining document). Yes, sir, it is.

10 Q. Okay. If you could, flip to Page 30, please.

11 A. Page 30. Okay. I'm there.

12 Q. And Paragraph 56 --

13 MR. NELSON: (Unintelligible) -- of the document.

14 THE REPORTER: I -- Mr. Nelson, I don't
15 understand you. I don't know if it's your headpiece or --
16 repeat that.

17 MR. NELSON: I'm just trying to get --
18 (unintelligible).

19 MR. LYTVYN: Okay. Let -- let us know when
20 you're ready.

21 MR. NELSON: Which -- which paragraph, Counsel?

22 MR. LYTVYN: 56 on Page 30.

23 MR. NELSON: Thank you.

24 BY MR. LYTVYN:

25 Q. If you could, read, Mr. Drewry, into the record,

1 please, the first sentence of Paragraph 56.

2 A. Okay. (Examining document). It is my opinion
3 that a POSITA would find the term "open tip" means a
4 structure on the abrading head having an exposed tapered
5 edge. Do you read all this --

6 Q. No. You can -- you can end there.

7 A. Okay.

8 Q. Would you like to change your definition of the
9 open tip that you just referenced in your declaration in
10 light of what you just described as an open tip a few
11 minutes ago when you were talking about limitation on
12 Column 13, Lines 6 of the '129 patent?

13 A. No, sir, I would not.

14 Q. So based on the sentence that you just read, any
15 structure on an -- on the abrading head that has an
16 exposed tapered edge would qualify as an open tip abrading
17 head; is that correct? Is that a fair characterization of
18 the sentence that you just read?

19 A. No, sir. That's not correct.

20 Q. Please -- please explain to me what -- what you
21 meant by this -- by this sentence in the --

22 A. I think you need to read the rest of Paragraph 56
23 in its entirety to understand the other components of the
24 open tip abrading head.

25 Q. So are you -- are you familiar with claim

1 construction of a utility patent?

2 A. Somewhat, yes.

3 Q. So would you say that the first sentence that you
4 just read is your construction of the term, open tip?

5 A. No, sir, I do not. I think it's a piece of my
6 construction, and I think the rest of it is in the --

7 Q. Okay. Please --

8 A. -- following portions of Paragraph 56.

9 Q. Please read the following -- the entirety of
10 Paragraph 56 into the record, and then, please, explain to
11 me which other portions are -- constitute a part of your
12 construction of the term, open tip.

13 A. So it goes on to say that, the open tip 34
14 comprising a cutting edge 36 around all or part of the --
15 I'm on the wrong page -- the '129 patent, which states --
16 is that the right --

17 Q. No.

18 A. No, no. I -- it's double-sided --

19 Q. Yes.

20 A. -- pages so --

21 Q. Yes.

22 A. -- 32 -- oh, here's 3- -- okay.

23 Q. So if you could, read from -- from the very top
24 from the -- just read the entire Paragraph 56 into the
25 record and then define what your construction of the term,

1 open tip, would be.

2 A. Again, it is my opinion that a POSITA would find
3 the term "open tip" means a structure on the abrading head
4 having an exposed tapered edge. Then it has the reference
5 location, and then it says, which states: "The open tip
6 34 comprising a cutting edge 36 around all or part of the
7 leading edge as the open tip 34, the cutting edge 36
8 configured for cutting bone tissue inside the SI Joint 3".
9 There is no prosecution history in the '129 that provides
10 any further understanding of the term "open tip".

11 Q. So what is your construction of the term, open
12 tip? Just provide the definition that you use when
13 analyzing the '129 patent and the -- the prior art cited
14 in your declaration.

15 A. Again, multiple prior art references show what
16 I'm discussing here as an open tip that has, as we
17 mentioned, a cutting edge, and if you look at the end of
18 the instrument, you can tell that it's open because
19 there's a void behind those tapered edges that allows for
20 tissue removal and kind of passage of that material during
21 the abrading and cutting process.

22 Q. So my question is -- is, just to confirm, do you
23 still stand by the first sentence of Paragraph 56 as at
24 least partially proper construction of the term, open tip;
25 is that fair?

1 MR. NELSON: Objection. Asked and answered.

2 A. Again, I think it's a part of my discussion that
3 goes with the remainder of Paragraph 56.

4 BY MR. LYTVYN:

5 Q. And the -- the exposed tapered edge, where are
6 you getting that requirement from the term, open tip?

7 A. Again, I think it was used in the --

8 MR. NELSON: Restate the question. I didn't
9 quite hear it all.

10 MR. LYTVYN: The construction of Dr. Drewry's --
11 in his decla- -- 5- -- Paragraph 56 of his declaration of
12 the term, open tip, involves the phrase, having an exposed
13 tapered edge.

14 BY MR. LYTVYN:

15 Q. The question was where -- how is this phrase
16 grounded (phonetic) in the term, open tip?

17 A. Again, I think it -- it comes -- I'm sorry.

18 BY MR. LYTVYN:

19 Q. I'll -- I'll try to rephrase. So under this
20 claim construction, would scalpel qualify as having an
21 open tip?

22 A. Would what?

23 Q. A scalpel -- a surgical scalpel.

24 A. No.

25 Q. And why wouldn't it?

1 A. There's no opening or void behind the cutting
2 edge or abrading edge that allows for this tissue removal.
3 It's -- a scalpel is a solid cutting tool.

4 Q. And could you expl- -- point to me in your
5 construction of the term, open tip, in your declaration
6 where is void mentioned?

7 A. Where it mentions what?

8 Q. Void. You just said that a scalpel wouldn't
9 qualify as an instrument that has an open tip because
10 there's no void.

11 A. Well, I'm using --

12 Q. We just looked at Paragraph 56 of your
13 declaration and I don't see the term, void, in there, so
14 if it's in there, please point me to it.

15 A. So, I guess, I'm interchanging void for opening
16 or open, and in the last line -- line of Page -- Paragraph
17 56 on Line 30 it says, an open tip comprising a cutting
18 edge, so that open tip is synonymous with a void.

19 Q. And what is your definition of a void?

20 A. Again, I -- I think --

21 Q. It's not -- sorry. It's not a trick question.
22 It's just if --

23 A. Well, no. I --

24 Q. -- if somebody asked you, explain to me what a
25 void is as you use it, what -- what do you mean by the

1 word, void?

2 A. Void would be an open space or a space void of
3 material or any substance.

4 Q. Between what -- so void would be an open space.
5 It's just a -- there's got to be some structural
6 boundaries to what a void is, correct?

7 A. Yeah. I think there's numerous examples of voids
8 in all of the prior art references and in the '129 patent
9 as well. It's the open space behind the cutting edges
10 that allows for bone and tissue removal during the
11 abrading and cutting process.

12 MR. LYTVYN: Mr. Banks --

13 MR. BANKS: Uh-huh (affirmative response).

14 MR. LYTVYN: -- could you hand the Petition to
15 Mr. Drewry.

16 MR. BANKS: For the record, this is Paper Number
17 3.

18 BY MR. LYTVYN:

19 Q. And, if you could, flip to Page 19.

20 MR. LYTVYN: And, Mr. Nelson, let -- let us know
21 when you're on the same page with us. We're looking at
22 the Petition, Page 19.

23 (WHEREUPON, THERE WAS A SHORT PAUSE, AND THE
24 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

25 MR. LYTVYN: Are we all on the same page?

1 MR. NELSON: Yes.

2 BY MR. LYTUVYN:

3 Q. Okay. So based on your declaration, here is what
4 the petitioner construed the term, open tip, as. If you
5 look at Paragraph 7, and, if you could, read that proposed
6 construction in the third column of that table. Could
7 you, please, read it into the record.

8 A. (Examining document). A structure on the
9 abrading head having an exposed tapered edge.

10 Q. Do you believe that that's a complete and
11 accurate construction of the term, open tip?

12 A. Yeah. I mean, in reading it in light of the
13 claim terms and understanding that you're describing an
14 open tip, that this is a structure for abrading head
15 having an exposed tapered edge and that it's -- it's open.

16 Q. But it doesn't say -- where do you see the word,
17 open, when you're reading the construction? So if you
18 read just -- and, again, it's not a trick question. If
19 you read the construction it just says, a structure on the
20 abrading head having an exposed tapered edge.

21 And the question was: Do you believe that this is a
22 complete and accurate construction of the term, open tip,
23 or would you supplement it with additional terms and, if
24 so, what would you say is an accurate construction of the
25 term, open tip?

1 A. Again, I think -- I think if you gave me open tip
2 and you gave me this claim construction, I would
3 understand that it's an open tip and that this is how
4 you're describing it.

5 Q. But now we're working backwards. If I gave you
6 the -- the claim construction without the open tip and I
7 said a structure on the abrading head having an exposed
8 tapered edge, would you say that I just described an open
9 tip to you without knowing what terms you're referencing?

10 So instead of working backwards, if you look at this
11 proposed construction without knowing which term it
12 references, would you say that it's immediately clear that
13 it references an open tip structure on the abrading head
14 having an exposed tapered edge?

15 A. Yeah. I -- I would think you would have to have
16 some opening on the tip. I mean, if you're tapered -- so
17 imagine if these are the -- the -- how do we call it --
18 abrading head is -- has these two surfaces and you have
19 a -- an exposed tapered edge, that means that these edges
20 have to be tapered in this way. (Witness demonstrating).

21 So they would be angled in so there would have to be
22 some removal of material from the tip of the abrading
23 head, so there -- there would be some opening, I mean --

24 Q. I'll give you -- I'll give you an example.

25 What if you're talking about a chisel that has an

1 exposed tapered edge, would it -- it falls under this
2 claim construction; does it not?

3 A. (No response).

4 Q. So it's a chisel with a tapered edge.

5 Does -- would it fall under this claim construction?

6 A. Well, I think it's my understanding you've got to
7 read the claim construction in light of the claim terms
8 and the -- the intrinsic evidence of the patent, and I
9 think if you understood what they were talking about as a
10 tapered edge, you would understand that it's internal to
11 the tips and, therefore, has removal of material inside
12 the opening of the tip and that these -- these edges are
13 not tapered on the outside of the tip.

14 Q. So I'm not sure what claim construction standard
15 you're applying, but determination of validity of a patent
16 is a two-step process. So during the first step, you
17 determine what each term of the claim means. During the
18 sec- -- during the second step, once you have defined the
19 term, you apply that definition to the prior art.

20 Currently we're not on the second step yet. I just
21 want to understand how you define these terms. So saying
22 you define a term in light of the term, itself, and
23 there's a lot of context, that's not claim construction.
24 Claim construction is looking at all of that context and
25 then distilling it and crystallizing it to a simple

1 definition that can then be applied to the prior art.

2 In your declaration, basically the declaration of this
3 Petition, the term, open tip, has been distilled
4 (phonetic) to a structure on the abrading head having an
5 exposed tapered edge.

6 And my question to you again: Do you believe that
7 that's a complete and accurate definition of the term,
8 open tip, or would you change that construction in any way
9 in light of the discussion that we just had?

10 MR. NELSON: Objection. Asked and answered.

11 A. Yeah. I -- I mean, I'm happy with my previous
12 answer, and I don't know that I would change it.

13 BY MR. LYTVYN:

14 Q. Okay. I think we've spend enough time on this so
15 let's move on. The next phrase --

16 THE WITNESS: Can we take a break now?

17 MR. LYTVYN: Sure.

18 THE WITNESS: It's been about an hour.

19 MR. LYTVYN: Yeah, sure, sure. Sorry.

20 (WHEREUPON, THERE WAS A SHORT BREAK, AND THE
21 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

22 MR. LYTVYN: Mr. Banks, if you could, hand
23 Dr. Drewry the --

24 A. Mr. Drewry.

25 BY MR. LYTVYN:

1 Q. Sorry.

2 MR. LYTVYN: -- the -- sorry. The institution
3 decision, please.

4 THE REPORTER: The what?

5 MR. LYTVYN: Institution decision.

6 MR. BANKS: This is Paper Number 10, the
7 institution decision.

8 BY MR. LYTVYN:

9 Q. Mr. Drewry -- Drewry, do you recognize this
10 document?

11 A. (Examining document). Yes, sir, I do.

12 Q. If you could, flip to Page 18, please. Just to
13 wrap up our discussion of the term, open tip, if you
14 could, read the first full paragraph starting with the
15 word, considering.

16 A. Okay. (Examining document). Considering the
17 parties' proposed interpretation, we find petitioner's
18 unsupported on the current record. The portion of the
19 '129 patent's written description and petitioner's
20 proposed interpretation of "open tip" share little in
21 common. For example, the specification does not mention
22 "an exposed tapered edge" much less suggesting the term
23 "open tip" requires such.

24 Q. And then we can skip the next paragraph, and
25 then, if you could, read the last paragraph on Page 18 and

1 then finish that sentence at the very top of Page 19,
2 please. This is the -- for the record, this is the
3 Board's construction of the term, open tip, that the Board
4 actually adapted.

5 A. The claim terms "open" and "tip" and their
6 combination "open tip" are common words used in their
7 ordinary way and are understandable on their face. And
8 what the '129 patent's written description makes clear is
9 that the abrading head of the invention has a void (or
10 some empty space) and that the tip of the abrading head is
11 open to that void.

12 Q. Thank you, Mr. Drewry. So I just wanted to point
13 out that the definition of the open tip that you provided
14 during our discussion was almost exactly on point with
15 what the Board provided, but it doesn't coincide with the
16 one that's stated in the Petition or in your declaration.
17 And I just wanted to point out if you take the declaration
18 and flip it all the way to -- I believe it's -- it's the
19 very end --

20 MR. NELSON: Objection. Objection. Misstates
21 testimony.

22 MR. LYTVYN: What -- what's the objection,
23 Mr. Nelson? I'm sorry.

24 MR. NELSON: Misstates testimony.

25 MR. LYTVYN: Which part?

1 MR. NELSON: About his interpretation of what
2 open tip means.

3 BY MR. LYTVYN:

4 Q. Did I misstate your testimony, Dr. Drewry,
5 about --

6 MR. LYTVYN: Which -- and which part did I
7 misstate -- I'm sorry -- Mr. Nelson?

8 MR. NELSON: With respect to open tip.

9 BY MR. LYTVYN:

10 Q. Mr. Drewry, do you -- you just read the Board's
11 -- just to make the record clear, you just read the
12 Board's construction of the term, open tip, that involves
13 the term, void, some empty space.

14 Do you agree that that's an accurate interpretation of
15 the term, open tip, or is it still your opinion that that
16 -- the interpretation provided in your original
17 declaration of structure on the abrading head having an
18 exposed tapered edge is the true and accurate
19 interpretation of the term, open tip, and not the one
20 provided here by the Board in the last paragraph on Page
21 18?

22 A. (Examining document). Again, I -- I agree with
23 the claim construction that I have in my declaration and
24 that the tapered edges provide that there is an opening on
25 the tip. Obviously, the Board in their interpretation

1 added some additional language there but --

2 Q. Do you agree with that language or not?

3 A. I think -- again, I think it's in addition to
4 what the claim construction I used, and my opinions are
5 based on that but my opinions are not changed by the
6 addition of the Board's claim construction.

7 Q. So just a, yes, or, no, question.

8 Do you agreed with the Board's claim construction or
9 no?

10 A. Again, that's their interpretation and I have my
11 interpretation --

12 Q. So --

13 A. -- so I agree with --

14 Q. Again, it's a, yes -- yes, or, no, question.

15 Do you agree or do not agree with that interpretation?

16 A. Again, I stand by my original -- the declaration
17 that I used for my opinions and --

18 Q. Understood. But do you agree with the Board's
19 interpretation of the term, open tip, or do you not?

20 A. Again, I think ours are sufficient and they just
21 add additional information, but I think the one I used is
22 clear so --

23 Q. It's a -- a, yes, or, no, question.

24 Do you agree or do you not agree with the Board's
25 construction of the term, open tip?

1 A. I think it's -- I think mine is adequate, and I
2 think theirs is another interpretation that -- I don't
3 know -- I don't know how to differentiate the two.

4 Q. And that's not the question. I'm not asking you
5 to differentiate the two. I'm just asking if you read the
6 last two sentences on Page 18, concluding on Page 19 of
7 the Board's institution decision, do you agree with that
8 interpretation? And, again, it's a, yes, or, no,
9 question, and it's not asking you to compare it with the
10 definition you provided. I'm just asking do you agree
11 with the one adopted by the Board?

12 A. (No response).

13 Q. The claim terms "open" and "tip" and their
14 combination "open tip" are common words used in their
15 ordinary way and are understandable on their face. And
16 what the '129 patent's written description makes clear is
17 that the abrading head of the invention has a void (some
18 empty space) and that the tip of the abrading head is open
19 to that void.

20 Do you agree with that interpretation of the term,
21 open tip, or do you not?

22 A. Well, again, I think that -- that construction is
23 consistent with mine, as I explained it, with the tapered
24 edges that in an open tip, there would be a void or an
25 open space, so I think they're -- I think they're

1 consistent. They're just worded differently.

2 Q. So do -- just for the record to make it clear --
3 and, again, it's a simple single sentence. Answer, yes,
4 or, no.

5 Do you agree with this interpretation or do you not?

6 A. Again, I think as it relates to my -- my
7 declaration and how I used it --

8 Q. As you sit here today and you read that -- those
9 two sentences, do you agree with those sentences or do you
10 not? That's -- that's all.

11 A. Again, I -- I agree with the sentences, the way
12 they wrote it, and it's -- and I think it's consistent
13 with the declara- -- I mean, the construction that I have.

14 Q. Okay. Thank you. And I just wanted to point
15 out, if you go to the last page of your declaration
16 right -- I believe it's right before the signature line.

17 A. The last page?

18 Q. Yes. It's Page 1 of 3, the last numbered page.

19 MR. NELSON: Which document are we looking at?

20 MR. LYTVYN: We're looking at Exhibit 1017,
21 declaration of Mr. Drewry, Paragraph 206.

22 MR. NELSON: Okay.

23 BY MR. LYTVYN:

24 Q. So I just wanted to point out that you -- you
25 explicitly reserve the right to supplement your opinions

1 and change them based on the evidence and materials you --
2 that come to light throughout this proceeding.

3 So if there's anything that you feel needs to be
4 changed or supplemented, don't feel constrained by the way
5 you said it in your audition (phonetic) -- or original
6 declaration because you reserve right to supplement.
7 That's all I just wanted to point out. I don't want this
8 to be a contentious discussion. It's -- all right. So I
9 think we've spent enough time on the term, open tip.
10 Let's move on.

11 Do you have the '129 patent in front of you?

12 A. I believe this is it. (Examining document). I
13 do now, yes.

14 Q. All right. Let's go to where we left off, Column
15 13. So we have an open tip comprising a cutting edge.

16 What is your understanding of the term, cutting edge?

17 A. (Examining document). An edge of the open tip
18 that cuts.

19 Q. Disposed at a leading edge, and what is your
20 understanding of the term, leading edge?

21 A. The lead or the first edge, I guess.

22 Q. So in a surgical instrument, specifically an
23 abrading device with an open tip, what's the leading edge
24 of the device?

25 A. It would be the first cutting edge that comes in

1 contact with the -- the tissue.

2 Q. Does the term, leading edge, require to be the
3 first cutting edge or -- I'm just asking about the term,
4 leading.

5 So the term, leading edge, if I handed you an abrading
6 device today and I asked you to look at it, touch it, feel
7 it, whatever, what would you identify as the leading edge
8 of that instrument?

9 A. Again, one example I -- I'm just thinking off the
10 top of my head -- is if I put it down on the table, it
11 would be the -- it could be the first edges that come in
12 contact with the table, would be one way of describing it,
13 I guess.

14 Q. Is there another way you would describe it?

15 A. I mean, there could be cutting edges.

16 Q. But we are talking about leading edges, not
17 cutting edges. I just want to keep distinc- -- the
18 distinction clear. They are two separate phrases in -- in
19 this litigation, so right now I'm just focused on the
20 leading edge.

21 A. Well, again, I think the leading edge would be
22 the edge that makes contact first.

23 Q. Okay. And their meaning of this limitation if,
24 the cutting edge configured to cut bone tissue in the
25 sacroiliac joint, what is your understanding of this

1 limitation?

2 A. That they're applying this instrument in an SI
3 fusion surgical procedure.

4 Q. I'm going to read this again. So, the cutting
5 edge configured to cut bone tissue in the sacroiliac
6 joint, what does this phrase signify to you?

7 A. (No response).

8 Q. You just previously said it's applied to the
9 sacroiliac procedure but that doesn't account for the
10 cutting edge configured to cut bone tissue, so I just --

11 A. Okay.

12 Q. -- want -- want to -- want to hear what -- when
13 you read the phrase, the cutting edge configured to cut
14 bone tissue in the sacroiliac joint, what is your
15 understanding of this -- this phrase?

16 A. That the instruments used for cutting the bone
17 tissue in the SI joint.

18 Q. And specifically what cuts the bone tissue in the
19 SI joint?

20 A. The cutting edge.

21 Q. Thank you. And where is that cutting edge
22 located?

23 A. Again, it's the leading edge of the open tip.

24 Q. Thank you. Let's move on to the next lim- --
25 limitation. A slide hammer assembly at a proximal end of

1 the abrading device.

2 Just in a few sentences, what's your understanding of
3 this phrase?

4 A. Again, a slap hammer that's assembled at the end
5 of the instrument or the abrading device closest to the
6 surgeon.

7 Q. And if you continue to read, read the next clause
8 into the record and then explain to me what -- what do you
9 think that means.

10 A. All right. The slide hammer assembly having a
11 released position that enables operation of the slide
12 hammer assembly.

13 Q. Okay. And what's -- what's -- what's your
14 understanding of this phrase?

15 A. So a released position would be one where the
16 slap hammer is not locked or fixed and it allows for
17 operation of the hammer sleeve as a slap hammer.

18 Q. Okay. Let's move on to the next clause.

19 A. A locked position that prohibits operation of the
20 slide hammer assembly and a releasing means for
21 transitioning the slide hammer assembly between the locked
22 position and the released position.

23 Q. Okay. So what is your understanding of that
24 phrase?

25 A. So locked position would be that it was fixed to

1 the instrument so that it did not provide motion or the
2 ability to be used as a slap hammer.

3 Q. Which -- which -- sorry. Which component of the
4 slide hammer assembly would be fixed? You used the
5 pronoun, it, so I just wanted to --

6 A. The slide hammer sleeve, I guess --

7 Q. Okay.

8 A. -- would be fixed. And then when you released
9 that locking mechanism, it would allow for the slide
10 hammer sleeve to move and be used as a slap hammer.

11 Q. Do you have any personal experience with such
12 slide hammers -- hammers that have this lockable and
13 unlockable feature?

14 A. Yes, sir, I do.

15 Q. And what is your experience with these devices?

16 A. Very similar to this claim, term. I mean, we had
17 slap hammer instruments that we had assembled to
18 instruments. We learned that surgeons liked to hold them
19 fixed and hammer on the back of the instrument at times,
20 and that other times, they liked them unlocked or unfixed
21 so that they could use them in the reverse orientation and
22 be able to hammer stuff out. So we've -- we've actually
23 made locked slap hammers in the past.

24 Q. And could you describe to me the locking
25 mechanism of the slide hammer that you personally made in

1 the past.

2 Do you remember?

3 A. Most of them were around some type of clips or
4 some other type of ball detent or some other geometry that
5 allowed the slap hammer sleeve to connect to either the
6 top of the instrument or the bottom of the instrument so
7 they kind of snapped together.

8 We also had some that were threaded so you could take
9 the slap hammer sleeve and turn it and thread it and lock
10 it to the bottom or the top depending on where the surgeon
11 wanted it. So those were the two most common that we
12 used.

13 Q. If you could, go to Figure 21 of the '129 patent.

14 A. Figure 21.

15 MR. NELSON: Which page, Counsel?

16 MR. LYTVYN: Figure 21 of the '129 patent.

17 MR. NELSON: Okay.

18 A. Okay.

19 BY MR. LYTVYN:

20 Q. Do you -- do you recognize this figure?

21 A. (Examining document). Yes, sir, I do.

22 Q. And what -- what do you see in this figure?

23 A. It appears to be the working channel of the '129
24 and the abrading head instrument pass through the working
25 channel and the -- the hammer mechanism or the handle

1 mechanism for the instrument.

2 Q. And could you describe the main components of
3 this slide hammer assembly mechanism that are visible to
4 you in Figure 21.

5 A. Do you want me to read them out of the
6 specification as --

7 Q. No. Just look at these. How -- how would you
8 describe this -- the components of the slide hammer
9 assembly and how they interact with -- with one another to
10 accomplish their function?

11 A. (No response).

12 Q. So basically I -- if -- if -- could you explain
13 to me how you understand this slide hammer to work.

14 A. It would -- I'm not sure I'm following.

15 Q. So when you look at the Figure 21, do you have an
16 understanding of how that slide hammer would function just
17 based on this figure, or do you need additional context in
18 order to understand how the slide hammer works?

19 A. Well, it's con- -- here it's showing it
20 disassembled from the working channel. So the slap hammer
21 is attached to a shaft that's attached to the abrading
22 head, and so you would take that handle -- in this
23 configuration I would assume that they're either
24 assembling it into the working channel prior to locking it
25 or they've unscrewed it already and they're in the process

1 of removing it. So I --

2 Q. If you could, go and -- this figure has the
3 working channel safe -- if you could, go to Figure 16 --
4 Figure 16 of the '129 patent.

5 A. Okay.

6 Q. So Figure 16 shows -- explain this figure to me
7 and what -- what's -- what's your understanding of this
8 figure.

9 A. (Examining document). So I would -- I'm trying
10 to keep my terminology correct. I -- I would say 31 would
11 be the slap hammer sleeve. 44 would be the slap hammer
12 shaft and kind of the stop that the hammer would butt up
13 against, and then the abrading tool would be -- I don't
14 know -- Number 30 that has a threaded boss on it and an
15 abrading tip on the other end. So all three of these
16 instruments would be assembled to be a slap hammer
17 abrading tool or instrument.

18 Q. And do you recall, off the top of your head, what
19 the element referenced by Numeral 51 -- what would you
20 call that element?

21 A. What would I call it?

22 Q. Yes.

23 A. I -- I -- it would be a boss on the instrument
24 that the slap hammer is attached to when it's locked.

25 Q. Okay. So to keep the terminology consistent, 51

1 is the base. 54 is the shaft. 31 is the hammer sleeve
2 based on the one -- terminologies in the '129 patent.

3 And could you explain to me your understanding of how
4 this particular slide hammer would work? Actually, have
5 you encountered this type of slide hammer in your
6 practice?

7 A. Yes. This is -- this was one that I had
8 mentioned earlier where we would thread the sleeve of the
9 slap hammer down to the -- the instrument and lock it
10 there, and then we had some other surgeons that wanted the
11 back side of the instrument threaded so that we could lock
12 it on the back side. It's just wherever the surgeon
13 preferred to have it locked.

14 Q. And what's the purpose of locking the hammer
15 sleeve?

16 A. Just to have it function as a fixed handle
17 instrument.

18 Q. And what do you mean by the fixed handle
19 instrument?

20 A. That there's no motion in the -- where the
21 surgeon holds it, so it's affixed to the instrument and
22 just no motion.

23 Q. Okay. And if we go back to Claim 1, which was in
24 Column 13, there is a term here that says, releasing means
25 for transitioning the slide hammer assembly between the

1 locked position and the released position.

2 So going back to Figure 16, what element would you
3 identify as -- or elements would you identify as the
4 releasing means?

5 A. Back to Figure 16?

6 Q. Yes.

7 A. (Examining document). I would -- I think we
8 called 51 the base. I think the -- kind of the threaded
9 portion on the base would be part of the -- the releasing
10 means in the sense that that's what the slap hammer sleeve
11 slides -- or slides down and threads into and basically
12 locks it into place.

13 Q. So besides this thread 43 on base 51, is there
14 another component that constitutes a part of the releasing
15 means?

16 A. I mean, that -- I think that's the base that
17 provides the function, and, I mean, there's internal
18 threads in the slap hammer sleeve that made with the
19 threads on the base -- and when they're threaded together,
20 that locks the two together and prevents motion.

21 Q. So the interaction between the external threads
22 43 on base 51 and the internal threads on 31 -- on the
23 hammer sleeve 31, you would categorize that as a -- the
24 releasing means; is that correct?

25 A. Again, those are all of the components that are

1 involved in it. I think the -- the boss and the threads
2 on here are the means by which the slap hammer sleeve is
3 affixed to the instrument.

4 Q. Okay.

5 MR. LYTVYN: Mr. Banks, would you hand prior art
6 reference to which we refer as Sharma to Mr. Drewry,
7 please.

8 THE REPORTER: Sharma?

9 MR. LYTVYN: Sharma, S-H-A-R-M-A. And Mr. Banks
10 will give the exhibit number.

11 MR. BANKS: Mr. Drewry, I'm handing you
12 previously marked Exhibit 1009.

13 BY MR. LYTVYN:

14 Q. Just flip through the document.

15 Does this look familiar to you?

16 A. (Examining document). Yes, sir. I believe it is
17 the Sharma reference.

18 Q. Towards the end of this reference, there are
19 figures. If you could, go to Figure 1, please.

20 A. Okay.

21 Q. What do you see in Figure 1?

22 A. (Examining document). A locking slap hammer as
23 described by Sharma.

24 Q. And which components do you see in this figure?

25 A. There's some type of tip on the instrument. I

1 don't recall what he particularly called that one, but you
2 see the components of the slap hammer, the sleeve. We
3 discussed the shaft of the instrument, and to be
4 consistent with terminology, a base on one end for locking
5 the slap hammer sleeve to the instrument. (Witness
6 indicating).

7 Q. And I see you pointing to different components in
8 your figure. For the record, could you, please, identify
9 them by reference numerals since we're not video recording
10 this.

11 A. Yes. I'm just looking for the number. So, I
12 guess, the -- the -- I think he calls this the proximal
13 end so the end closest to the surgeon would be a base
14 where the slap hammer sleeve, Number 11, is. In this
15 configuration, it appears to be locked to end or base 41.
16 You see the slap hammer shaft 21.

17 Then you see another boss, if you will, or -- I'm not
18 sure if he has a base at the bottom to where you can
19 attach the slap hammer at the bottom or not. I'd have to
20 go back and look. I think that's a locking mechanism that
21 locks the instrument, which is Number 100. So those are
22 the components that I see in Figure 1.

23 Q. And do you believe that -- do you understand that
24 this slide hammer in Figure 1 of Sharma functions the same
25 way as the slide hammer depicted in Figure 16 of the '129

1 patent?

2 A. Yes, sir, I do.

3 Q. And what would be the corresponding components?
4 So if it functions the same way, does it have the same
5 structural features that the -- that are depicted in
6 Figure 16?

7 A. Yes, sir. I --

8 Q. And which -- which structural fig- -- which
9 structural fig- -- sorry. Which structural feature in
10 Figure 16 corresponds to which structural feature in
11 Figure 1?

12 A. So I would -- again, I would say 41 is the base,
13 which we identified the base in both 16 and Figure 1.
14 That is the structure that the slap hammer sleeve, which
15 is 11 -- we have a slap hammer sleeve in both Figure 1 and
16 Figure 16.

17 Q. So if you -- so what would be -- so you just
18 identified -- what's the numeral for the component you
19 just identified as the base in Figure 1 in Sharma?

20 A. 41.

21 Q. And what's the corresponding base in Figure 16 of
22 the '129 patent? What's the numeral referenced?

23 A. I think we were calling it 51. Let me double
24 check just to make sure.

25 Q. Yes. Please -- please have them side-by-side so

1 you can --

2 A. Okay.

3 Q. -- cross reference.

4 A. Okay. (Examining document). So I think we
5 called that, again, the base in --

6 Q. So let's -- let's -- sorry. Let's start from the
7 beginning just so we have the clear record. You indicated
8 that Sharma's -- your understanding of the Sharma slap
9 hammer functions the same way as the slide hammer in
10 Figure 16 of the '129 patent; is that correct?

11 A. Yes, sir, that's correct.

12 Q. So now let's see which -- please identify the
13 structural features that you see in Figure 1 of Sharma
14 that corresponds to structural figure -- structural
15 features in Figure 16 of the '129 patent, and, please,
16 identify them by their -- by their roman numerals since we
17 can't see what you're pointing to on the record.

18 A. Okay. So Figure 1 in Sharma, the base would be
19 41 and 31. I think it has the ability to be locked in
20 either the bottom or the top position, as I recall.

21 Q. What do you mean by being locked in the top part
22 of --

23 A. As I mentioned earlier, we made slap hammers
24 where some surgeons wanted the instrument longer, so we
25 locked it at the top of the base as shown here in 41.

1 Q. Which -- which -- which base you just identified
2 two components of the base?

3 A. Base 41 would be the proximal base, if you
4 will --

5 Q. Okay.

6 A. -- so the one closest to the patient, and in
7 Figure 1 it's shown locked to base 41.

8 Q. What's -- what's it? Sorry. It -- if you could
9 refrain from using pronouns and just id- -- identify the
10 structural components by their name because it's really
11 difficult --

12 A. Okay.

13 Q. -- on the record to determine what, it, refers
14 to.

15 A. So slap hammer sleeve Number 11 is locked to base
16 structure Number 41 in Figure 1 of Sharma.

17 Q. And you indicated that Figure 1 of Sharma has
18 another base.

19 A. I think it -- as I recall, I think it is. I -- I
20 think you have the ability to lock it at the top and the
21 bottom, if I'm not mistaken, but regardless it locks it to
22 a base on the shaft and prevents movement of the slap
23 hammer.

24 Q. So for the -- again, just to keep the record
25 clear, if you could, identify by roman numerals structural

1 components of the slide hammer assembly in Sharma and then
2 identify the counterpart in the '129 patent.

3 A. Okay. So let's do Sharma first. Figure 1 --

4 Q. And it -- and do them side-by-side. So identify
5 a component in Sharma and then identify a corresponding
6 component in the '129 patent and -- there are not a lot of
7 components here in -- neither in Figure 1 or Figure 16 so
8 let's just go component by component.

9 A. Okay. So the base in Figure 1 of Sharma is 41.
10 The base in the '129 patent, Figure 16, is the base 51 in
11 the threaded boss showing in Figure 16.

12 Q. So just so I understand correctly, element 41 is
13 located at the proximal end of the slide hammer in Sharma,
14 correct?

15 A. In this figure, yes.

16 Q. Is there another figure in Sharma where the
17 element 41 is not located at the proximal end of the slide
18 hammer?

19 A. They have numerous figures in -- in the Sharma
20 patent.

21 Q. Sure. I'm just -- for consistency, you said, in
22 -- in that figure, so I just wanted to have a clear
23 matching of what component of Sharma you regard as being
24 the counterpart of what component in the '129 patent. So
25 element 41 you identified as the base of Sharma. It's

1 located at the proximal end of the slide hammer sleeve.

2 In Figure 16 of the '129 patent, what is the
3 counterpart of this element 41?

4 A. Again, we called it base 51.

5 Q. And where is base 51 located relative to this
6 shaft 44?

7 A. Again, at the -- I would call it the distal end
8 of 44.

9 Q. And where is the base 41 of Sharma located
10 relative to the shaft 21?

11 A. Again, there's one base 41 on the proximal end,
12 and there's a base 31 on the distal end.

13 Q. So currently we're talking about element 41 and
14 you just said that in your opinion, element 41 corresponds
15 to element 51 in Figure 16 of the '129 patent, so I just
16 want for the record for you to identify rela- -- location
17 of the element 41 of Sharma and element 51 of the '129
18 patent, its location in relation to the shaft of the jamm-
19 -- slide hammer assembly.

20 A. Okay. Figure 1 of Sharma is one embodiment where
21 it is locked to the --

22 Q. Sorry. You said, it, again. Please re- --

23 A. Oh, okay. Sorry.

24 Q. -- -frain from using that pronoun.

25 A. Figure 1 of Sharma, the slap hammer sleeve 11 is

1 shown locked to the base element 41, which is on the
2 proximal end of the shaft.

3 Q. So in Figure 1, your understanding is that the
4 element 41 is disposed and connected to the proximal end
5 of the shaft 21, and we're talking about Sharma right now.

6 A. Yeah. In this particular embodiment, it is -- it
7 can be locked at the top at the proximal end or the distal
8 end --

9 Q. Sorry. You said, it, again.

10 A. Sorry. The slap hammer sleeve 11 can be locked
11 in the -- on the proximal end or the distal end. In this
12 particular figure and embodiment, it is showing slap
13 hammer sleeve 11 locked to the proximal end Number 41.

14 Q. And your understanding is the proximal end 41
15 dis- -- disposed on the proximal end of the shaft 21.

16 A. That's correct.

17 Q. And in Figure 16 of the '129 patent, what is the
18 structural component that corresponds to the element 41 of
19 Sharma that we just discussed?

20 A. Would you --

21 MR. NELSON: Objection. Asked and answered.

22 THE WITNESS: Yeah.

23 MR. LYTVYN: What -- what -- what was the answer?
24 I'm sorry. What -- what was that answer? I asked --

25 MR. NELSON: You're asking him again what the --

1 what 41 is --

2 MR. LYTVYN: Yes.

3 MR. NELSON: -- in Figure 16, right?

4 MR. LYTVYN: Yes.

5 MR. NELSON: I think he's answered that.

6 BY MR. LYTVYN:

7 Q. So what -- what was the answer because I didn't
8 catch it?

9 A. Base 51.

10 BY MR. LYTVYN:

11 Q. Okay. And where is base 51 located in relation
12 to the shaft 44?

13 A. The distal end.

14 Q. So element 41 of Sharma is located at the
15 proximal end of the shaft and element 51 in '129 patent is
16 located at the distal end of the shaft of the slide hammer
17 assembly; is that correct?

18 A. (Examining document). Yes, sir, that's correct.

19 Q. And you believe that these two components are
20 functionally equivalent?

21 A. Yes, sir, I do.

22 Q. And what is that function?

23 A. It is a structure that locks the slight -- slap
24 hammer sleeve and prevents motion.

25 Q. Let's talk about element 31 of Figure 1 of

1 Sharma. You previously identified this element also as a
2 base.

3 And what is the equivalent of the element 31 in Figure
4 16 of the '129 patent?

5 A. It would be the base 51.

6 Q. So the base 51 of Figure 16 is equivalent to two
7 separate components of Figure 1 of Sharma? Is that your
8 testimony?

9 A. No, sir. I think that's incorrect.

10 Q. So what -- you -- you just stated on -- on the
11 record that you believe that element 41 of Sharma
12 corresponds to element 51 of the '129 patent, and then you
13 stated that element 31 of Sharma also corresponds to
14 element 51 of the '129 patent. I just -- if you misspoke,
15 please correct the testimony in the record, but, yeah, you
16 basically just --

17 MR. NELSON: Objection.

18 MR. LYTVYN: Okay.

19 MR. NELSON: Potentially partially misstates the
20 record when you said -- Mr. Drewry stated that element 31
21 locks in instrument 100.

22 MR. LYTVYN: Okay. We're not talking about
23 instrument 100. Your objection is noted.

24 BY MR. LYTVYN:

25 Q. So, again, what's the -- please identify in

1 Figure 16 the elements that correspond to element 41 and
2 element 31 that -- and when you look at Figure 1 of
3 Sharma, how many bases do you see?

4 A. Sharma?

5 Q. Yes. Figure 1 of Sharma --

6 A. Again, I --

7 Q. -- the figure you have in front of you.

8 A. (Examining document). In Figure 1 there's one
9 base showing the sleeve -- the sleeve hammer Number 11
10 locked to base 41 in that configuration and in that
11 embodiment.

12 Q. And then what's component 31?

13 A. Again, I -- I have to go back and read but I
14 believe that you may be -- have the ability to lock it in
15 the down position as well. I'm just not sure. But 41 in
16 this figure is the base that the slap hammer sleeve 11 is
17 locked to.

18 Q. And -- okay. So Mr. Nelson just said I misstated
19 the record. What's -- I don't want to go in circles but
20 -- will you stay on Figure 1 of Sharma. We're talking
21 about --

22 A. Okay.

23 Q. -- Figure 1 right now. Element 41 of Sharma in
24 Figure 1, what is the structural equivalent of that
25 element in Figure 16 of the '129 patent?

1 A. (Examining document). Base 51.

2 Q. Element 31 of Sharma in Figure 1, what is the
3 structural equivalent of that element in Figure 16 of the
4 '129 patent?

5 A. Let me go back and read and confirm that, but I
6 seem to recall that you were able to lock it in both
7 positions. Let me see. I mean, it functions as --

8 MR. NELSON: Objection. Objection. Ambiguous.

9 MR. LYTVYN: What -- what -- what's ambiguous,
10 Mr. Nelson?

11 MR. NELSON: I'm not sure that there is an
12 equivalent to --

13 MR. LYTVYN: And that --

14 MR. NELSON: -- Figure 1 --

15 MR. LYTVYN: -- and that's the question for
16 Mr. Drewry --

17 MR. NELSON: -- Figure 16 of the '129 patent.

18 MR. LYTVYN: Okay. And that's the question for
19 Mr. Drewry, and if he --

20 MR. NELSON: Well, that --

21 MR. LYTVYN: -- believes that --

22 MR. NELSON: -- (unintelligible) --

23 MR. LYTVYN: -- (unintelligible) -- more
24 equivalent --

25 MR. NELSON: -- (unintelligible) --

1 THE REPORTER: I -- I can't --

2 MR. NELSON: -- (unintelligible).

3 MR. LYTVYN: Okay. Let's -- let's rephrase.

4 BY MR. LYTVYN:

5 Q. Mr. Drewry, I believe we were just talking about
6 the -- the figures, not the descriptions.

7 So if -- is -- is there a structural equivalent to
8 element 31 in Figure 1 of Sharma and Figure 16 of the '129
9 patent?

10 A. Again, I -- I -- I'd have to go back and read the
11 specification but --

12 Q. Did you pre- --

13 A. -- I think --

14 Q. -- did you previously state on the record that
15 you believe that slap hammer in Figure 1 of Sharma is
16 structurally and functionally equivalent to Figure 16 of
17 the '129 patent?

18 A. Yes, sir, I did.

19 Q. So if it's structurally equivalent to Figure 16
20 of the '129 patent, we just want you to identify the
21 structural equivalence between the two based on component
22 by component.

23 So component 41, which you identified as a base in
24 Sharma, what is the structural equivalent, if there is
25 one, in the '12- -- Figure 16 of the '129 patent?

1 A. Base 51.

2 Q. Structural element 31 --

3 A. No. 51.

4 Q. Yes. Next question.

5 A. Okay.

6 Q. Structural element 31 in Figure 1 of Sharma, is
7 there a structural equivalent to that element in Figure 16
8 of '129, and if so, which element is that?

9 A. Again, if I was allowed to go back and read the
10 specification and confirm in Sharma, 31 may be an
11 additional base member that allows for locking the sleeve
12 hammer 11 in the down position, but I don't recall if
13 that's the case.

14 Q. So that's not the question. We're not talking
15 about locking in place. We're just looking at Figure 1
16 and Figure 16. You stated the structural equivalence to
17 one another. So if there's structural equivalence to one
18 another, I want to draw parallels between the structural
19 components of the slide hammer we see in Figure 1 of
20 Sharma to the structural component we see in Figure 16 in
21 the '129.

22 If you don't believe there's structural equivalence,
23 you can say so on the record, but if they are, let's draw
24 a parallel between components in the Figure 1 versus
25 Figure 16. We're just looking at the figures.

1 So let's start from -- from the top. Element 11,
2 please identify this element in Figure 1 of Sharma, and
3 then please identify --

4 MR. NELSON: Objection. Asked and answered.
5 BY MR. LYTVYN:

6 Q. Please identify the name of the element 11 in
7 Figure 1 of Sharma, and then please identify the
8 corresponding element in Figure 16 of the '129 patent if
9 you believe there is one.

10 A. (Examining document). In Figure 1 of Sharma,
11 Number 11 is the slap hammer sleeve. In Figure 16,
12 element 31 is the slap hammer sleeve.

13 Q. Thank you. Element 21 in Figure 1 of Sharma.

14 A. Element 21 in Figure 1 of Sharma is the slap
15 hammer sleeve shaft, and element 44 in Figure 16 of the
16 '129 patent is the slap hammer shaft.

17 Q. Thank you. Element 100 in Figure 1 in Sharma.

18 MR. NELSON: Could you repeat that, please?

19 MR. LYTVYN: Element 100 in Figure 1 of Sharma.

20 MR. NELSON: Thank you.

21 A. (Examining document). Again, I don't know the --
22 what it's called but it's basically the instrument shaft
23 and tip.

24 BY MR. LYTVYN:

25 Q. And what's the corresponding structure in the

1 '129 patent in Figure 16, if there is one.

2 A. (Examining document). It would be 30 and 32 of
3 Figure 16 of Patent '129.

4 Q. Thank you. Element 31 in Figure 1 of Sharma.

5 MR. NELSON: Objection. Same reason as before.
6 Ambiguous.

7 A. (Examining document). Again, I don't -- I don't
8 recall exactly what that component does. It appears to be
9 a -- a quick connect mechanism there. It could be for the
10 instrument tip 100, or it could be for locking the slap
11 hammer sleeve 11. I just would have to go confirm in the
12 specification.

13 BY MR. LYTUVYN:

14 Q. But, yet, you're confident that this struc- --
15 that this slide hammer in Figure 1 of Sharma is
16 structurally and functionally equivalent to Figure 16 of
17 the '129 patent.

18 A. Yes, sir, I do.

19 Q. So if it is -- Element 31, please identify that
20 element and, please, identify its structural equivalent in
21 the Figure 16 of the '129 patent if there is one.

22 A. Again, not having read the spec and not going
23 back and checking, it could be -- Number 31 could be a
24 base similar to Base 51, or it could be just a quick
25 connect that allows for different instrument tips, 100, to

1 be changed out with the instrument.

2 Q. And what was -- when was the last time you read
3 the specification of Sharma?

4 A. I read through it during my declaration --
5 preparing my declaration.

6 Q. So, again, you just a few minutes ago stated that
7 you believe that this figure is structurally equivalent to
8 the slide hammer assembly in Figure 16 of the '129 patent.

9 Do you still maintain that opinion?

10 A. Yes, sir, I do.

11 Q. Then what element in the Figure 16 of the '129
12 patent is structural and functional equivalent of the
13 element 31 in Figure 1 of Sharma?

14 A. In this orientation and the way that Figure 1
15 would operate, the equivalent in Figure 16 would be the
16 head of 46 of the shaft.

17 Q. And where is -- how is the shaft 46 located
18 relative to the -- to the shaft 44 of the slide hammer
19 assembly in Figure 16 of the '129 patent?

20 A. On the proximal end of shaft 44.

21 Q. And where is element 31 of Sharma located
22 relative to the shaft 21?

23 A. Can you repeat that, please?

24 Q. Where is element 31 in Sharma located relative to
25 shaft 21?

1 A. It would be towards the distal end of the shaft.

2 Q. So I'm going to repeat what you just said and
3 just to confirm that we have no ambiguity on the record.
4 You stated that element 46 in Figure 16 of the '129 patent
5 is located at the proximal end of shaft 44; is that
6 correct?

7 A. Yes, sir, that's correct.

8 Q. And you stated that element 31 in Sharma is
9 located at the distal end of the shaft 21.

10 A. Towards the distal end.

11 Q. And you still maintain that element 31 and
12 element 46 are structural equivalents of one another?

13 MR. NELSON: Objection. Ambiguous. There's
14 numbers in both documents. Counsel, can you point to
15 which one you're talking about?

16 MR. LYTVYN: That's a speaking objection. If --
17 if you can just state the objection for the record. You
18 don't need to throw out any --

19 MR. NELSON: Well, I'm explaining my --

20 MR. LYTVYN: -- any testimony.

21 MR. NELSON: -- objection. I was explaining the
22 basis for the ambiguity.

23 MR. LYTVYN: We didn't ask you to explain the
24 objection. Just you can state it for the record to
25 preserve your right to strike testimony. Thank you.

1 MR. NELSON: Uh-huh (affirmative response).

2 A. Could I go back to -- I think we can solve this
3 rather quickly. Could I go back to the specification and
4 clearly identify portion 31 in Figure 1?

5 BY MR. LYTVYN:

6 Q. So here's -- again, this is not a trick question.
7 You just -- and you are under oath and you're required to
8 truthfully and honestly answer all of the questions, and,
9 again, this is going to be a part of the public record.

10 You repeatedly stated on the record that Figure 1 of
11 Sharma is structural and functional equivalent to the
12 slide hammer assembly in Figure 16 of the '129 patent; is
13 that correct?

14 A. Yes, sir, it is.

15 Q. And you don't need any additional information to
16 make that statement.

17 A. Well, what I am stating here is that in Figure 1
18 of the Sharma patent, it is showing the slap hammer sleeve
19 locked to base 41 in the up position, and that functions
20 like Figure 16 of the '129 patent when the slap hammer
21 sleeve is engaged to base 51.

22 Q. So is there at least a difference in positioning
23 of elements 41 and 51? You keep stating that they're
24 structurally and functionally equivalent; yet -- yet, you
25 just stated that one is disposed to the distal end of the

1 shaft and the other one is positioned at the proximal end
2 of the shaft. Yet, you keep repeating that they're
3 structurally and functionally equivalent.

4 How do you reconcile those two statements?

5 A. Because both bases, 51 and 41 -- 41, the base of
6 Sharma, 51 the base of the '129 patent, is the structure
7 that the slap hammer sleeve engages with when it is
8 locked.

9 Q. And would the -- and when it is unlocked in
10 Sharma -- explain to me the process of unlocking the
11 hammer sleeve 11 in Sharma.

12 What -- what would you do and how would it function?

13 A. This appears to be a button in 41 that you push
14 to relieve ball detents and allow the slap hammer sleeve
15 to travel up and down shaft 21.

16 Q. And so that would disconnect the element 41 from
17 element 11 in Sharma.

18 A. Yes, sir, that's correct.

19 Q. Okay. Thank you.

20 MR. LYTVYN: I think we've been going a little
21 over an hour. Let's -- let's take a quick break.

22 THE WITNESS: Okay.

23 (WHEREUPON, THERE WAS A SHORT BREAK, AND THE
24 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

25 BY MR. LYTVYN:

1 Q. Mr. Drewry, I wanted to ask you about the process
2 of preparing your declaration. Could you describe to me
3 how -- how you approached that and how that worked.

4 A. I was asked to give my opinions regarding the
5 '129 patent as it relates to prior art in the field based
6 on my experience designing spinal implants and sacro- --
7 SI joint implants and provide my opinions regarding the
8 invalidity of the '129 claim terms, 1, 2, 9 and 10.

9 Q. Did you identify the prior art, or was it
10 provided to you?

11 A. Some of it was provided. Others I had
12 identified. As I mentioned, I was working on -- I had an
13 active project in this area in the SI joint, so I had done
14 kind of a legal landscape in preparation for that project
15 as well and there was some overlap between some of the
16 prior art references that I found for the project but also
17 for the ones in this particular declaration.

18 Q. So which ones did you identi- -- which prior art
19 references did you identify yourself and which ones were
20 provided to you?

21 A. I don't recall exactly which ones were which, but
22 there was some overlap. That's all I recall.

23 Q. And did you write your own declaration?

24 A. It's my opinion it was a collaboration between
25 counsel and myself. They asked me questions. I provided

1 my opinions and feedback based on my experience, and it
2 was memorialized in my doc- -- in my declaration.

3 Q. And are you aware that your declaration,
4 specifically the portions that explain the invalidity
5 grounds, 1 through 5, is identical to the invalidity
6 grounds stated in the Petition?

7 A. Yes, sir, I do.

8 MR. NELSON: Well, could you repeat that, please?

9 MR. LYTVYN: I -- I asked Mr. Drewry if he was
10 aware that his -- that the grounds in his declaration,
11 explanation of grounds 1 through 5, is word for word
12 identical to the grounds stated in the Petition --

13 MR. NELSON: Thank you.

14 MR. LYTVYN: -- and Dr. Drewry answered in the
15 affirmative.

16 BY MR. LYTVYN:

17 Q. Okay. I think we're -- almost made our way
18 through the entire Claim 1. If you could, go back to the
19 '129 patent.

20 A. '129?

21 Q. Yes.

22 A. Okay.

23 Q. Column 13.

24 A. I'm there.

25 Q. Could you read -- read the last limitation of

1 this claim in the record starting with Line 18 of Column
2 13 of the '129 patent.

3 A. So this is the last limitation for Claim 1?

4 Q. Correct.

5 A. Okay. (Examining document). Advancing the
6 abrading device into the sacroiliac joint such that the
7 open tip cuts bone tissue away from the sacrum or the
8 ilium and the abrading surfaces decorticate the cortical
9 bone inside the sacroiliac joint thereby forming a
10 decorticated implant void at the insertion point without
11 using a rotary cutter instrument.

12 Q. And could you explain to me what's your
13 understanding of -- of this style.

14 A. So you advance an abrading device so you put it
15 into the SI joint. The instrument cuts bone tissue away
16 from the sacrum or the iliac so both surfaces of the joint
17 and it decorticates the cortical bone and forms a implant
18 void that provides an insertion point for the implant, and
19 this is all done without a rotary cutting instrument.

20 Q. Okay. If we can, go to your declaration. If we
21 could, go to Page 67, please.

22 A. 67?

23 Q. Yes.

24 A. Okay. (Short pause). Okay. I'm there.

25 Q. In Paragraph 110 you provide var- -- various

1 combinations of prior art that you deem to be -- that you
2 deem to render obvious the challenge claims of the '129
3 patent, and after stating each combination you conclude
4 was the following phrase and I'm going to quote this for
5 the record: As well as the generally well-known aspect of
6 the background knowledge of a person of ordinary skill in
7 the art.

8 So what role did -- did the -- does generally well-
9 known aspect play in your obviousness analysis?

10 A. (Examining document). I mean, that's part of the
11 experience that a person of ordinary skill in the art
12 would have in this field.

13 Q. So did you identify any limitations that were --
14 that were generally well-known aspects -- that -- that you
15 deem to be generally well-known aspects in the background
16 knowledge but that were not explicitly recited in the
17 cited prior references?

18 A. I guess the biggest one is it was generally well
19 known that spinal intradiscal surgery was very similar to
20 SI joint fusion surgery and that the process and the
21 procedures and the implants have all evolved from spinal
22 surgeons, albeit, orthopedic or neurosurgeons, applying
23 what they knew in the spine, their implants and their
24 instruments, and then applying it to the SI joint.

25 Q. Thank you. And if you could, go to Page 2 of

1 your declaration.

2 A. Numeric 2 or Roman --

3 Q. Yes.

4 A. -- Numeral II?

5 Q. Numeric 2.

6 A. Okay.

7 Q. In Paragraph 4 you made a statement that, any
8 differences from these prior art references are trivial in
9 reference to the '129 patent and the cited prior art.

10 Did you identify any specific differences between the
11 '129 patent and the prior art that you cited that you deem
12 to be trivial?

13 A. Did I find any to be trivial or not trivial?

14 Q. Did you find any diff- -- no, no. There's a
15 statement that says, any differences from these prior art
16 references are trivial.

17 Did you identify specific differences, or what's the
18 purpose of including this statement in your declaration?

19 A. I think I -- it goes back to the statement I just
20 made. Some of this -- I think one of the reasons we're
21 here today is I think the examiner didn't appreciate that
22 the SI joint was the next joint in the spine, if you will,
23 and that the whole evolution of SI joint surgery was based
24 on spinal surgeons and those techniques. So I think it's
25 just the fact that there's a clear link between spine

1 surgery and SI joint surgery --

2 Q. Okay.

3 A. -- so that would be my clarification.

4 Q. And thank you for that explanation. So if you
5 could, flip to Page 68 of your declaration.

6 A. Okay.

7 Q. So this is Ground 1 and the references cited in
8 this ground are Compton, Donner, Otte and Sharma.

9 Have you reviewed these references in preparation for
10 today's deposition?

11 A. (Examining document). Yes, sir, I have.

12 Q. All of them?

13 A. Yes, sir, I have.

14 Q. Do you need a copy of these references to
15 describe your -- the combination that you're relying upon
16 in Ground 1, or are you familiar with them enough to where
17 we can have a -- a general conversation without you
18 referencing them?

19 A. I think as they relate to my opinions and as they
20 are included in my declaration, I'm happy to discuss if
21 there's other specifics in these prior art references that
22 you want to refer to. I may need the documents.

23 Q. Okay.

24 MR. LYTVYN: Mr. Banks, could you provide Compton
25 reference to Mr. Drewry, please.

1 MR. BANKS: Mr. Drewry, here's previously marked
2 Exhibit 1004.

3 THE WITNESS: Thank you.

4 BY MR. LYTVYN:

5 Q. Please look over this document, and do you
6 recognize this document?

7 A. (Examining document). Yes, sir. It is Compton
8 Patent 841.

9 Q. And what is your recollection of what's disclosed
10 in this patent? Specifically why did you choose this
11 patent as one of the base references for the invalidity
12 grounds?

13 A. Again, I guess I kind of took them in order of
14 Claim 1 and identified Compton as having a working channel
15 and an insertion point identification mechanism built into
16 their working channels that supported that -- those
17 limitations of the patent.

18 Q. And could you describe the method and the tools
19 used to create the void for the implant in Compton.

20 A. So Compton in one embodiment shows that there is
21 a drill bit and a -- a broach, if you will, for providing
22 the void necessary to prepare the bone for the implant.

23 Q. And how are these instruments used to create that
24 void?

25 A. I'm not sure I follow you.

1 Q. So you identified the drill and the broach as two
2 instruments that are being used to create the void.

3 Could you describe the steps that a surgeon would
4 perform using these instruments to create the void?

5 A. Yeah. It's very similar to, I guess, woodworking
6 in this one particular embodiment that shows -- he also
7 mentions the drill being optional, but in this particular
8 embodiment, it's --

9 Q. Could you point me to -- sorry to interrupt.
10 Could you point me to where Compton mentions a drill being
11 optional, please.

12 A. I believe I referenced that in my -- let me see.
13 I'm looking for the exact reference location. (Short
14 pause). So I believe in Column 4, Line 23 it starts that,
15 in some embodiments a drill is used, but as I recall, I'm
16 not sure that it's required to create the pilot hole in
17 all of the embodiments.

18 Q. Well, you just previously said that Compton
19 mentions that the drill is optional, so I just want you to
20 identify the exact portion of Compton that indicates that.

21 A. Let me go back and look at the exact location.
22 Let's see. (Examining documents). (Short pause). So,
23 again, in that Section 14 -- as aware I was reading 14.
24 In Figure 5 shows a perspective view of an example drill
25 bit. The drill bit comprises a drill bit shank, and it

1 goes on to describe that. And then it says that, in some
2 embodiments, the drill is used, so --

3 Q. Sorry. Point me exactly where it says, in some
4 embodiments, the drill is used.

5 A. That would be Line 21, 2, 3, in some embodiments.

6 Q. Please continue to read.

7 A. The second end comprises a collar. The collar
8 functions as a stop when the drill bit is placed in the
9 retraction guide. When the drill bit is passed through
10 the retraction guide body, the collar will stop when
11 impacting the retraction guide, and a protrusion can be
12 disposed of on the drill bit shank.

13 Q. And exactly where does it state that the drill is
14 optional?

15 A. I guess from the fact that they're saying there
16 in some embodiments, they're using the drill.

17 Q. Is there an embodiment in which they're not using
18 a drill?

19 A. I would read from that, that there could be cha-
20 -- opportunities where the pilot hole is not created by a
21 drill bit but -- with some other instrument, and then they
22 could come back and use the broach.

23 Q. So as you analyze prior art to render your
24 opinion, do you base your opinion on what the prior art
25 teaches or on what it could teach but it doesn't?

1 A. I'm not sure I follow the question.

2 Q. So you just said that it could -- let me rephrase
3 it.

4 Are you able to identify a portion of Compton that
5 states that the use of the drill is optional?

6 A. Again, when I read some embodiments use the
7 drill, I would assume that there are some embodiments
8 where the drill is not being used.

9 Q. So you're rendering your invalidity opinion based
10 on your assumptions?

11 A. No. I'm not doing that as well. I'm -- I'm
12 basing it on how a -- a person in ordinary skill in the
13 art would view that specification based on the
14 requirements of the specification.

15 Q. So is there a basis in Compton, itself, not your
16 assumption, for the drill being optional? And if so,
17 please point me to it.

18 A. Again, as --

19 MR. NELSON: Objection. Asked and answered.
20 Argumentative.

21 A. Again, I stand by my answer. I think they say
22 there's embodiments where the drill bit is used, and that
23 would lead me to believe that there's embodiments where a
24 drill is not used.

25 BY MR. LYTVYN:

1 Q. Thank you. Let's take a look at Page 69 of your
2 declaration.

3 A. Okay. I'm there.

4 Q. Do you see the sentence that starts with, it
5 would? If you --

6 A. (Examining document). Yeah.

7 Q. Could you --

8 A. I see a -- one but --

9 Q. Could you, please, read --

10 A. Well, there's more than one.

11 Q. One, two, three, four, five -- six lines down.

12 A. Yes. I'm there.

13 Q. Could you, please, read that sentence into the
14 record.

15 A. It would be obvious to a POSITA to combine the
16 use of joint preparation tool of Donner with the SI joint
17 method of Compton because the joint preparation tool of
18 Donner prepares the SI joint in articular surfaces of the
19 SI joint with a single tool instead of multiple separate
20 tools such as a chisel, a rasp and other tools.

21 Q. Thank you. Is it your opinion that Compton
22 teaches the use of a chisel and a rasp?

23 A. (Examining document). I think Compton shows a
24 broach for preparing this decorticated void for the
25 implant placement.

1 Q. The question was: Is it still your opinion that
2 Compton teaches the use of a chisel and a rasp?

3 MR. NELSON: Objection. Misstates testimony.

4 A. (No response).

5 BY MR. LYTVYN:

6 Q. Is it your opinion that Compton uses a chisel and
7 a rasp?

8 A. I think his broach is similar to a chisel and a
9 rasp, yes.

10 Q. The reasoning for combining Donner that you just
11 read in single sentence with Compton was because Donner
12 uses a single tool while Compton teaches -- it uses
13 multiple separate tools such as a chisel, a rasp and other
14 tools.

15 MR. NELSON: Can you repeat the question, please?
16 I didn't follow.

17 MR. LYTVYN: So Dr. Drewry just stated that the
18 broach -- I believe it's Reference 148 but I want to
19 confirm. So he just stated that -- yes. So that the
20 broach 148 functions like a chisel and a rasp. In his
21 declaration, the reason for combining Donner with Compton
22 was to replace a single -- to use a single tool instead of
23 multiple separate tools such as a chisel, a rasp and other
24 tools. So my question to --

25 MR. NELSON: When --

1 MR. LYTVYN: -- my question to Dr. Drewry is:
2 Please identify in Compton a chisel and a rasp.

3 MR. NELSON: Objection. Misstates that part.

4 A. Again, I think this -- it's --

5 BY MR. LYTVYN:

6 Q. I'm going to read again into the record, and this
7 is your signed testimony. This is not misstatement of the
8 testimony. It would be obvious to a POSITA to combine the
9 use of joint preparation tool of Donner with the SI joint
10 method of Compton because the joint preparation tool of
11 Donner prepares SI joint and articular surfaces of the SI
12 joint with a single tool instead of multiple separate
13 tools such as a chisel, a rasp and other tools.

14 MR. LYTVYN: That's a direct quote from
15 Dr. Drewry's declaration.

16 BY MR. LYTVYN:

17 Q. Please identify a chisel, a rasp and other tools
18 in Compton that have been replaced by a single tool of
19 Donner.

20 A. (Examining document). Again, I think that
21 statement on its own -- first of all, it's Mr. Drewry, not
22 Dr. Drewry. Second of all, if you read on in that
23 paragraph, what we're trying to state is that Donner is
24 showing a single --

25 Q. Sorry -- sorry -- sorry to interrupt you. Again,

1 it's a simple -- a simple question.

2 Your -- do you still stand by the statement that I
3 just read into the record that's in your sworn and signed
4 testimony? And if not, it's okay because you reserve the
5 right to change your testimony. Do you still stand by the
6 statement today?

7 A. Yes, sir, I do.

8 MR. NELSON: Objection.

9 BY MR. LYTVYN:

10 Q. Please iden- --

11 MR. NELSON: Argumentative.

12 BY MR. LYTVYN:

13 Q. -- please identify a chisel, a rasp and other
14 tools that are being replaced by a single tool in Donner
15 by the referenced numerals in Compton.

16 A. Sorry. I don't know how to answer the question.
17 I -- again, I think what --

18 Q. It's -- it's not a matter of opinion. It's a
19 matter of fact, that your declaration that you still say
20 you stand by states that a single tool of Donner replaces
21 multiple separate tools such as a chisel, a rasp and other
22 tools. Please identify those multiple separate tools in
23 Compton.

24 A. I think the multiple separate tools are included
25 in the next sentence being the slap hammer --

1 Q. No. The --

2 A. -- the cutting tools --

3 Q. I -- sorry to interrupt you. The question is not
4 about -- it's -- again, it's a -- it's not a matter of
5 opinion. It's a matter of fact. You stated that a single
6 tool of Donner replaces multiple separate tools of Compton
7 such as a chisel, a rasp and other tools. I'm asking you
8 to identify a chisel, a rasp and other tools that are
9 being replaced by a single tool of Donner in Compton but
10 by their reference numerals. That's all.

11 A. Okay. (Examining document). So I think the
12 chisel and rasp are similar to a chi- -- a chisel and a
13 rasp are similar to Compton's broach. I think we're
14 relay -- release -- replacing the drill bit. We're
15 replacing the hammer, and we're combining that into a
16 single instrument of Donner that has a hammer, a shaft and
17 the cutting tip attached to it.

18 Q. So, again, the statement -- and I'm going to read
19 it again into the record. And if you cannot identify
20 these tools, it's okay, but you need to answer my question
21 completely. That's -- that's the -- the whole purpose of
22 having the -- this deposition.

23 So your testimony that you still said you -- you said
24 you stand by today states, multiple separate tools such as
25 a chisel, a rasp and other tools. Please identify a

1 chisel in Compton.

2 MR. NELSON: Ambiguous. Asked and answered.

3 MR. BANKS: Mr. Nelson, please be limited to a
4 single word whenever you're using objections. Speaking
5 objections aren't allowed during IPR testimony. I'll
6 refer you to the trial practice guide, but this isn't
7 going to go --

8 MR. NELSON: I -- well, that wasn't a speaking
9 objection.

10 MR. BANKS: Yes, it was. You're limited to one
11 --

12 MR. NELSON: I --

13 MR. BANKS: -- single word or term.

14 MR. NELSON: Ambiguous and asked and answered is
15 what I said.

16 MR. BANKS: Please turn to Page 128 of the trial
17 practice guide. It will tell you that, objection, vague,
18 or, objection, ambiguous, is not allowed. We can
19 continue.

20 BY MR. LYTVYN:

21 Q. So, again, your testimony states multiple
22 separate tools such as chisel and a rasp. Please identify
23 a chisel and a rasp as multiple separate tools in Compton.
24 If you cannot identify separate chisel and a rasp in
25 Compton, that's okay to admit, but please answer my

1 question completely. Your testimony says, multiple
2 separate tools such as a chisel and a rasp. Please
3 identify them in Compton.

4 A. Again, I think it --

5 MR. NELSON: Objection. Misstates testimony.

6 MR. LYTVYN: I'm --

7 MR. BANKS: Mr. Nelson --

8 MR. LYTVYN: -- I'm reading from the record and
9 you're limited to a single-word objection.

10 BY MR. LYTVYN:

11 Q. Page 69 of the testimony says, multiple separate
12 tools such as a chisel, a rasp and other --

13 MR. NELSON: You keep --

14 MR. LYTVYN: -- tools. That's a quote.

15 MR. NELSON: -- you keep circling back to chisel
16 and rasp. It says, chisel, rasp and other tools.

17 MR. LYTVYN: Yes. And I want to iden- -- and
18 they're listed with a comma, a chisel, a rasp and other
19 tools, and I want to identify -- and I would like
20 Mr. Drewry to identify a chisel in Compton.

21 BY MR. LYTVYN:

22 Q. And if there's no chisel in Compton, please say
23 so for the record.

24 A. (Examining document). Again, it states, such as
25 a chisel, rasp and other tools.

1 Q. Is there a chisel in Compton?

2 A. Yes. I think the broach functions as a chisel.

3 Q. And is there a rasp in Compton?

4 A. Yes. I think the broach also functions as a rasp
5 in the corners.

6 Q. And are these multiple separate tools?

7 A. Again, I think it says, and other tools. I think
8 those two have similar functions in the broach so they
9 count as a chisel and a rasp, and then again I think where
10 the other tools consist of the hammer replacing the need
11 for the drill bit and some of the other instruments in
12 there as one instrument in Donner.

13 Q. So a chisel and a rasp are not multiple separate
14 tools; is that -- is that fair, or do you still want to
15 say the chisel and the rasp are separate tools? I'm just
16 reading your testimony. This is -- this is what it says.

17 And the purpose of this dep- -- deposition here is
18 you're the expert. It's for you to explain to us and to
19 the Board as to what's going on in these prior art
20 references. It's not for you to defend your declaration
21 when it's -- that there's no factual basis for it.

22 So if -- I'm asking you a question: Can you identify
23 a chisel in Compton? And, again, this is public record
24 and everybody will have access to this after we are done.
25 So, please -- I'll -- I'll -- I'll rephrase the question

1 again.

2 In your declaration, Mr. Drewry, on Page 69 you made
3 the following statement: It would be obvious to a POSITA
4 to combine the use of joint preparation tool of Donner
5 with SI joint method of Compton because the joint
6 preparation tool of Donner prepares the SI joint and
7 articular surfaces of the SI joint with a single tool
8 instead of multiple separate tools such as a chisel, a
9 rasp and other tools, end -- end of quote.

10 My question for you is: Please identify a chisel and
11 a rasp in Compton that are being replaced with a single
12 tool of Donner.

13 A. Okay. Give me a second and let me review the
14 specification. (Examining document). (Long pause).

15 MR. LYTVYN: Let the record reflect it's been
16 five minutes.

17 A. Again, I think the broach is placed in there and
18 -- and functions as a -- a chisel initially and then a
19 rasp.

20 BY MR. LYTVYN:

21 Q. And how many tools is the broach --

22 A. I --

23 Q. -- on -- on --

24 A. In that embodiment, it's one --

25 Q. Is --

1 A. -- combined.

2 Q. -- is there another embodiment?

3 A. (Examining document). (Short pause). Again, I
4 think there's -- they discuss making a pass with the rasp
5 in the cylinder portion on the front and the broach behind
6 it removing the bone that way.

7 Q. So a single tool or multiple separate tools?

8 A. I think with regard to the broach, it's a
9 single --

10 Q. So --

11 A. -- but there's multiple tools used in the -- in
12 the procedure.

13 Q. So just so we can move on, a chisel and a rasp as
14 identified in your declaration on Page 69 of Compton are
15 embodied in the single tool to which Compton refers as
16 broach referenced in Numeral 148; is that correct?

17 A. Again, in that one embodiment but, again, we're
18 replacing multiple tools --

19 Q. We're talking about a chisel and a rasp right
20 now, not -- not other tools.

21 A. In that one embodiment, yes.

22 Q. And is there another embodiment of Compton that
23 you can identify where a chisel and a rasp would be
24 separate tools?

25 A. I don't recall that there is.

1 Q. Thank you. Let's go to Page 70 of your
2 declaration. Would you, please, read into the record the
3 third statement of Paragraph -- third sentence of
4 Paragraph 113 that begins with the words, it would.

5 A. I'm sorry. Can you repeat that? Which -- it
6 starts --

7 Q. On Page 70, Paragraph 113 --

8 A. Okay.

9 Q. -- five lines down, the sentence starts with, it.
10 Please read that sentence into the record.

11 A. (Examining document). It would be obvious to use
12 the universal impactor with slap hammer device of Sharma
13 to assist in the impaction and/or extraction of attached
14 surgical instruments in an SI joint fusion procedure such
15 as chisels and rasps.

16 Q. Please read the next sentence as well.

17 A. Compton discloses an orthopedic spinal procedure
18 that includes the use of an impactor and tools that are
19 conventionally used with hammers and slap hammers such as
20 a box chisel or rasp.

21 Q. And one more sentence, please.

22 A. It would be obvious to a POSITA that the
23 universal impactor with a slap hammer device would be
24 beneficially used with the tools, box chisel and rasp,
25 used in the method of Compton and predictably (sic)

1 improvements in efficiency, particularly in view of the
2 disclosure of the joint preparation tool of Donner.

3 Q. Could you describe to me which tools from which
4 prior art references you are combining in this section
5 that you just read.

6 A. So, again, it would be combining those of --

7 Q. Please identify the tools that you're combining
8 in that section that you just read by the name of the tool
9 and the reference in which it's disclosed.

10 A. It would be Compton in view of Donner and --

11 Q. Well, Comp- -- please identify the specific tool
12 that is being combined with another tool in the references
13 that disclosed them.

14 A. Okay. Can you provide me --

15 Q. Sure. Compton -- Compton is not a tool. The
16 broach of Compton is a tool. There's an example. The
17 drill of Compton is a tool. So, please, identify the
18 tools that you're combining together in this Paragraph
19 113, not just the names of the references. So identify
20 the specific tool that is being -- and the reference in
21 which it's disclosed and the tool with which it is being
22 combined.

23 A. So the -- the last sentence where it says, e.g.,
24 for example, box chisel and rasp, I think this is
25 identified in Otte, the reference I showed in combination

1 for this ground. I don't have that patent in front of me
2 so if you wanted to show me the patent, I could
3 identify --

4 Q. And where -- where in Paragraph 113 is Otte
5 referenced?

6 A. Well, it says, box chisels and rasps, and I
7 discuss it in this section of -- in the -- I guess, what
8 -- what did I call this? Overview of the prior art, I
9 believe. (Examining document). (Short pause).

10 Q. All right. Now we're talking about Paragraph
11 113, and could you point to me where Otte is mentioned in
12 Paragraph 113.

13 A. Well, Otte is an example of -- that shows the
14 tools of a box chisel and a rasp, so that's what I was
15 referring to in that paragraph there. As did Donner
16 included box chisels and rasps in his as well, so, again,
17 I think it was discussed previously in that section and
18 just grouped them together in that last sentence.

19 Q. So could you read the last sentence, again, on --
20 of Paragraph 113 starting on Page 70 through the top of --

21 A. (Examining document). It would be obvious to a
22 POSITA that the universal impactor with a slap hammer
23 device would be beneficially used with the tools, box
24 chisel and rasp -- for example, the box chisel and rasp
25 used in the method of Compton with predictable

1 improvements in efficiency, particularly in view of the
2 disclosure of the joint preparation tool of Donner.

3 Q. So the box -- and I'm going to read this into the
4 record. It says, the tools, open parentheses, e.g., the
5 box chisel and rasp, close parentheses, used in the method
6 of Compton with predictable improvements in efficiency.

7 How do you read this sentence to refer to tools
8 outside of Compton?

9 A. Because that's what the -- the whole section is
10 about. It's about combining Compton with --

11 Q. So the box --

12 A. -- Otte --

13 Q. Sorry. So on Page 70 the box chisel and rasp
14 that are referenced and then says, used in the method of
15 Compton, are these the box chisel and rasp that are used
16 in Compton or some other box chisel and rasp?

17 A. I don't know that you can separate these out. I
18 think it's a combination of these prior art references.
19 And Compton has a method of using a working channel with a
20 sacral and iliac contour and insertion arms, and then Otte
21 and Donner, which are described in this section as part of
22 the combination, also disclose -- or disclose the box
23 chisel and rasp.

24 So you can combine the Otte and the Donner instruments
25 in the method of Compton and get predictable improvements

1 in efficiency in particular in view of the fact that you
2 can combine those instruments into a single tool that
3 Donner explains in his prior art reference.

4 Q. Okay. Let's look at Donner. If you go to Page
5 -- let's go to Page 50 of your declaration.

6 A. Which page number?

7 Q. 50.

8 A. 5-0?

9 Q. Yes.

10 A. Okay. I am there.

11 Q. So this is the section describe -- describing
12 Donner. If we could, go to Page 52.

13 A. Okay.

14 Q. Do you see Figure 7?

15 A. (Examining document). I do.

16 Q. So is this the tool of Donner that you're
17 combining with the method of Compton?

18 A. Yes, sir, that's correct.

19 Q. And could you describe this tool to me, please.

20 A. In Figure 7?

21 Q. Yes.

22 A. It is a single instrument -- kind of an exploded
23 view of a single instrument that shows a cutting head, a
24 slide hammer assembly and the components that when
25 combined would form a single instrument.

1 Q. Could you identify the components of the slide
2 hammer assembly, please, by their reference numeral and
3 give them a name.

4 A. Let me see. So Figure 58 would be the slap
5 hammer, and what else were you asking for?

6 Q. So do you see where you identified a component or
7 a set of components, 54, as the slide hammer assembly?

8 A. Yes.

9 Q. And there are multiple components there, so I
10 would like for you to provide terminology for each of
11 these components.

12 A. So 58 would be the slap hammer handle, and 60
13 would be the slap hammer shaft.

14 Q. And 74 would be?

15 A. 74 would be the -- again, I'd have to look at the
16 patent specifically, but it looks like it's the threaded
17 end of slap hammer shaft that is assembled into the
18 instrument.

19 Q. Does this slide hammer assembly have a base?

20 A. No, sir. It does not.

21 Q. And why do you say that?

22 A. Because the base is applicable for locking slide
23 hammer assemblies, and this is not a locking slide hammer
24 assembly.

25 Q. So a slide hammer assembly without the locking

1 mechanism does not have a base.

2 Does that -- is that your understanding of slide
3 hammer assemblies?

4 A. Yes, sir, it is.

5 Q. Thank you. Let's go to Page 53.

6 A. Okay. I'm there.

7 Q. Please describe to me what you see in Figure 22D,
8 and that's Figure 22D of Donner, which is annotated in
9 your declaration of Page 53.

10 A. (Examining document). Again, I just want to get
11 my terminology right. (Short pause). So the -- Figure
12 22D is the abrading tool of Donner.

13 Q. Could you describe its components?

14 A. Yes. It has abrading surfaces on the sides and
15 the top, and it has an open tip or a void that allows, as
16 we discussed earlier in the day, kind of passage of bone
17 cartilage tissue as the tool is advanced into the joint
18 space.

19 Q. And what is this void? Could you identify it
20 based -- what -- what do you refer to as the void?

21 A. I would say it is kind of -- and, again, I'm --
22 I'm just saying numbers. I don't know if that's the way
23 it's referenced in this specification, but I would say
24 element 196 is pointing to kind of 205, which is kind of
25 the width of the void, so it would be that area

1 dimensioned by 205 and identified by 196.

2 Q. And you just stated that this is the void through
3 which the dislodged bone tissue would act as the abrading
4 head; is that correct?

5 A. It could be, yes.

6 Q. In operation, if this abrading head is used to
7 cut the bone, please identify which surfaces would contact
8 the bone tissue.

9 A. You could cut it on the top and the bottom of the
10 rails.

11 Q. Please -- please -- please use reference
12 numerals. So in operation, this abrading head is inserted
13 into a SI joint.

14 Which elements of this abrading head are going to
15 contact the bone?

16 A. So it could be 218 kind of the top flat surface
17 and then also the two rails. 210 also have abrading
18 surfaces on them as well.

19 Q. Any other surface?

20 A. I believe the -- what number is that? I'm trying
21 to find a good number for it. Maybe 206 would be the
22 abrading surfaces.

23 Q. So the interior abrading surface. I think it's
24 Numeral 196. I think 206 refers to the distance between
25 the elements 210.

1 A. I'm sorry. I didn't follow what you were saying.

2 Q. So if you look -- if -- 206, if you look at this
3 diagram -- I'm -- don't -- don't --

4 A. Yeah.

5 Q. If you look at the left one --

6 A. (Examining document). It's kind of pointing to
7 the side.

8 Q. Yeah. 20- --

9 A. Yeah.

10 Q. -- 206 points at the distance between the sides
11 so it's not --

12 A. Yeah. So 196 is a better number. You're right.
13 Thank you.

14 Q. And how would bone tissue exit through the void
15 when surface 196 and then also the two cutting surfaces
16 referenced as 210 all make contact with the bone?

17 A. Well, I think your scenario would be where the
18 abrading surface 218 is in contact with the bone and then
19 the two rails -- 210 right along the surface and that
20 provides the void. And then you would rotate the
21 instrument 180 degrees and do it again, and 218 would be
22 on the bottom this time of the joint surface abrading.
23 210 would be in contact and then that void -- kind of 206
24 would be open in both of those scenarios.

25 Q. What about surface 196?

1 A. In that scenario, it wouldn't be in contact with
2 the bone.

3 Q. So what's the purpose of positioning -- sorry.

4 MR. LYTVYN: Strike that.

5 BY MR. LYTVYN:

6 Q. Please identify the -- what you believe to be the
7 operating surface or surfaces in this cutting head.

8 A. (Examining document). Again 210 and the rails in
9 218.

10 Q. What about 186 (sic)?

11 A. 186?

12 Q. 196. The surface in between the two rails.

13 A. Again, I think if you were going to create
14 geometry with an implant that had grooves or rails or --
15 we typically call them like keels or -- or part of the
16 implant that it goes into the bone kind of like a dove
17 tail. You would embed 2,010 -- 2- -- 210 into the bone
18 and cut grooves if that's what you chose to do with that
19 instrument.

20 Q. And would surface 196 -- what was the purpose of
21 surface 196 as you cut into those grooves?

22 A. It would be an abrading surface to remove bone in
23 that particular application.

24 Q. And would that require the surface 196 to make
25 contact with the bone?

1 A. It could.

2 Q. Would it be possible for the surface 196 to
3 abrade the bone without contacting it?

4 A. No.

5 Q. Then why did you just say -- say it could? Is
6 it -- could it accomplish the abrading surface without
7 contacting the bone?

8 A. Again, if you were using that surface and that
9 application to abrade the bone -- you may just be cutting
10 the rail so you may just want to cut 210, or you may want
11 to cut the 210 surfaces and the 196 so in that scenario
12 all three surfaces would be engaged.

13 Q. And in that scenario where all of the surfaces
14 would be engaged, how would the dislodged bone tissue exit
15 the abrading head?

16 A. Well, that's a little different application. I
17 mean, the instrument is still open on the tip but it's
18 open such that that rectangle of bone is left in place
19 during the surgical procedure, so that -- that section of
20 bone is not being removed.

21 Q. Could you explain that again? Sorry. What --
22 what -- what is your understanding of what's the intended
23 use of this abrading head in a SI joint?

24 A. Again, you can decorticate the joint with a
25 surface 218 and 210, and -- and, you know, it's a -- it's

1 a -- it's a single-sided instrument so you would go in one
2 way and then you would rotate it 180 degrees and you'd go
3 in another way so you could use that to decorticate and
4 prepare a -- a void for an implant.

5 Q. So that's your understanding of the intended use
6 of this abrading head and SI joint.

7 A. Yes, sir. That's one.

8 Q. And the surface 186 in the application you just
9 described, does it play a function or a role?

10 A. Again, if you were trying to --

11 Q. We're just trying to use this for its intended
12 purpose. So you're a person of skill in the art. You're
13 a surgeon. You're using this abraded head for its
14 intended purpose to create an implant receiving (phonetic)
15 void. That's the only application that we are discussing
16 right now, how it's intended to operate, and that intended
17 operation is surface 186 (sic) performing a function.

18 A. Sur- -- which surface?

19 Q. 196.

20 A. Again, I think it depends on the implant and what
21 void you're trying to create. This tool creates a void to
22 match the implant, so you -- if you -- you can use it in
23 the way that I described where 218 is in contact with 210
24 and create a rectangular implant, or you can have it cut
25 keels --

1 Q. How would you create a rectangle void using this
2 abrading head?

3 A. You would insert it into the joint in 2,000 -- I
4 keep saying -- 2- -- surface 218 would create a flat in
5 the top vertebral body. Then you would rotate it 180
6 degrees, and you would go in again and you could create
7 a -- a rectangle based on that bottom geometry as well.

8 Q. And what function would the keels 210 serve in
9 what you just described?

10 A. It maintains the -- the height of the instrument
11 because it's open and not closed. Those -- the lengths of
12 the sides maintain the height or the separation in
13 the joint space for the implant.

14 Q. So your opinion is that the keels 210 wouldn't
15 cut the bone, only 2- -- surface 218 would and the
16 surfaces 210 would just be used to create separation
17 between the cutting surface 218 and the -- the opposing
18 bone structure.

19 A. No. It would -- the -- those two things would
20 abrade the bone as well, but it's at a set distance so it
21 maintains it and cuts those two grooves. And that one --
22 and then you'd rotate it and that would give you the --
23 the rectangular cross section that you would need for a
24 rectangular graft.

25 MR. LYTVYN: Would you hand -- Mr. Banks, would

1 you hand Donner reference to Mr. Drewry, please.

2 THE REPORTER: And keep your voice up for me
3 because it's loud in there.

4 MR. BANKS: Mr. Drewry, I'm handing you
5 previously marked Exhibit 1006.

6 THE WITNESS: Okay.

7 BY MR. LYTVYN:

8 Q. Do you recognize this document, Mr. Drewry?

9 A. (Examining document). Yes, sir. It appears to
10 be the Donner prior art reference 017.

11 Q. Please go to Page 12.

12 A. (Short pause). I'm sorry.

13 Q. The specification, Page 12.

14 A. Oh, okay. All right. I'm there.

15 Q. Please take a look at Paragraph 190.

16 Does this paragraph refer to the embodiment that we
17 just discussed that's referenced in your declaration?

18 A. (Examining document). Yes, sir, it does.

19 Q. Please -- please read the last sentence of that
20 paragraph into the record.

21 A. The last sentence?

22 Q. Yes.

23 A. It says, a plane or rasping head of this
24 embodiment may be useful for simultaneous rasping of the
25 intra-articular surfaces of the sacroiliac joint to remove

1 cartilage or abrade the bony surfaces and make dual keel
2 cuts into either the sacrum or the ilium for the
3 subsequent delivery of an implant having similarity
4 featured keels.

5 Q. Based on that sentence, what type of void would
6 this cutting have created?

7 A. Again, for that particular application with his
8 implant that has the keels, it would create the geometry
9 to match that implant. It would be a recular- -- a
10 rectangular implant with two keels.

11 Q. Okay. So the implant would have a rectangular
12 body and two keels protruding from that implant?

13 A. I don't recall exactly how many keels he had, but
14 it would -- it would have --

15 Q. So --

16 A. -- keels.

17 Q. Yes. So looking at the cutting head that we just
18 discussed, if that cutting head is used to create a void
19 in the SI joint, what shape void would it create?

20 A. It would be rectangular with two additional cuts
21 to form the slots for the keel.

22 Q. In the second sentence of Paragraph 190 of the
23 Donner reference it states, this embodiment was referenced
24 to the embodiment in Figures 22A and 22D. It states, this
25 embodiment includes similar features to the tooling head

1 52 described in reference to Figures 21A to 21C, except
2 that the present embodiment includes a rasping surface 218
3 instead of a smooth surface on the top and the bottom
4 surface 196 and 198 of the rasping head 190.

5 So what is your understanding of the functional
6 purpose of these rasping surfaces, 196 -- 196 and 198?

7 A. 190 -- what numbers are you referring to again?
8 I'm sorry.

9 Q. 196 and 198. Donner refers to them as rasping
10 surfaces, so what is your understanding of -- of their
11 intended function?

12 A. To abrade the soft tissue and bone in preparation
13 of creating a rectangular void for the implant.

14 Q. Rectangular void with keels, correct?

15 A. Yes. In that particular embodiment, yes.

16 Q. And in order to rasp the surface of the bone,
17 does rasping surface 196 need to make contact with the
18 bone?

19 A. To remove the soft tissue in the bone, yes.

20 Q. So when the surface 196 and a cutting keel 210
21 perform their intended function of cutting and rasping the
22 bone, how does this lodged bone exit that abrading head?

23 A. (No response).

24 Q. To rephrase, previously you stated that there is
25 a void in this particular cutting head that allows the

1 bone tissue to exit, so if the rasping surface in both
2 cutting keels are simultaneously contacting the bone, what
3 happens to that void that you previously identified as a
4 void?

5 A. It may -- I mean, it just abrades the tissue and
6 you may have to go back in there afterwards and have it
7 removed, or you flush it out with a kind of irrigation
8 during the surgical procedure.

9 Q. So is -- in that application, is there a void in
10 the abrading head, itself, through which bone is intended
11 to exit -- the dislodged bone tissue intended to exit?

12 A. Again, I think it has an open tip, which is --

13 Q. That's not the question. Sorry. I'm asking: Is
14 there a void in this cutting head through which dislodged
15 bone can exit when the cutting surfaces -- cutting ridges
16 210 embedded in the bone and the rasping surface 196 is
17 scraping the bone?

18 A. Not in that configuration.

19 Q. Does Donner disclose another configuration for
20 using this abrading head?

21 A. Again, in the -- in the scenario I showed before
22 where you were using the back surface or the 218 as the
23 abrading surface, there would be obviously a void on the
24 other side of the abrading head.

25 Q. And in that application, the rasping surface 196

1 would not contact the bone; is that correct?

2 A. That's correct.

3 Q. Thank you. Sorry. Do -- do you have -- do we
4 need a break? Do we need to keep going?

5 A. I mean, how long are we -- what do y'all want to
6 do? I mean --

7 THE REPORTER: Let's go off.

8 (WHEREUPON, THERE WAS A SHORT BREAK, AND THE
9 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

10 BY MR. LYTVYN:

11 Q. Okay. Let's go back to Compton U.S. Patent
12 Number 10,219,841.

13 A. I don't know that I was ever --

14 Q. You -- you have --

15 A. Oh, did I --

16 Q. -- Exhibit --

17 A. What exhibit is it? 1009?

18 Q. No. That's --

19 A. No. That's --

20 Q. -- Sharma.

21 A. -- Sharma.

22 MR. BANKS: 1004.

23 BY MR. LYTVYN:

24 Q. 1004.

25 A. Oh, Man, did I --

1 THE WITNESS: I don't think I gave it back to
2 you.

3 THE REPORTER: I don't --

4 THE WITNESS: Did I combine it with something?

5 MR. BANKS: We have another copy here.

6 THE WITNESS: I may have it in one of these
7 stacks.

8 THE REPORTER: He has it. I saw it.

9 A. I had it at some point. It's just --

10 BY MR. LYTVYN:

11 Q. It's a pretty small one. It was just here a
12 second ago.

13 A. Yeah. It's in one of my stacks. I don't know
14 which one I combined it with.

15 Q. Okay. Well, here is another copy.

16 A. Okay. I had two documents open at the same time,
17 and I'm sure it got stuck in it. It's probably this one.

18 Q. Nope. Okay. So there's another one.

19 A. All right. I have it.

20 Q. Could you, please, take a look at the Figure 10
21 of the Compton reference.

22 A. Okay.

23 Q. What -- what do you see in this figure?

24 A. (Examining document). I believe this is the
25 Compton implant, if I'm not mistaken.

1 Q. And what shape does this implant have?

2 A. Generally rectangular or, you know, it looks like
3 a cross -- a square cross section and a given length.

4 Q. And let's take a look at Figure 15 of Compton.

5 A. 15?

6 Q. 15, yes.

7 A. Okay.

8 Q. And describe what -- what do you see in this
9 figure?

10 A. (Examining document). I believe Compton was
11 describing the multiple steps of his procedure between the
12 joint spaces where he would drill and kind of remove the
13 bone and have the bone void created or the implant void in
14 the bone created and then ultimately putting the implant
15 into the void.

16 Q. And what shape is the ultimate void for insertion
17 of the implant?

18 A. It appears to be square.

19 Q. And we just spent quite a bit of time talking
20 about the cutting head of Donner.

21 Using Donner's cutting head for its intended purpose,
22 would it accomplish a void having this particular shape?

23 A. You're saying if you use the Donner rasp that we
24 talked about?

25 Q. Yes. The cutting abrading head shown in Figures

1 22A to 22D that we just discussed, would it create this
2 type of void that you see in Figure 15?

3 A. It could create a similar void. It looks like
4 Donner is more rectangular than square in that application
5 but --

6 Q. And do you see any keel cuts in Figure 15 of
7 Compton?

8 A. No, sir, I do not.

9 Q. And if you used the abrading head of Donner -- we
10 just talked about creating keel cuts -- where would those
11 be positioned in -- relative to the void in Figure 15, or
12 would they be there at all?

13 A. I mean, you could create a void this way similar
14 to this in the profile of Donner without keels, as I
15 mentioned earlier, or if you were to use --

16 Q. Does Donner -- does Donner mention using that
17 cutting head with dual keels to create a void that's not
18 intended to have keels in it?

19 A. No. But the implant -- I mean, the instrument
20 could be used that way to create that -- I mean, that tool
21 to create that hole. You asked me if it could be created.
22 I'd say, yes, it could create that geometry.

23 Q. Would you -- would you select that tool? If you
24 -- if you're working with Compton and you said that you
25 would take a look at -- if you were tasked with a -- as a

1 person of skill in the art with coming up with a SI joint
2 fusion procedure, you would look at Compton for the
3 method, and looking at Figure 15 of Compton's method,
4 would you select Donner's dual keel abrading head, as you
5 just discussed, to create this shape as a person of skill
6 in the art?

7 A. It could be chosen to use it, yes.

8 Q. Would you choose it? As a person of skill in the
9 art, would you choose an abrading head of that particular
10 shape to create this void that you see in Figure 15 of
11 Compton?

12 A. It could -- again, it could be.

13 Q. But would you choose it? You're the person of
14 skill in the art. The whole purpose of this deposition is
15 for you to provide testimony that will help Patent Trial
16 and Appeal Board to make a decision as -- as to validity
17 of this patent, so you're the person of skill in the art.

18 Would you choose the cutting head of Donner to create
19 this void?

20 A. Again, if I had an array of instruments, there
21 may have -- be some that are better than others, but if I
22 wanted to create that, I could create it with Donner.

23 Q. As a person of skill in the art, you have access
24 to every surgical instrument ever created. You're the
25 hypothetical person of skill in the art and this is a

1 standard. You have the body of knowledge that proceeds.

2 Would you choose Donner over other instruments to
3 create this void?

4 A. I would probably choose other instruments, and
5 the main reason is Donner, in order to get that shape,
6 you'd have to do two cuts. You would have to go in one
7 side and go in the other side.

8 Every time you go into the patient with an instrument,
9 there's risk of injury and that sort of thing, and so if I
10 had an instrument that would create that void with one
11 pass, I would probably choose that one over Donner.

12 Q. Thank you.

13 MR. LYTVYN: I think it's a good stopping point.

14 THE REPORTER: Okay.

15 (WHEREUPON, THERE WAS A LUNCH BREAK, AND THE
16 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

17 BY MR. LYTVYN:

18 Q. So let's continue our discussion of Donner. If
19 you could, go to Donner reference.

20 A. Is that 1009? No. That's -- what number is --
21 it's 1006, I think.

22 Q. Maybe.

23 A. It's the big one, I think.

24 MR. BANKS: Donner is 1006.

25 THE WITNESS: Yeah. I've got it.

1 BY MR. LYTVYN:

2 Q. If you could, go back to Figure 22A.

3 A. Okay.

4 Q. And in Figure 22A, what is the leading edge of
5 this tool? If you could, reference it by reference
6 numeral.

7 A. (Examining document). It's kind of hard to tell.

8 Q. You previously explained that you would
9 determine -- you could determine what the leading edge of
10 a tool is by placing it on the table, and the component
11 that would touch the table first would be the leading
12 edge. I wanted to make sure I'm not mischaracterizing
13 that testimony.

14 So what would Figure 22A -- where is the leading edge
15 in that figure?

16 A. I think the leading edge in this one would be
17 where the -- where the -- where it starts making contact
18 with the bone so the first, I guess, cutting edge, if you
19 will.

20 Q. So looking at Figure 22A, what's -- what's the
21 leading edge? Just single numeral.

22 A. I think it would be like 202.

23 Q. Thank you.

24 A. I -- I think it would be a little different than
25 what hits the table first. I think it would be where the

1 abrading surfaces start that would kind of be the leading
2 edge. I -- I think it --

3 Q. So what -- what's your understanding of the term,
4 edge?

5 A. It would be the -- in this scenario, it would be
6 the edge of the instrument that starts the cutting. So,
7 again, I think they have a little bit of a bullet nose on
8 this end that's kind of rounded, but then right around
9 202 -- if you look in Figure 22B, it kind of points to
10 that line where the abrading surface on the top and that
11 vertical line meet. I would -- I would say that would
12 kind of be the edge where they would start cutting on that
13 surface.

14 Q. So you're conflating the terms cutting edge and
15 leading edge. If you look at -- back to Patent '129 and
16 if you go to Column 13 --

17 A. Okay.

18 Q. -- Lines 6 and 7 say, a cutting edge dispose at a
19 leading edge, so if the cutting edge is always the leading
20 edge, then it renders this limitation meaningless. So
21 we're not -- my question when looking at Figure 22A is not
22 where the cutting edge is.

23 My question is: Where is the leading edge?

24 A. (Examining document). (Short pause). (No
25 response).

1 Q. Again, not a trick question. Just if you look at
2 Figure 22A, where is the leading edge in that figure?

3 A. Well, again, I think the -- if -- again, if you
4 use my analogy of putting it up on its end, I think that
5 bulletpoint is going to hit the table first. I think the
6 cutting edge is going --

7 Q. Again --

8 A. -- to be --

9 Q. -- the -- the -- the leading edge. We're not
10 talking about the cutting edge. You can forget about the
11 cutting edge.

12 What is the leading edge of this tool?

13 A. (No response).

14 Q. Just get -- I just want the answer clear for the
15 record.

16 What is the leading edge of this tool?

17 A. Again, I think it's where that surface and the
18 abrading surface meet.

19 Q. Okay. Could you provide numeral -- you just said
20 202, and now you're --

21 A. No. I --

22 Q. -- change -- change -- changing your testimony --

23 A. No, no. I'm not changing. It's the same number.
24 It's just where -- where that abrading surface meets the
25 -- the kind of spherical surface of the nose.

1 Q. So the abrading surface meets the cutting edge at
2 a point that's distal to this bullet tip nose 202, then
3 you would classify the meeting point as the leading edge,
4 not the bullet point 202. I'm just trying to clarify what
5 you're saying.

6 So if -- what is the leading edge of this tool? And,
7 again, I'm looking just for a single numeral, and if you
8 can't identify the leading edge, that's fine. You can
9 state for the record that you cannot identify the leading
10 edge of this tool, but if you can, please provide a
11 numeral of what the leading edge of this tool is.

12 A. Again, I -- the best reco- -- the best number is
13 202.

14 Q. Thank you. So if we look at -- I'm sorry. Give
15 me one second to find it. Page 69 of your declaration.

16 A. Okay. I'm there.

17 Q. This same -- the same statement we've talked
18 about before, I'll just read it one more time. It would
19 be obvious to a POSITA to combine the use of joint
20 preparation tool of Donner with the SI joint method of
21 Compton because the joint preparation tool of Donner
22 prepares the SI joint and articular surfaces of the SI
23 joint with a single tool instead of multiple separate
24 tools such as chisel, a rasp and other tools.

25 So could you explain how the combination of Donner and

1 Compton would -- would work from a perspective of somebody
2 who is performing this SI joint fusion method.

3 A. (Examining document). I think earlier you asked
4 me about would I choose the Donner instrument in this
5 example or would I choose another instrument if I had a
6 choice. This kind of speaks to that. I mean, combining
7 the chisel, rasp into a single instrument that is joined
8 to the hammer and can be provided to the surgeon so that
9 he makes one pass down the working channel and
10 accomplishes --

11 Q. I'm sorry to interrupt you. Do you -- this is --
12 you're not answering the question. My question was:
13 Please describe -- so you're a person of skill in the art.
14 Right now you're going to have a surgeon that's performing
15 this procedure. Explain to me how you would use the joint
16 preparation tool of Donner in combination with the method
17 of Compton.

18 Which steps would you perform? Just describe to me
19 the procedure as you -- as you envision.

20 A. I would put a working channel in the SI joint
21 with inserting arms that would hold the joint in place. I
22 would have a box chisel, rasp that had abrading surfaces
23 on both ends, and I would connect that instrument to the
24 handle and the slap hammer of Donner and I would give it
25 to a surgeon or I -- if I was the surgeon, I would make

1 one pass and chisel out the bone with that abraded box
2 chisel instrument.

3 Q. You just mentioned slap hammer. Could you
4 describe the procedure for using -- using that. I'm
5 looking for a complete -- basically just walk me through
6 that procedure that you would perform if you were the
7 surgeon --

8 A. I thought I --

9 Q. -- beginning -- beginning with inserting the
10 working channel and the -- all the way through the
11 suturing, the incision site after you're done. If you
12 could, walk me through how you envision that procedure
13 based on this combination that you described.

14 A. So you would pick your insertion point. You
15 would make your incision. Over that insertion point, you
16 would put the working channel and inserting -- in- --
17 working channel arms into the joint space. That would
18 dock your working channel to the sacrum and the ilium.

19 Then you would have an instrument that was an abrading
20 instrument, again, that was similar to a box chisel with a
21 rasp or abrading surfaces on both top and bottom surface.
22 That instrument would be attached permanently to a handle
23 and a slap hammer as depicted by Donner, and you would be
24 able to enter that into the working channel, prepare and
25 decorticate the bone with the box chisel abrading surface

1 instrument.

2 And if you needed or if the -- it got stuck into the
3 joint space, you were able to utilize the slap hammer to
4 get it out, and you would follow that up with the implant
5 that matches the void that you created with the bone
6 chisel. You would remove that. Then you would remove the
7 working channel and you would close and suture your
8 patient.

9 Q. Thank you. Would you classify the surgical tool
10 depicted in Figures 22A through 22D of Donner as a box
11 chisel?

12 A. No. I would depict a box as one that was closed
13 and had four sides.

14 Q. Thank you. If you could go to Page 75 of your
15 declaration, please.

16 A. Okay. I'm there.

17 Q. Do you see the very last sentence that states, it
18 would be obvious to combine the slide hammer of Sharma
19 with the methods of Compton and Donner?

20 A. (Examining document). Yes, I do.

21 Q. In the procedure that you just described being
22 performed using this tool with the slap hammer, how would
23 you combine that with the slide hammer of Sharma?

24 A. I would just modify Donner's slap hammer to have
25 a base that allowed the slap hammer sleeve to be fixed and

1 function as Sharma's slap hammer functions.

2 Q. And could you point me to the portion of your
3 declaration that describes that modification?

4 A. I mean, I think it describes it there. It would
5 be obvious to --

6 Q. That doesn't -- okay. That doesn't describe what
7 you just said about it including the base of Sharma with
8 the slap hammer of Donner. So if you believe that your
9 declaration explains that specific notification, please
10 point me to the specific portion of your declaration that
11 states that, and if it doesn't, then just say that it does
12 not.

13 A. Well, I -- what I meant by combine the slide
14 hammer of Sharma --

15 Q. Sorry -- sorry to interrupt you. I'm looking for
16 the direct quote that explains the modification that you
17 just described of including the base of Sharma into the
18 Donner.

19 A. I didn't say the base of Sharma. I said the
20 Sharma slide hammer. I described the -- the releasing
21 means and locking method of Sharma in my previous --
22 further in my declaration, and now I'm saying I would
23 combine that slap hammer with Compton and Donner.

24 Q. Those are two different references that teach
25 many different tools. I just wanted to focus on the

1 specific tool. You can go to Figure 8 of Donner so you
2 have it in front of you. You're talking -- we're speaking
3 about this specific tool, not Compton. We're talking
4 about this tool of Donner.

5 How would you combine this with Sharma?

6 A. (Examining document). I would replace Donner's
7 slap hammer with the Sharma slap hammer and have a
8 releasing and locking means to lock the hammer.

9 Q. And could you point me in your declaration where
10 you describe this replacement?

11 A. I think that sentence speaks for itself.

12 Q. The sentence uses the word, combine, and not,
13 replace, so if there's another statement somewhere where
14 you're talking about replacing the slide hammer of Donner
15 with the slide hammer of Sharma, please point me to it.

16 A. I don't know how else to explain it. I mean, you
17 take the slap hammer of Sharma and you replace or combine
18 it with the --

19 Q. Combine -- combining and replacing -- what's your
20 understanding of the term, combine?

21 A. I think it can be one in the same. You remove
22 the Donner instrument. It screws into the back of the
23 instrument. So you would unscrew the Donner instrument,
24 the Donner slap hammer, and you can screw in this Sharma
25 slap hammer that has the locking feature built into it.

1 Q. And what you just described, could you point me
2 in your declaration that provides that exact explanation,
3 and if that explanation is not in your declaration, then
4 please state so for the record.

5 A. I think that's what, obvious to combine, means in
6 that last sentence.

7 Q. Please quote a sentence in your declaration. I'm
8 looking just for one quote without any ex- -- ex- --
9 explanation that describes the modification that you just
10 explained of removing Donner's slap hammer and replacing
11 it with Sharma's slap hammer.

12 A. All right. Let's start at the beginning of
13 Paragraph 125. Sharma discloses a universal impactor with
14 slap hammer device for applying force for use to assist
15 the impaction and/or extraction of a surgical instrument
16 attached thereto such as chisels and rasps. The universal
17 tool has a modular end that can be connected to different
18 types of instruments including chisels and rasps during
19 surgical procedure.

20 The universal impactor and slap hammer includes a
21 locking mechan- -- mechanism that when locked allows the
22 universal tool to function as an impact hammer and when
23 unlocked, allows the universal tool to act as a slap
24 hammer. As further explained above in this section, it
25 would be obvious to combine the slide hammer of Sharma

1 with the method of Compton and Donner.

2 Q. And where specifically in that paragraph that you
3 just read you describe replacing the slide hammer of
4 Donner, which involved removing it from the surgical tool,
5 and using Sharma's slap hammer instead?

6 MR. NELSON: Excuse me. I'm sorry. Which
7 paragraph are we looking at specifically?

8 MR. LYTVYN: 125 on Page 75.

9 MR. NELSON: 125, you said?

10 MR. LYTVYN: Yes.

11 MR. NELSON: Thank you.

12 A. (Examining document). (Long pause). Again, I
13 don't -- I don't know how better to answer it. I stand by
14 my Paragraph 125, that we know Sharma is a modular locking
15 slap hammer. It can be attached to multiple instruments,
16 and it could be attached to the portion of the instrument
17 below the Compton/Donner -- Com- -- the Donner single
18 instrument and provide a locking slap hammer in
19 replacement of the Donner slap hammer.

20 BY MR. LYTVYN:

21 Q. And could you point me to exact quote in your
22 declaration that talks about replacing the re- -- first
23 removing the slide hammer of Donner and then replacing it
24 with the slide hammer of Sharma. I'm just looking for one
25 quote.

1 A. That --

2 Q. Please read it into the record.

3 A. -- that's what I meant by, combine.

4 Q. It's still not a quote. Please read -- read the
5 quote into the record that explains removal of the slide
6 hammer assembly from Donner and replacing it with the
7 slide hammer assembly of Sharma. Please read the single
8 sentence that you deem to provide this explanation.

9 A. All right. (Examining document). It would
10 obvious to combine the slide hammer of Sharma with the
11 methods of Compton and Donner.

12 Q. Thank you. In that sentence that you just read,
13 Sharma is being -- it says, combine Sharma with the method
14 of Donner.

15 Do you place any significance of -- on the word,
16 method? What's your understanding of the term, method?

17 A. It would be the -- the method of -- in which
18 those were being used.

19 Q. You just -- just define the term, method, with
20 the exact term, method.

21 What is your understanding as an English speaker of
22 the term, method?

23 A. The way in which it was used.

24 Q. Again, you said, it. So I give you the word,
25 method, and ask you to define it.

1 How would you define the word, method?

2 A. The way that it was used.

3 Q. What's -- what's it? Please --

4 A. Whatever --

5 Q. -- please refrain --

6 A. -- the method is.

7 Q. Okay. So, please, refrain from using pronouns.

8 If we were to open the dictionary and look at the
9 word, method, what would you expect the defi- -- that
10 definition to say?

11 A. (No response).

12 Q. It's not a trick question.

13 A. Oh, I gave you an answer three times that I
14 thought was the --

15 Q. But you said --

16 A. -- answer.

17 Q. So if I were to open -- and the -- I keep
18 reminding you but you're under oath, and your testimony is
19 supposed to be truthful.

20 So you truthfully believe that if we open the
21 dictionary to the word, method, the definition will say,
22 the method in which it is used?

23 A. No. I didn't say it would be the method. It
24 would be --

25 Q. So what would you --

1 A. -- the way that it was used.

2 Q. So, please, provide your definition of the term,
3 method. I don't know how to simpler state this. Your
4 definition of the term, method.

5 A. A method would be the way something was used. I
6 don't know how else to define it. I'm sorry.

7 Q. And combining a structural feature, which is the
8 slide hammer of Sharma with the way something is being
9 used -- I guess let's -- let's move on. We're not --
10 we're not getting anywhere now.

11 Would you say that a person of skill in the art in SI
12 joint fusion procedures would be familiar with anatomy of
13 a SI joint?

14 A. Yes.

15 Q. And would you say that a person of skill in the
16 art would also be familiar with the anatomy of the spine?

17 A. Yes.

18 Q. And do you consider yourself to be familiar with
19 the anatomy of the spine?

20 A. Me, personally?

21 Q. Yes.

22 A. Yes, sir, I do.

23 Q. Could you, please, go to Page 79 of your
24 declaration, Paragraph 135.

25 A. Okay. I'm there.

1 Q. Please read the second sentence into the record.

2 A. (Examining document). The bone surfaces of the
3 intervertebral discs are analogous in their structure to
4 the articular surfaces of the sacrum and the ilium in the
5 sacroiliac joint.

6 Q. Is it your opinion that intervertebral discs have
7 bone surfaces?

8 A. Yes. They have -- like I was talking --

9 Q. That's the -- it -- it -- sorry. Yes or no.
10 It's a, yes, or, no, answer.

11 Intervertebral discs, do they have bone surfaces?

12 A. They have surfaces that attach to the bone, yes.

13 Q. But do -- you're not answering my question. It's
14 a, yes, or, no, and you're under oath and you're under
15 obligation to fully answer the -- the question.

16 Intervertebral discs, does it have a bone surface?

17 A. So I don't know how to --

18 Q. Yes -- yes --

19 A. -- I don't know how --

20 Q. -- yes or no.

21 A. Yes. They do.

22 Q. Intervertebral discs have a bone surface?

23 A. Yes.

24 MR. LYTVYN: This -- this will be a new exhibit.

25 MR. BANKS: This will be -- sorry. Give me two

1 seconds here.

2 (WHEREUPON, THERE WAS A SHORT PAUSE, AND THE
3 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

4 MR. BANKS: This will be Exhibit 2003.

5 (WHEREUPON, THE ABOVE-MENTIONED DOCUMENT WAS
6 MARKED AS EXHIBIT NO. 2003 TO THE TESTIMONY OF THE WITNESS
7 AND IS ATTACHED HERETO).

8 MR. LYTVYN: Would you hand the witness Exhibit
9 2003.

10 BY MR. LYTVYN:

11 Q. Could you, please, read the very top sentence
12 next to the American flag on this exhibit at the very,
13 very top.

14 A. (Examining document). An official website of the
15 United States Government.

16 Q. Okay. And do you see --

17 MR. NELSON: Which -- which -- which exhibit is
18 this?

19 THE WITNESS: He just --

20 MR. LYTVYN: It's a new exhibit that's previously
21 not entered into the record. We'll serve --

22 MR. NELSON: Something I --

23 MR. LYTVYN: -- we'll -- we'll serve you a copy.

24 BY MR. LYTVYN:

25 Q. Could you hand it to me so I can show the URL to

1 Mr. Banks?

2 A. (Witness complies).

3 (WHEREUPON, THERE WAS A SHORT PAUSE, AND THE
4 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

5 MR. BANKS: I've got it here.

6 MR. LYTVYN: Okay.

7 BY MR. LYTVYN:

8 Q. Does this image look familiar to you?

9 A. (Examining document). Yes, sir, it does.

10 Q. Do you recognize the part of anatomy that's shown
11 in this image?

12 A. Yes, sir, I do.

13 Q. And what -- what is the anatomy shown in this
14 image?

15 A. So it's a lateral or side view of a -- a person
16 or the anatomy from the thoracic spine down to the femur
17 kind of transparent so that you can see the spine, the
18 pelvis and the femur in the left-hand image. In the
19 right-hand image, it's an axial cut through the center of
20 an intervertebral disc.

21 Q. And in that could you identify exactly where the
22 bone surfaces are in the intraver- -- intervertebral disc
23 that you see in --

24 A. It doesn't show it in this image. This cuts
25 right through the center of the disc. This sentence says,

1 the bone surfaces of the intervertebral disc are analogous
2 in their structure to the articular surface of the sacrum
3 and ilium in the sacroiliac joint.

4 So when you take an articulating joint, you need to
5 include the whole joint. So there's an endplate above
6 that's bone, which is part of the intervertebral disc.
7 Then you have an endplate below that is part of the lower
8 vertebral body, which is bone, and that com- -- that --
9 that structure is the intervertebral disc in the joint.

10 Similar to the sacrum and ilium, there's bone and then
11 there's cartilage and soft tissue along that bone, and
12 that complete structure makes that joint. That -- that's
13 what this sentence is describing.

14 Q. But that's not what the sentence says. The
15 sentence says, the bone surfaces of intervertebral discs,
16 not the intervertebral bodies. It says, the bone surfaces
17 of intervertebral discs are analogous in their structure
18 to articular surfaces of the sacrum and ilium and the
19 sacroiliac joint.

20 Would you want to modify this sentence, or do you
21 still stand by your previous answer, that this is a true
22 and accurate factual statement?

23 A. Again, I think the intervertebral disc is
24 analogous to the SI joint and that there's bone between
25 the vertebral body in the joint -- I mean, in the disc.

1 Q. So is the bone in the inter- -- intervertebral
2 body, or is the bone in the intervertebral disc? I just
3 want to have this clear for the record.

4 A. It's at the border between the vertebral body and
5 the intervertebral disc.

6 Q. And do you consider that bone to be a part of the
7 intervertebral disc?

8 A. I believe there's a -- they share -- for the
9 joint of the disc, they share bone. There's bone and then
10 there's cartilage layer and then the disc is attached to
11 the bone, so I think that's analogous to the cartilage and
12 the bone in the sacroiliac joint. That's what I was
13 trying to describe in that sentence.

14 Q. So if you're having a conversation with one of
15 your colleagues that is familiar with anatomy of the spine
16 and you say, intervertebral disc, they would agree that
17 those intervertebral discs have the bone surfaces?

18 A. Yeah. I think at the endplate of the vertebral
19 body where they join, there's a crossover in the material
20 between the disc and the vertebral body. That's how
21 they're attached.

22 Q. That's how they're attached, but if you look at
23 the disc, itself -- intervertebral disc by itself, does it
24 have bone surfaces? Yes or no?

25 A. In the center like in this image, no. It's at

1 the endplate, disc interface above and below the disc.

2 Q. So above and below but it's not a part of the
3 disc.

4 A. Again, it's that transition between the disc and
5 the bone that provides or --

6 Q. So I'm looking for --

7 A. -- or the intervertebral body.

8 Q. Okay. So above and below is not a part of the
9 disc, and, again, it's not a trick question. If there's
10 something in the declaration that you don't agree with,
11 you reserve the right to change it.

12 This -- this sentence, the bone surfaces of
13 intervertebral discs are analogous in their structure to
14 their articular surfaces of the sacrum and ilium in the
15 sacroiliac joint, is this an anatomically correct
16 sentence? Yes or no?

17 A. Yeah. I --

18 Q. Thank you. That -- that's all.

19 A. Okay.

20 MR. NELSON: Counsel, I don't -- I'm not finding
21 that -- that document. What was the number again or
22 exhibit?

23 MR. LYTVYN: Did you -- Mr. Banks, did you send
24 it to Mr. Nelson?

25 MR. BANKS: I'm preparing it so I can send it.

1 MR. LYTVYN: Okay. So we're going to send it to
2 you so you have it. We can -- I can show it to you on
3 camera. It's -- that's the diagram.

4 MR. NELSON: Okay. Thank you.

5 MR. LYTVYN: I'll wait until --

6 MR. BANKS: Yeah. Sorry. Bear with me just a
7 second.

8 (WHEREUPON, THERE WAS A SHORT PAUSE, AND THE
9 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

10 MR. LYTVYN: Did you send it?

11 MR. BANKS: Yes.

12 MR. LYTVYN: Okay. Mr. Nelson, so it's on the
13 way. You should receive it shortly.

14 (WHEREUPON, THERE WAS A SHORT PAUSE, AND THE
15 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

16 MR. LYTVYN: Mr. Nel- -- Nelson, please let us
17 know when it gets there.

18 MR. NELSON: I will. It's sent by e-mail,
19 correct?

20 MR. BANKS: Yes.

21 (WHEREUPON, THERE WAS A SHORT PAUSE, AND THE
22 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

23 MR. NELSON: Okay. I have it. Thank you.

24 MR. LYTVYN: Okay.

25 BY MR. LYTVYN:

1 Q. Okay. Mr. Drewry, if we go to Page 84 of your
2 declaration.

3 A. Okay. I'm there.

4 Q. Do you see the annotated Figure 76A, 76B and 76C
5 at the top of the page?

6 A. (Examining document). Yes, sir, I do.

7 Q. Do you recall seeing these figures?

8 A. Yes, sir, I do.

9 Q. Do you recall to which prior art reference they
10 pertain?

11 A. I believe this is Martz.

12 Q. Yes.

13 A. Yes. Okay.

14 Q. Would you categorize this device as a box chisel?

15 A. Not -- no. I -- I would consider a box chisel to
16 be -- have a box geometry. I think this particular
17 embodiment has open sides at the tips and then could
18 technically become -- I guess now that I look at it, it
19 could technically become a box chisel further back, but at
20 the tips, it's not. It's open on the sides, but at the
21 second cutting surfaces, it is a box so --

22 Q. And how many surf- -- cutting surfaces does this
23 device have?

24 A. I think there's two abrading -- two abrading
25 surfaces on the top and bottoms, and they have a -- a

1 cutting tip and then a -- another cutting edge further
2 back on the box chisel part.

3 Q. And the -- what is the purpose of having these
4 multiple cutting surfaces on a single device?

5 A. I think it allows you initially to go in with the
6 abrading surface and as you're going in, remove some of
7 the soft tissue and cartilage on the bone with the
8 abrading surfaces, and then the second cutting edge as it
9 would follow in would create a -- a bowing -- a bow -- a
10 bo- -- bone void that would be the shape of the implant
11 that you were going to place.

12 Q. And what type of shape void would you expect this
13 abrading device to make?

14 A. It depends. It could be -- in this one it looks
15 to be rec- -- rectangular.

16 Q. Okay.

17 MR. LYTVYN: Let's -- we've been going for a
18 little over an hour. Let's take a break.

19 (WHEREUPON, THERE WAS A SHORT BREAK, AND THE
20 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

21 BY MR. LYTVYN:

22 Q. All right. So I think we finished with Page 84.
23 We were talking about the abrading device disclosed in
24 Martz.

25 And it is your -- is it your opinion, Mr. Drewry, that

1 this abrading device is suitable for use in SI joints?

2 A. Yes, sir, I.

3 Q. And how would this device operate in a SI joint?

4 A. The same way it -- it operates in the -- the
5 spine. The abrading surfaces, again, would remove the
6 cartilage or the soft tissue. The box tissue blade
7 (phonetic) would decorticate the bone.

8 Q. Could you -- could you, please, refer to the
9 numerals -- numer- -- numer- -- numeric references here so
10 this way you have a clearer record as to what you're
11 referring to.

12 A. Yeah. (Examining document). So you have a
13 cutting edge on the front of the instrument on the -- I
14 guess say 370. Well, that's -- they're kind of different
15 in different --

16 Q. If you look --

17 A. I'm --

18 Q. Yes. The -- I see. 76B is kind of -- if you
19 look at Figure 76A, I think it's a more clear profile
20 view.

21 A. Yeah. So if you look at --

22 Q. Or 76C.

23 A. Yeah. It's hard. So at the -- at the front of
24 the instrument, let's call them 369 and then 369 prime, I
25 guess, would be kind of the tips -- the cutting tips of

1 the instrument at the beginning of the abrading surface.

2 And you have opposing abrading surfaces on the top and
3 bottom, and then that abrading surface ends at 370 and 370
4 prime, which would be additional cutting edges in the
5 beginning of the box chisel closed portion. And the
6 abrading surface would start first after the cutting edge
7 to remove the soft tissue --

8 Q. So in your first cutting edge, could you
9 distinguish between the --

10 A. 369 --

11 Q. -- the --

12 A. -- 369 prime.

13 Q. -- and 3- -- yes. Those are from 370 and 370
14 prime so this way it's clear in the record --

15 A. Yeah.

16 Q. -- which ones we're talking about.

17 A. So the front ones and the abrading surface deal
18 with the soft tissue and the -- the beginning of the bone,
19 and then 370 and 371 create the -- yeah, decorticate the
20 bone and create the void for the final implant.

21 MR. LYTVYN: I think that's all of the questions
22 I had for you, so we can turn this all -- we can turn the
23 witness over to Mr. Nelson. You guys can confer now. So
24 he'll -- I guess we'll take a break, and, Mr. Nelson, let
25 us know if you would like to do re-direct.

1 How -- how long of a break would you like, Mr. Nelson?

2 MR. NELSON: I think half an hour is fine. We'll
3 break and we'll be back.

4 MR. LYTVYN: Half an hour?

5 MR. NELSON: Yes.

6 MR. LYTVYN: That -- I mean, that -- that's quite
7 a bit for a break. I've never had a half an hour break
8 before.

9 MR. NELSON: Well, we were allowed that last
10 time, but I just mostly want to look over my documents. I
11 don't need to meet with -- with Mr. Drewry right now.

12 MR. LYTVYN: Okay. Would 15 minutes suffice? I
13 just -- I mean, it's I guess -- I mean, usually the
14 customary amount for the breaks are about 10, 15 minutes.

15 MR. NELSON: 15 minutes is fine.

16 MR. LYTVYN: Okay. So we'll reconvene at 3:00.

17 (WHEREUPON, THERE WAS A SHORT BREAK, AND THE
18 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

19 MR. NELSON: And could you, please, provide
20 Mr. Drewry with Exhibits 10- -- 1009, Sharma, and 1001,
21 the '129 patent.

22 THE REPORTER: I'm having a really hard time
23 understanding you. It's really muffled. I mean, it -- am
24 I the only one? I was hoping this wouldn't be the
25 problem. 1009 --

1 MR. NELSON: Am I -- am I coming through now?

2 THE REPORTER: You are. It may just be that it's
3 too loud. Hold on.

4 (WHEREUPON, THERE WAS A DISCUSSION OFF THE
5 RECORD, AND THE PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

6 EXAMINATION

7 BY MR. NELSON:

8 Q. Okay. So in the beginning of the deposition
9 today, Mr. Lytvyn was asking you about your experience in
10 particular with slap hammer tools and wheth- -- whether or
11 not you had experience with that kind of surgical tooling.

12 And what -- what kind of slap hammers did you deal
13 with in your professional career?

14 A. As I mentioned earlier, we had locked and
15 unlocked slap hammers. We used them on our spinal
16 interbody instruments that associate -- that were used
17 with interbody cages, interbody chisels, rasps, all of
18 those type of instruments. We used them in the same way
19 that they had been mentioned in the art.

20 Q. Okay. You mentioned that some of them had
21 locking mechanisms.

22 A. Yes, sir, I did.

23 Q. What kind of locking mechanisms are we talking
24 about?

25 A. So we did -- the two that I can recall right

1 off are -- one was we could just thread it in to one of
2 the ends of the instrument and lock it that way and the
3 surgeon could thread it to lock it, unthread it to unlock
4 it, or we had ball detents, which are kind of a recessed
5 ring in the slide -- slap hammer sleeve and balls on the
6 instrument and you could snap it on and that would hold
7 the slap hammer sleeve fixed or locked in that
8 orientation. So those are the two that we used
9 predominantly.

10 Q. What -- what was the reason -- you know, the
11 reason why you pick one over the other? What was the kind
12 of driving -- driving the choice between different locking
13 mechanisms?

14 A. If there was ever an instrument where there may
15 be some torque or some rotation, you didn't want to use a
16 thread, obviously, because the surgeon may inadvertently
17 unthread the -- the slap hammer sleeve, so it was really
18 just based on the function. But they both adequately
19 locked the slap hammer from -- from moving and converted
20 it into a fixed handle.

21 Q. Where were those locking mechanisms be placed on
22 the slide hammer tool?

23 A. Again, sometimes we had it at the -- at the
24 bottom. If the surgeon wanted a shorter length to the
25 instrument, he could hold the fixed handle down at the

1 bottom. He could also have it at the end if he needed
2 more mechanical advantage or needed the length of the
3 instrument, so it just -- it really just depended on the
4 application of the instrument.

5 Q. Okay. Let's take a look -- you spent some time
6 earlier on Figure 16 in the '129 patent and Figure 1 in
7 Sharma. Take a look at those.

8 A. I'm sorry. Figure 1 in Sharma and what was the
9 other figure? I'm sorry.

10 Q. 16 --

11 A. Oh, yeah, yeah. Okay.

12 Q. -- of the '129 patent.

13 A. Yes. I'm there.

14 Q. You were asked whether you considered these two
15 instruments to be structural and functional equivalents,
16 and you replied, yes, I believe.

17 What did you mean by that affirmative answer? When
18 you -- what was your interpretation of functional and
19 structural equivalents?

20 A. I think they were both slap hammer instruments.
21 They both had locking mechanisms for locking the -- the
22 slap hammer sleeve so that it didn't move, and when
23 unlocked or released, it provided the ability for the
24 surgeon to extract the instrument from the anatomy if he
25 needed to.

1 Q. Okay. How would you characterize the
2 distinctions between the slap hammer shown in Figure 16
3 and those -- and the slap hammer shown in Figure 1 of
4 Sharma?

5 A. I'm sorry. Can you repeat that?

6 Q. How would you characterize -- so they're not
7 exactly the same, Figure 16 and Figure 1. They're just in
8 a -- well, the '129 patent and Figure 1 of Sharma.

9 A. Uh-huh (affirmative response).

10 Q. There are some just differences.
11 How would you characterize those differences?

12 A. I think in the '129 patent the locking mechanism
13 and the base are kind of distal from the proximal end. It
14 -- I'd say -- let's say the bottom of the handle or the
15 distal end of the handle, and -- and it's locked with a
16 thread.

17 The slap hammer in Sharma in the Figure 1
18 configuration is locked to the proximal end or base 41,
19 and I believe that mechanism is more of a ball detent like
20 I had mentioned.

21 Q. Okay. What kind of -- what kind of factors would
22 be played into making a choice between, say, the releasing
23 mechanism and the -- or locking mechanism in Figure 16 of
24 the '129 patent and Figure 1 of Sharma?

25 A. In my experience, it probably would come down to

1 surgeon preference. I mean, it -- they function the same.
2 They lock the handle and make it fixed. Some surgeons
3 prefer some mechanisms over the other but, again, I --

4 Q. Okay.

5 A. -- I think if it's fixed, the surgeon is happy.
6 Some like different types of mechanisms. Some like
7 others, I guess.

8 Q. Okay. If you would, go to Column 13 of the '129
9 patent.

10 A. Column 13. Okay. I'm there.

11 Q. Okay. And would you read the Lines 10 through
12 17, please.

13 A. Yes. (Examining document). A slide hammer
14 assembly at a proximal end of an abrading device, the
15 slide hammer assembly having a released position that
16 enables operation of the slide handle assembly, a locked
17 position that prohibits operation of the slide hammer
18 assembly and a releasing means for transitioning the slide
19 hammer assembly between the locked position and the
20 released position.

21 Q. Okay. And if you go back to Figure 16 of the
22 '129 patent.

23 A. Okay.

24 Q. Excuse me. First, does that claim, the one you
25 just read, define where -- well, let's do that. Let's go

1 back to Figure 16.

2 Are all of the limitations -- all of the features of
3 the locking mechanism and slap hammer shown in 16
4 described in Figure 1 -- or excuse me -- on Claim 1, the
5 1- -- '129 patent?

6 A. Yes.

7 Q. Is the -- is structure 46 discussed or mentioned
8 in Claim 1?

9 A. Not that particular element but --

10 Q. Okay. And that's what I mean. Are all of the
11 elements of the proximal assembly, including locking
12 mechanism, the slap hammer, the structure 46, et cetera --
13 are all of those recited in the language read in Claim 1?

14 A. Yes, they are.

15 Q. I'm sorry. But structure 46 -- structure 46 as
16 part of the proximal assembly, is that -- is that recited
17 in Claim 1?

18 A. No. Not -- not in that section that I read.

19 Q. Okay. So what I'm asking is: Does Claim 1
20 describe the slap hammer assembly in Figure 16, that one?

21 A. Yes. I believe so. I mean, as I read it from
22 those lines.

23 Q. Well, hold on. Did -- but you -- you just said
24 that the base 4- -- or excuse me -- that structure 46 is
25 not -- (unintelligible).

1 A. I'm sorry. I'm not following the question.

2 Q. What -- what I'm asking is, is that exact
3 structure shown in Figure 16 described in all detail in
4 Figure -- in Claim 1 -- excuse me -- in Claim 1?

5 A. No.

6 Q. Let me move on to another question.

7 Is a type of locking mechanism described in Claim --
8 or recited in Claim 1?

9 A. No, sir, it's not.

10 Q. Okay. If you go to -- go to --

11 MR. NELSON: Please hand the -- Mr. Drewry Paper
12 10 of the decision.

13 A. Figure 10 of the decision? I believe that --
14 BY MR. NELSON:

15 Q. Paper -- Paper -- Paper 10, the decision -- the
16 Board's decision.

17 THE WITNESS: This one?

18 MR. LYTVYN: Yes.

19 MR. BANKS: That's correct, yes.

20 A. Okay. I have it.

21 BY MR. NELSON:

22 Q. Okay. If you go to Page 24, the second
23 paragraph.

24 A. Okay. I'm there.

25 Q. And read the second sentence.

1 A. Of the second paragraph?

2 Q. Yes.

3 A. Okay. (Examining document). It says, further,
4 in view of the above, we interpret the corresponding
5 structure of the "releasing means" to be: A mating
6 threaded connection, a quick dis- -- disconnect
7 attachment, a depressible tab, a latch, a clasp, a clip or
8 a clamp releasably connecting a hammer sleeve to a base.

9 Q. Okay. Would the releasing mechanism or the --
10 the structure shown -- base 41 -- structure 41 in Figure 1
11 of Sharma fall into that definition?

12 A. Yes, sir, it would.

13 Q. Okay. How would you characterize that --

14 A. It --

15 Q. -- structure 41 in -- in term -- in those terms
16 -- in -- in terms of a releasing mechanism?

17 A. It could kind of be a combination of a -- kind of
18 a quick disconnect attachment with a depressible tab.

19 Q. Okay.

20 A. That would be my -- probably the two closest that
21 would match it.

22 Q. Okay. Let's go back to Claim 1.

23 A. The -- okay. I'm there.

24 Q. Will you, please, review Claim 1.

25 A. And do what? I'm sorry.

1 Q. Please -- please review Claim 1.

2 A. (Examining document). (Short pause). Okay.

3 Q. And did you read the whole claim?

4 A. Oh, you want --

5 THE REPORTER: I -- I didn't --

6 A. -- me to read the whole claim?

7 THE REPORTER: What did --

8 BY MR. NELSON:

9 Q. Yes, please.

10 THE REPORTER: What did he just say? Could you
11 repeat what you just said? Repeat it. Did you just say
12 --

13 MR. NELSON: I just --

14 THE REPORTER: -- repeat the whole claim?

15 MR. NELSON: -- I'm asking him to review Claim 1
16 of the '129 patent.

17 THE REPORTER: It's just so muffled.

18 A. And you want me to read it?

19 BY MR. NELSON:

20 Q. No. You don't have to read it into the record.
21 Just review it.

22 A. Okay. (Examining document). (Short pause).
23 Okay. I've --

24 Q. Was there --

25 A. -- reviewed it.

1 Q. -- was there any mention of a base or the
2 position of a base in Claim 1?

3 A. No, sir, there's not.

4 Q. Okay. So would you characterize the position of
5 the base or structure 41 in Figure 1 of Sharma as being
6 consistent with the claim language of Claim 1?

7 A. No, sir, I do not.

8 Q. Did -- hold on. Did -- the -- the base that --
9 the -- structure 41 in Sharma, okay, its position in that
10 tool, is that consistent with the claim language of Claim
11 1?

12 A. (Short pause). (No response).

13 Q. So when -- 41 is positioned at the base of the
14 handle. That's what we've established on the record.

15 A. Yes.

16 Q. Okay. You just stated that there's no base
17 mentioned in Claim 1 or position of a base, no limitation
18 as to -- no expressed limitation as to a base.

19 So with the position of structure 41 being
20 inconsistent or, you know, in -- in the claim language
21 exclude the possibility of structure 41 being positioned
22 where it is?

23 A. No, sir.

24 Q. Okay.

25 MR. NELSON: Okay. Can you provide Mr. Drewry

1 with his declaration, Exhibit 1017, and Donner, Exhibit
2 1006.

3 A. Okay. I have both of those in front of me.

4 BY MR. NELSON:

5 Q. Okay. So in your discussion with Mr. Lytvyn, he
6 pointed to Paragraph 125 asking you to point to a,
7 wherein, paragraph that states the basis for combining
8 Sharma with Donner, and let's look at Paragraph 113 of
9 your declaration.

10 A. Okay. I'm there.

11 Q. Okay. Could you read the first two sentences
12 there.

13 A. (Examining document). Sharma discloses a
14 universal impactor with slap hammer device for applying
15 force for use to assist in the impaction or -- and/or
16 extraction of an attached surgical instrument from an
17 orthopedic structure. The slap hammer device of Sharma is
18 designed for general use in orthopedic procedures.

19 Q. Please read the next sentence as well.

20 A. It would be obvious to use the universal impactor
21 with slap hammer device of Sharma to assist in the
22 impaction and/or extraction of attached surgical
23 instruments in an SI joint fusion procedure, such as
24 chisels and rasps.

25 Q. Okay. And, please, go on with the rest of the

1 paragraph.

2 A. Compton discloses an orthopedic spinal procedure
3 that includes the use of an impactor and tools that are
4 conveniently used with hammers and slap hammers, such as
5 box chisels or rasps. It would be obvious to a POSITA
6 that the universal impactor with a slap hammer device
7 would be beneficially used with the tools (e.g., the box
8 chisel and rasp) used in the method of Compton with
9 predictable improvements in efficiency particularly in
10 view of the disclosure of the joint preparation tool of
11 Donner.

12 Q. So based on that paragraph, what is the rationale
13 for combining the features of Sharma with the tool of
14 Donner?

15 A. Again, Donner is already using a slap hammer in
16 his technique so applying the benefits of having a locked
17 and unlocked Sharma handle would just add to the -- the
18 usability of the instrument.

19 Q. Okay. So you spent quite a bit of time talking
20 about the device shown in 23D of -- excuse me -- 22D of
21 Donner.

22 A. Okay.

23 Q. Let's go there. And the discussion was in part
24 about whether or not Donner is a box chisel. Could you go
25 to -- so what -- let me do that.

1 What are the functions performed by the tools shown in
2 22D? What is it able to do?

3 A. 22D?

4 Q. Yes.

5 A. It's in a -- an abrading head that abrades the
6 soft tissue and bone in preparation for the implant.

7 Q. Okay. Are there any other -- any other functions
8 besides abrade -- abrading --

9 A. In that particular --

10 Q. -- (unintelligible) -- in coordinating --

11 A. Yeah. I think we talked about in that particular
12 embodiment, and as it relates to the -- the keel implant
13 of Donner, it cuts two keels as well.

14 Q. Okay. So it -- it performs the function of
15 cutting the joint or the -- the bone tissue.

16 A. Yes, sir.

17 Q. Is that -- okay. As well as abrasion, which --
18 which accomplishes what -- you know, what kind of
19 function?

20 A. Again, removing the soft tissue, decorticating
21 the bone and preparing a void for the implant.

22 Q. Okay. Can you go to Figure 23D in Donner. 23D.

23 A. Okay. I'm there.

24 Q. How would you characterize that, the tool shown
25 in that figure?

1 A. (Examining document). That would be a -- more of
2 a traditional box chisel that had --

3 MR. LYTVYN: Objection. Outside the scope of
4 direct testimony.

5 BY MR. NELSON:

6 Q. Go ahead. Are you done answering?

7 A. Pardon me.

8 Q. Were you done answering?

9 A. Can I answer or not answer?

10 Q. You -- you can answer.

11 A. Okay. Yeah. So 23D is a box chisel.

12 Q. Okay. Would you go to Paragraph 192.

13 A. Of Donner?

14 Q. Uh-huh (affirmative response).

15 THE WITNESS: Oh, there's the other 1004.

16 MR. LYTVYN: Same objection.

17 A. 92 -- so that's in the --

18 BY MR. NELSON:

19 Q. 19- --

20 A. -- figure?

21 Q. -- 192.

22 A. Oh, 192. I'm sorry. (Short pause). Okay. I'm
23 there.

24 Q. Would you, please, read Para- -- Paragraph --
25 excuse me -- Paragraph 192.

1 A. (Examining document). As seen in the figures,
2 the tooling head 52 additionally includes a shaft 246 that
3 is four-sided, a handle 248 coupled to a proximal end 250
4 of the shaft 246 and an impact plate 252 at a proximal end
5 254 of the handle 248. The tooling head 52 of this
6 embodiment may additionally include features as described
7 in the previous embodiments without limitation.

8 Q. And that second sentence, what would you
9 interpret that to mean?

10 A. About the tooling head embodiment having
11 additional features?

12 Q. Right. The additional features described in
13 previous embodiments, how would that --

14 A. Adding, you know, abrading surfaces or teeth or
15 other geometry.

16 Q. Okay.

17 MR. NELSON: Could we, please, give Mr. Drewry
18 Exhibit 1007, the Otte reference.

19 A. The Otte refer- --

20 THE REPORTER: What --

21 A. -- I don't believe --

22 THE WITNESS: 1007? I don't believe we've --

23 MR. LYTVYN: Same objection. Outside the scope.

24 MR. NELSON: Combination of Donner and Otte is
25 what I want. Do we have Exhibit 1007?

1 MR. LYTVYN: We're locating it.

2 MR. BANKS: Here is Exhibit 1007.

3 THE WITNESS: Thank you, sir.

4 A. Okay. I have it.

5 BY MR. NELSON:

6 Q. Okay. Will you, please, go to Figure 12.

7 A. Okay. I'm there.

8 Q. Could you compare Figure 12 with Figure 23D of
9 Donner.

10 MR. LYTVYN: Same objection.

11 A. (Examining document). They're both open-ended
12 bone -- or box chisels. The 23D of Donner does not show
13 the abrading surface in that image, but the Figure 12 of
14 Otte does show an abrasive surface on the top and bottom
15 of the box chisel in Otte.

16 BY MR. NELSON:

17 Q. Okay. And do you -- this last sentence in
18 Paragraph 192 and our discussion of modification in 23D,
19 is there any significant difference between the box chisel
20 shown in Figure 12 of Otte and Figure -- the total shot
21 picture of 23D in Donner?

22 A. (Examining document). No, sir. There are not.

23 Q. I'm sorry.

24 A. No.

25 Q. I didn't --

1 A. No, sir.

2 Q. Okay. So what might motivate one of ordinary
3 skill in the art to use the box chisel of Otte in
4 combination with the slap hammer of Donner --

5 MR. LYTVYN: Same objection.

6 BY MR. NELSON:

7 Q. -- if there is any?

8 A. I think it was as we discussed earlier. It would
9 allow you to combine the instruments into a single
10 instrument --

11 Q. Uh-huh (affirmative response).

12 A. -- as shown in Donner.

13 Q. Okay. If we go to your declaration, Paragraph
14 112.

15 A. 112. Okay.

16 Q. Actually -- actually, first let's -- the last two
17 sentences of Paragraph 111 into the record.

18 A. (Examining document). So starting with,
19 additionally?

20 Q. Yes.

21 A. Additionally, the joint preparation tool of
22 Donner includes a slap hammer portion and, thus, provides
23 a single tool that includes a cutting tool and a slap
24 hammer functionalities operable to the -- to efficiently
25 prepare the SI joint for the insertion of a fusion

1 implant.

2 It would be obvious to a POSITA that the joint
3 preparation tool of Donner would be beneficiary -- would
4 be beneficially used in the method of Compton with
5 predictable improvements in efficiency.

6 Q. So how do you -- how do you determine that
7 exactly, the combination of Compton and Donner and what
8 that opinion (phonetic) was?

9 A. Again, just being able to have all of the -- the
10 functionality of these tools incorporated in one
11 instrument.

12 Q. Okay. Can we go on to 112, please.

13 A. Otte disclose -- discloses methods and
14 instruments for preparing the intervertebral disc space
15 for implants in a spine fusion surgery and methods of
16 preparing a spinal disc space. Continue?

17 Q. Yes, please. The -- the entire paragraph.

18 A. All right. Spinal fusion surgeries are closely
19 related to SI joint fusion surgeries as they both deal
20 with fusion of vertebral bones, both are performed by
21 orthopedic spinal surgeons, and they use similar tool sets
22 in similar manners.

23 Thus, it would be obvious to a POSITA to combine the
24 teachings of Otte, including disclosed instruments and
25 techniques with the SI joint fusion methods of Compton and

1 Donner.

2 Q. Can we go back to Figure 12 of Otte, please.

3 A. Okay. I'm there.

4 Q. Okay. How would you -- one second. How would
5 you characterize the distal structure of that box chisel
6 that -- for instance, 127.

7 MR. LYTVYN: Objection. Outside of the scope of
8 direct testimony.

9 A. (Examining document). I think that -- that
10 would -- I would call that the leading edge or the cutting
11 edge of the box.

12 BY MR. NELSON:

13 Q. Okay. And what function would that leading edge
14 perform?

15 A. It would cut the bony tissue to create a void for
16 the implant.

17 Q. Okay. And what about service 131? What would --
18 what function would that perform?

19 A. 131 in that same image?

20 Q. Uh-huh (affirmative response).

21 MR. LYTVYN: Same -- same objection.

22 A. It appears to be the abrading surface, so it
23 would, again, remove the soft tissue on the top and
24 bottoms and prepare to decorticate the bone.

25 BY MR. NELSON:

1 Q. Let's look at Figure 7 of Otte.

2 A. Okay. I messed this one up. (Short pause).

3 Okay. I have Figure 7.

4 Q. How would you characterize this device shown in
5 Figure 7? What would you call this?

6 MR. LYTVYN: Same objection.

7 A. (Examining document). Again, I would call it a
8 open tip box chisel with abrading and cutting sides, top
9 and bottom.

10 BY MR. NELSON:

11 Q. How is it different from 12?

12 A. I -- I think just kind of the abrading surfaces
13 are a little different geometry.

14 Q. Would it function any differently, in your
15 opinion, than Figure 12?

16 A. No, sir.

17 MR. NELSON: Can we provide Mr. Drewry with
18 Exhibit 1008, which is Martz.

19 A. I don't think we have that one out, either.

20 THE REPORTER: 1008 which is what?

21 THE WITNESS: Martz.

22 MR. NELSON: 1008. This is the -- the Martz
23 reference, the last reference we discussed in cross.

24 MR. BANKS: This is Exhibit 1008.

25 THE WITNESS: Thank you, sir.

1 A. Okay. I have it.

2 BY MR. NELSON:

3 Q. Okay. Would you, please, go to Figure 76C.

4 THE REPORTER: I'm sorry.

5 THE WITNESS: I'm sorry. I coughed.

6 BY MR. NELSON:

7 Q. 7- -- I'm sorry. 76A through 76C.

8 A. Okay. I'm there.

9 Q. Okay. So in your discussion with Mr. Lytvyn, you
10 discussed the cutting edges of this tool on the abrading
11 surfaces and the open space between the cutting edge.

12 A. Yes.

13 THE REPORTER: I --

14 BY MR. NELSON:

15 Q. How does this tool differ from the tool of Otte
16 in Figure 12?

17 A. (Examining document). The tip is open on the
18 sides.

19 Q. Okay. Could you, please, go to Claim 1 of the
20 '129 patent.

21 A. Okay.

22 Q. It would be at -- it would be at -- starting on
23 Column 12, Figure -- Line 65.

24 A. Okay. I'm there.

25 Q. Could you, please, read those three lines and

1 then Lines 1 through 9 on the following page. Actually,
2 I'm sorry. Lines 1 through 5 of the following page.

3 A. Okay. (Examining document). The abrading device
4 comprising an abrading head at a distal end of the
5 abrading device, the abrading head having abrading
6 surfaces on each of a first pair of opposing sides, the
7 abrading surfaces comprising one or more teeth, barbs,
8 blades, ridges, slots, broaches or other members capable
9 of abrading a cortical bone of the sacroiliac joint.

10 Q. Okay. Does that passage define a box chisel
11 expressly? Is it limited to a box chisel?

12 A. No, sir.

13 Q. Does it say, box chisel?

14 A. No, sir, it does not.

15 Q. How many sides does it define --

16 A. Just a pair --

17 Q. -- (unintelligible) --

18 A. -- a pair of opposing sides.

19 THE REPORTER: I didn't get the --

20 MR. NELSON: I'm sorry. Do you need me to repeat
21 the question, Amy?

22 THE REPORTER: I didn't hear what you --

23 MR. NELSON: Amy?

24 THE REPORTER: -- said. It's -- it's mumbly to
25 me. I just cannot -- I get it after the fact. Go ahead.

1 MR. NELSON: Okay. I'll -- does it need to be a
2 little louder? Is that what --

3 THE REPORTER: No.

4 MR. NELSON: -- it is?

5 THE REPORTER: I don't -- I don't -- it's not
6 that. I think it's your headphone but -- and we have a
7 room next door to us that's gotten loud again. I don't
8 think it's necessarily --

9 MR. NELSON: Is there --

10 THE REPORTER: -- talking louder.

11 MR. NELSON: -- is there a call-in number so I
12 can use my cell phone headset instead?

13 THE REPORTER: Just keep going.

14 MR. NELSON: Can anyone -- can anyone else
15 capture the questions?

16 THE REPORTER: I'm getting it after the fact. I
17 mean, it's -- it's clicking after the fact. I'm just
18 having to really concentrate to get it. Let's just keep
19 going.

20 MR. NELSON: Okay.

21 THE REPORTER: Let's finish.

22 BY MR. NELSON:

23 Q. And so let's go back to the question.

24 How many sides are defined in that passage for that
25 portion of Claim 1 that you read?

1 A. (Examining document). A pair of opposing sides.

2 Q. Okay. And would the tool of Martz include a pair
3 of opposing sides?

4 A. Yes.

5 Q. Would those opposing sides have abrading
6 surfaces?

7 A. Yes, sir, they would.

8 Q. Okay. Can we read the next limitation, which are
9 Lines 6 through 9 in Line -- in Column 13, the next
10 limitation in the claim.

11 A. (Examining document). An open tip comprising a
12 cutting edge disposed at a leading edge of the open tip
13 and the cutting edge configured to cut bone tissue in the
14 sacroiliac joint.

15 Q. Does that portion of the claim define any further
16 sides?

17 A. No, sir, it does not.

18 Q. Could you characterize -- one -- would one in the
19 ordinary skill in the art characterize the gap between the
20 cutting edges of Martz and an open tip based on what's
21 there in the claim language?

22 A. Yes, sir.

23 Q. Are those cutting tips in Martz, cutting tips 369
24 and 369 hash (phonetic), capable of cutting bone?

25 A. Yes.

1 Q. Okay. Are those cutting edges leading in --
2 in -- in the sense that Claim 1 talks about a leading
3 edge?

4 A. Yes.

5 Q. Are the -- is the --

6 THE REPORTER: Wait.

7 BY MR. NELSON:

8 Q. Go back to Otte Figure 12.

9 A. What number is Otte? I'm sorry.

10 Q. Otte is 1007.

11 MR. LYTVYN: Also, to get -- to get on the
12 record, objection to the preceding line of questioning as
13 leading.

14 A. Okay. I have Otte.

15 BY MR. NELSON:

16 Q. Would you characterize the end of Otte -- so edge
17 127 -- and the space defined -- the opening defined by 127
18 as an open tip?

19 MR. LYTVYN: Same objection. Leading question.

20 A. (Examining document). Yes, sir, I would.

21 MR. NELSON: I'll rephrase.

22 BY MR. NELSON:

23 Q. How would you interpret the space within the
24 structure 127 at the end of the tool shown in Figure 12 --
25 would you charac- -- how would you characterize that as

1 far as its structure?

2 A. (Examining document). I think 122 is kind of
3 pointing to a -- a space or a void that is enclosed by the
4 edges or the box of 127.

5 Q. Would you say that -- which -- is the structure
6 of the cutting edge 127, I think, capable of -- what is,
7 in your opinion, capable of cutting bone tissue?

8 THE REPORTER: I'm sorry. Repeat that.

9 MR. LYTVYN: And objection. Leading question
10 again.

11 THE REPORTER: Did y'all hear that?

12 BY MR. NELSON:

13 Q. What is the purpose -- what is the role of
14 leading edge 127?

15 A. (Examining document). To cut the bone and
16 prepare the bone for the implant.

17 Q. Okay. Would the structure shown in Figure 7
18 differ with respect to characterization of Figure 12 that
19 we just went over? So the -- what is the role of edge 86
20 in Figure 7?

21 A. I think it functions the same as 127.

22 Q. And how would you characterize -- characterize
23 Reference Number 74?

24 A. It would be an opening or a void at the end of
25 the box geometry there.

1 Q. Okay.

2 MR. LYTVYN: Also, objection to proceeding with
3 line of questioning with respect to this exhibit. It's
4 outside the scope of cross exam testimony.

5 BY MR. NELSON:

6 Q. Okay. Let's go back. Let's go to Compton.

7 MR. NELSON: Could you, please, provide
8 Mr. Drewry with Exhibit 1004.

9 A. Okay. I'm there.

10 BY MR. NELSON:

11 Q. Okay. And in your discussion with Mr. Lytvyn,
12 there was focus on Figure 15 and the shape of that void
13 provided --

14 A. Yes, sir.

15 Q. -- and discussion about whether or not Donner
16 could create such a void. Could you, please, go to Column
17 4, Lines 54 through 59.

18 A. Okay. Would you like me to read them?

19 Q. Please.

20 A. (Examining document). While a substantially
21 rectangular portion 162 has been disclosed, any other
22 geometrical configuration can also, likewise, be utilized.
23 In general, the shape of the substan- -- substantially
24 rectangular portion and in- -- incising member -- I mean,
25 I'm sorry. Let me start -- the shape of the substantially

1 rectangular Portion 162 and incising member 164 correspond
2 to a size and shape of a graft that is to be placed into
3 the SJ, as will be discussed in further -- in greater
4 detail below.

5 Q. Okay. And do you recognize which structures this
6 paragraph references 162 and 164? You can go -- go to
7 Figure 7 and 9.

8 A. (Examining document). Yes.

9 Q. Okay. And so how would you interpret this
10 paragraph?

11 A. That you could modify the geometry of this
12 implant -- or this instrument to match the geometry of
13 your implant.

14 Q. Okay. And what other geometries might you use?

15 A. Rectangular would be one.

16 Q. And what -- what is the purpose of the Compton
17 reference?

18 THE REPORTER: The what reference?

19 A. (No response).

20 BY MR. NELSON:

21 Q. What is the purpose of the Compton -- what is the
22 purpose of the method disclosed in Compton?

23 A. To fuse SI joints.

24 Q. What different types of SI joint fusion implants
25 are there in your -- as far as you know?

1 A. There's multiple implant geometries.

2 Q. What made you -- what made you select that
3 particular implant geometry?

4 A. Why or how?

5 Q. Well, on what basis?

6 A. Probably the surgeon preference and what he feels
7 provides the best surgical outcome.

8 Q. Okay. Is there anything particularly
9 advantageous about the approach shown in Figure 15 of
10 Compton when it created the void?

11 A. No. I -- I just think that was the one that they
12 preferred to -- to show in that orientation.

13 Q. Okay. Would you go to Column 7, please, of
14 Compton.

15 A. Okay. I'm there.

16 Q. And would you read Lines 4 through 7.

17 A. (Examining document). The following description
18 presents an example use case and method for securing the
19 bone structures 234 and 236 using the device(s) of Figures
20 1A through 14. Thus, Figures 1 through 15 are
21 collectively referred to in the following sections.

22 Q. When you read that paragraph, how would you
23 interpret the approach shown in Figure 15?

24 A. It's just one of many approaches.

25 Q. Meaning that you might select a different

1 approach?

2 A. Yeah.

3 MR. LYTVYN: Objection.

4 A. I mean --

5 MR. LYTVYN: Leading question.

6 A. -- well, this just shows an example. That means
7 there are other ways that you can do it.

8 BY MR. NELSON:

9 Q. Does this -- does the approach in Section -- in
10 -- excuse me -- Figure 15 provide any particular
11 advantages over another approach that you might select
12 based on what's known in the -- in the art?

13 A. Not that I'm aware of.

14 Q. In view of that, is Donner compatible with
15 Compton in your last answer?

16 MR. LYTVYN: Objection. Leading question.

17 A. Yes. It could be another one of the approaches
18 that were described in Compton.

19 BY MR. NELSON:

20 Q. Okay. Let's go back to Donner. It's Exhibit
21 1006.

22 A. Okay.

23 Q. In Donner you -- Mr. Lytvyn discussed what a
24 cutting edge or a leading edge might be in Figure 22 --
25 22A through 22D.

1 A. 22A and 22D?

2 Q. 2- -- 22 -- 22A and 22D.

3 A. Yes.

4 Q. Okay. Could you, please, read Paragraph 188.

5 A. Starting at the beginning?

6 Q. No. Line 8 starts with, the planar rasping.

7 THE REPORTER: Starts with the what?

8 MR. NELSON: Line 8, Paragraph 188 starting with,
9 the planar rasping.

10 A. Okay.

11 BY MR. NELSON:

12 Q. Could you read those two sentences start -- two
13 sentences starting with that.

14 A. (Examining document). The planar rasping head
15 190 also includes a double chamfered tip 202 at a distal
16 end 204 of the rasping head 190. Tip 202 may terminate
17 distally in-line with the chamfered tip of cutting element
18 216.

19 Q. Okay. Let me go back to Figures 22A through 22D.

20 A. I'm sorry. What figures were those again? 22?

21 Q. 22 --

22 A. Yeah.

23 Q. -- 22A through 22D. Okay. Can you locate
24 element 16 -- or excuse me -- 216 -- element 216.

25 A. Yes. I'm there.

1 Q. Okay. How would you characterize that structure
2 in view of the passage you just read?

3 A. (Examining document). It would be a cutting
4 edge --

5 Q. Okay.

6 A. -- at that -- where --

7 Q. Let's -- yes. Okay. The -- let's go to the '129
8 patent.

9 A. Okay. I'm there.

10 Q. Back to -- back to Claim 1.

11 A. I'm there.

12 Q. On Col- -- Column 13, Line 6, can you read that
13 element, the open tip element.

14 A. (Examining document). An open tip comprising a
15 cutting edge disposed at a leading edge of the opening
16 tip, the cutting edge configured to cut bone tissue in the
17 sacroiliac joint.

18 Q. Okay. Would you characterize -- how would you
19 characterize structure 216 with respect to that element?
20 Would it -- would it qualify as a cutting edge --

21 A. Yes, sir, it would.

22 Q. -- at open tip?

23 MR. LYTVYN: Objection. Leading question.

24 A. Yes, sir, it would.

25 BY MR. NELSON:

1 Q. Would it qualify as a leading edge?

2 A. Yes, sir, it would.

3 MR. LYTVYN: Same objection.

4 BY MR. NELSON:

5 Q. Okay. Mr. Lytvyn said that if the edge was not
6 the absolute, you know, front edge of a tool, right -- I
7 think he referred to structure 202 in Figures 23 through
8 23D -- then this limitation -- the limitation of the
9 cutting edge, leading edge would be meaningless or
10 something along those lines.

11 Do you think that's accurate?

12 A. No, sir. I -- I think the cutting edge is where
13 the leading edge is.

14 Q. How is it -- how is structure 216 a leading edge?

15 A. It's where the cutting begins.

16 Q. Okay. Going back to the open tip. It is
17 discussed in the limitation you just read, and then it is
18 also discussed in the last portion of Claim 1 starting on
19 Line 18 of Column 13. Could you, please, read that last
20 section of the claim into the record.

21 A. Starting at 18?

22 Q. Yeah. Starting at 18, the last -- the last
23 section of --

24 A. Okay.

25 Q. -- starting with, advancing.

1 A. (Examining document). Advancing the abrading
2 device into the sacroiliac joint such that the open tip
3 cuts bone tissue away from the sacrum or the ilium and the
4 abrading surfaces decorticate the cortical bone inside the
5 sacroiliac joint thereby forming a decorticated implant
6 void at the insertion point without using a rotary cutter
7 -- cutting instrument.

8 Q. Is the slap hammer tool with the head shown in
9 Figure 22D capable of needing that limitation or that
10 section of the claim?

11 MR. LYTVYN: Leading question. Objection.

12 A. Yes, sir, it is.

13 BY MR. NELSON:

14 Q. Okay. With respect to the open tip, how is --
15 how is defined in a claim? What are the -- what are the
16 specific things stated in a claim that define an open tip?

17 A. It comprises a cutting edge, a leading edge
18 configured to cut bone.

19 Q. Uh-huh (affirmative response). And I believe
20 it's discussed in that last section as well.

21 A. That it's -- you can cut bone tissue from either
22 the sacrum or the ilium and decorticate the bone to form
23 an implant void.

24 Q. Are there any other functions for the open tip
25 defined in Claim 1 besides those you just read?

1 A. I believe that is all.

2 Q. Okay.

3 (WHEREUPON, THERE WAS A SHORT PAUSE, AND THE
4 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

5 MR. NELSON: Can we take a break for 10 minutes.

6 MR. LYTVYN: Sure.

7 THE REPORTER: Okay.

8 (WHEREUPON, THERE WAS A SHORT BREAK, AND THE
9 PROCEEDINGS THEN CONTINUED AS FOLLOWS:)

10 MR. NELSON: No further questions.

11 MR. LYTVYN: Thank you. No questions from us,
12 either.

13 (SIGNATURE WAIVED).

14 (WHEREUPON, AT THIS TIME, THE TESTIMONY CONCLUDED
15 AT 4:20 P.M.)

16

17

18

19

20

21

22

23

24

25

C E R T I F I C A T E
STATE OF MISSISSIPPI)

I, Amy D. McCullough, CCR #1653, Certified Court Reporter, in and for the State of Mississippi do hereby certify that the above deposition was reported by me, and the transcript is a true and accurate record to the best of my knowledge, skills, and ability.

I further certify that I am not related to nor an employee of counsel or any of the parties to the action, nor am I in any way financially interested in the outcome of this case.

I further certify that I am duly licensed by the Mississippi Board of Certified Court Reporters and as a Certified Court Reporter as evidenced by the CCR number and expiration date following my name below.

I further certify that this transcript is the work product of this court reporting agency and any unauthorized reproduction and/or transfer of it will be in violation.



AMY D. McCULLOUGH,
CCR #1653 (MS)
Expiration Date 12-31-23
ALPHA REPORTING
CORPORATION-A VERITEXT COMPANY
236 Adams Avenue
Memphis, Tennessee 38103

&	170:25 172:2	66:10,13 69:9	47:16 49:11
& 3:11,16	176:20 179:10	69:16 72:12	54:13,16,23
0	180:18 181:25	73:1,6,11 74:11	56:4 57:2 60:25
017 112:10	10 4:21 43:6	78:11,17	61:22 62:10,15
1	79:8 117:20	11,020,129 1:9	64:2,6,10,24
1	147:14,20	8:7	65:2,15,17
1 1:9 12:5,8,13	152:11 154:12	110 3:5 81:25	66:17 67:15
12:14 22:23	154:13,15 182:5	111 164:17	68:4,12,14
24:3 48:18	10,219,841	112 164:14,15	69:25 70:4,17
57:23 59:19,21	116:12	165:12	71:8,17,20,25
60:22,24 61:11	100 60:21 68:21	113 99:4,7	72:8,21 73:8,16
61:13,15,19	68:23 73:17,19	100:19 101:4,11	74:1,3,17,21
62:13,18 63:7	74:10,25	101:12,20 158:8	75:8,11,19 76:4
63:16,17 64:3,7	1001 9:12	12 12:3,5,12	77:12,20 78:6
64:9 65:20,25	147:20	27:15 71:25	79:5,8 80:19,20
66:3 67:25 68:7	1004 85:2	112:11,13 163:6	81:2 82:2 83:9
69:2,5,8,20,23	116:22,24	163:8,13,20	83:11 123:15
69:24 70:2,14	161:15 174:8	166:2 167:11,15	147:21 150:6,12
71:8,15 72:6,15	1006 112:5	168:16,23 172:8	151:8,12,24
72:19,24 73:2,7	121:21,24 158:2	172:24 173:18	152:8,22 153:5
73:10,13,14,17	177:21	12-31-23 183:18	156:16 168:20
73:19 74:4,15	1007 162:18,22	122 173:2	179:7
75:13,14 77:4	162:25 163:2	125 131:13	13 33:12 49:15
77:10,17 79:8	172:10	132:8,9,14	57:24 80:23
80:5,11,18 81:3	1008 167:18,20	158:6	81:2 123:16
84:7,16 85:14	167:22,24	127 166:6	152:8,10 171:9
150:6,8 151:3,7	1009 59:12	172:17,17,24	179:12 180:19
151:8,17,24	116:17 121:20	173:4,6,14,21	131 166:17,19
153:4,4,5,8,13	147:20,25	128 94:16	135 135:24
153:17,19 154:4	101 3:11	129 6:22 8:6,6	137 4:13
154:4,8 155:10	1017 31:20	11:18 12:9,12	14 86:23,23
155:22,24 156:1	48:20 158:1	15:18 22:24	176:20
156:15 157:2,5	104 32:4	28:4 33:12	148 4:4 90:18,20
157:6,11,17	11 60:14 61:15	34:15 35:9,13	98:16
168:19 169:1,2	63:15 65:25	38:8 43:19 44:8	

15 1:16 7:12 118:4,5,6 119:2 119:6,11 120:3 120:10 147:12 147:14,15 174:12 176:9,20 176:23 177:10 15th 2:2 16 56:3,4,6 58:2 58:5 60:25 61:6 61:10,13,16,21 62:10,15 64:7 64:10,11 65:2 65:15 66:17 67:3 68:4,6 69:1 69:25 70:3,17 71:8,16,19,25 72:7,16,20,25 73:8,11,15 74:1 74:3,16,21 75:8 75:11,15,19 76:4 77:12,20 150:6,10 151:2 151:7,23 152:21 153:1,3,20 154:3 178:24 161 5:4,4 162 174:21 175:1,6 163 5:5,5 164 5:6 175:1,6 1653 183:4,17 166 5:6 167 5:7,7	17 152:12 172 5:8,8 174 5:9 177 5:9,10 18 43:12,25 45:21 47:6 81:1 180:19,21,22 180 5:10,11 107:21 110:2 111:5 181 5:11 183 5:25 186 108:10,11 110:8,17 188 178:4,8 19 38:19,22 44:1 47:6 161:19 190 112:15 113:22 114:4,7 178:15,16 192 161:12,21 161:22,25 163:18 196 105:24 106:1,24 107:12 107:15,25 108:12,20,21,24 109:2,11 110:19 114:4,6,6,9,17 114:20 115:16 115:25 198 114:4,6,9 1a 176:20	2 2 79:8 82:25 83:2,5 87:5 108:17 111:4,15 178:2 2,000 111:3 2,010 108:17 20 7:12 13:19 107:8 2003 4:13 137:4 137:6,9 202 122:22 123:9 124:20 125:2,4,13 178:15,16 180:7 2021 1:9 2022 11:5 2023 1:16 2:2 204 178:16 205 105:24 106:1 206 48:21 106:21,24 107:2 107:10,23 21 54:13,14,16 55:4,15 60:16 65:10 66:5,15 73:13,14 75:22 75:25 76:9 78:15 87:5 210 106:17,25 107:16,19,23 108:8,17 109:10 109:11,25 110:23 111:8,14	111:16 114:20 115:16 216 178:18,24 178:24 179:19 180:14 218 106:16 107:18,21 108:9 109:25 110:23 111:4,15,17 114:2 115:22 21a 114:1 21c 114:1 22 177:24 178:2 178:20,21 22a 113:24 119:1 122:2,4 122:14,20 123:21 124:2 128:10 177:25 178:1,2,19,23 22b 123:9 22d 105:7,8,12 113:24 119:1 128:10 159:20 160:2,3 177:25 178:1,2,19,23 181:9 23 86:14 180:7 234 176:19 236 3:23 176:19 183:19 23d 159:20 160:22,22 161:11 163:8,12 163:18,21 180:8
--	---	--	---

24 154:22	146:19	49 12:5,13	60 104:12
246 162:2,4	3700 3:11	4:20 182:15	65 168:23
248 162:3,5	371 146:19	5	66 27:15
250 162:3	38103 3:23	5 36:11 80:5,11	67 4:23 81:21,22
252 162:4	183:20	86:24 169:2	68 84:5
254 162:5	38117 6:14	5-0 103:8	69 89:1 95:11
26633 183:16	3:00 147:16	50 103:5,7	97:2 98:14
27 4:21	4	51 56:19,25 58:8	125:15
3	4 83:7 86:14	58:13,22 61:23	7
3 28:3 34:22	153:24 174:17	64:10 65:4,5,15	7 39:5 103:14,20
35:8 38:17	176:16	65:17 67:9,11	123:18 167:1,3
48:18 87:5	41 60:15 61:12	67:15 68:5,6,12	167:5 168:7
146:13	61:20 62:19,25	68:14 70:1 72:1	173:17,20 175:7
30 32:10,11,22	63:3,7,16 64:9	72:3 74:24	176:13,16
37:17 56:14	64:12,17,25	77:21,23 78:5,6	70 99:1,7 101:20
74:2	65:3,9,11,13,14	52 103:12 114:1	102:13
31 56:10 57:1	65:17 66:1,4,13	162:2,5	7030 3:5
58:22,23 62:19	66:14,18 67:1	53 105:5,9	73 4:24
65:12 67:25	67:14 68:11	54 57:1 104:7	74 4:24 104:14
68:3,13,20 69:2	69:1,10,15,23	174:17	104:15 173:23
69:12 70:2 71:8	71:23 77:19,23	559-436-3800	75 128:14 132:8
72:2,6,10 73:12	78:5,5,13,16	3:6	76 4:25
74:4,19,23	151:18 155:10	56 32:12,22 33:1	76a 143:4
75:13,21,24	155:10,15 157:5	33:22 34:8,10	145:19 168:7
76:8,11 77:4	157:9,13,19,21	34:24 35:23	76b 143:4
32 34:22 74:2	42 4:22	36:3,11 37:12	145:18
33602 3:12	4229 6:14	37:17	76c 143:4
34 34:13 35:6,7	43 58:13,22	58 104:4,12	145:22 168:3,7
36 4:22 34:14	44 56:11 65:6,8	59 174:17	79 135:23
35:6,7	67:12 73:15	6	8
369 145:24,24	75:18,20 76:5	6 4:3 33:12	8 130:1 178:6,8
146:10,12	45 4:23	123:18 171:9	813-221-3900
171:23,24	46 75:16,17 76:4	179:12	3:12
370 145:14	76:12 153:7,12		
146:3,3,13,13	153:15,15,24		

84 143:1 144:22 841 85:8 86 173:19 88 5:1	above 131:24 137:5 139:5 141:1,2,8 155:4 183:5	108:22 109:6,15 109:23 110:6 111:2 114:22 115:10,20,23,24 118:25 119:9 120:4,9 123:1 123:10 124:18 124:24 125:1 126:22 127:19 127:21,25 143:24,24 144:6 144:8,13,23 145:1,5 146:1,2 146:3,6,17 152:14 160:5,8 162:14 163:13 166:22 167:8,12 168:10 169:3,4 169:5,5,5,7,9 171:5 181:1,4	accurate 39:11 39:22,24 42:7 45:14,18 139:22 180:11 183:6
9	abr 26:10 abrade 109:3,9 111:20 113:1 114:12 160:8 abraded 26:15 110:13 127:1 abrades 115:5 160:5 abrading 26:9 26:10,14,21 27:2,17,17,18 27:21 28:2,5,7,8 28:10,15 29:3,6 29:9,13 30:1,11 30:12,18 31:11 31:12 33:4,15 33:16,24 35:3 35:21 37:2 38:11 39:9,14 39:20 40:7,13 40:18,22 42:4 44:9,10 45:17 47:17,18 49:23 50:5 52:1,5 54:24 55:21 56:13,15,17 81:6,8,14 105:12,14 106:3 106:6,12,14,17 106:22,23 107:18,22	118:25 119:9 120:4,9 123:1 123:10 124:18 124:24 125:1 126:22 127:19 127:21,25 143:24,24 144:6 144:8,13,23 145:1,5 146:1,2 146:3,6,17 152:14 160:5,8 162:14 163:13 166:22 167:8,12 168:10 169:3,4 169:5,5,5,7,9 171:5 181:1,4	act 106:3 131:23 action 183:8 active 79:13 actually 14:2,5 15:19 19:7,9 21:11 25:12 44:4 53:22 57:4 164:16,16 169:1
9 79:8 169:1 171:9 175:7 90 5:1 901-523-8974 3:24 91 5:2 92 5:2 161:17 93711 3:5 94 5:3 95 5:3 9:05 2:4 9th 11:5			adams 3:23 183:19 adapted 14:13 44:4 add 23:4 46:21 159:17 added 46:1 adding 162:14 addition 46:3,6 additional 7:5 39:23 46:1,21 55:17 72:11 77:15 113:20 146:4 162:11,12
a			additionally 162:2,6 164:19 164:21 address 6:13 11:1,6 adequate 47:1 adequately 149:18
a.m. 2:4 ability 53:2 62:19 63:20 69:14 150:23 183:6 able 6:16 13:23 15:22 16:1,10 17:22,25 18:2,8 18:11,15,15,17 18:25 19:14 21:13,14 23:18 25:15 31:18 53:22 70:6 88:4 127:24 128:3 160:2 165:9		abrasion 160:17 abrasive 163:14 abso 13:13 absolute 180:6 absolutely 13:15 access 96:24 120:23 accomplish 16:8 55:10 109:6 118:22 accomplishes 126:10 160:18 account 51:9	

adjustments 15:2 admit 9:24 94:25 adopted 47:11 advance 81:14 advanced 105:17 advancing 81:5 180:25 181:1 advantage 150:2 advantageous 176:9 advantages 177:11 affirmative 38:13 77:1 80:15 150:17 151:9 161:14 164:11 166:20 181:19 affixed 19:15 57:21 59:3 agency 183:13 ago 11:5 13:19 13:24 14:4 33:11 75:6 117:12 agree 45:14,22 46:2,13,15,15 46:18,24,24 47:7,10,20 48:5 48:9,11 140:16 141:10	agreed 46:8 ahead 12:18 161:6 169:25 albeit 82:22 allow 29:24 30:8 31:16 53:9 78:14 164:9 allowed 19:15 20:18 54:5 72:9 94:5,18 128:25 147:9 allows 25:12 35:19 37:2 38:10 52:16 72:11 74:25 105:15 114:25 131:21,23 144:5 alpha 3:22 183:18 ambiguity 76:3 76:22 ambiguous 26:25 30:21 70:8,9 74:6 76:13 94:2,14 94:18 american 137:12 amount 22:24 147:14 amy 3:22 169:21,23 183:4 183:17 analogous 136:3 139:1,17,24	140:11 141:13 analogy 124:4 analysis 11:9 22:23 82:9 analyze 87:23 analyzing 11:20 35:13 anatomically 141:15 anatomy 25:13 25:18 26:5 135:12,16,19 138:10,13,16 140:15 150:24 andriy 3:10 andriy.lytvyn 3:13 angle 24:17 angled 40:21 annotated 105:8 143:4 answer 8:17 42:12 48:3 66:23,24 67:7 77:8 88:21 92:16 93:20 94:25 124:14 132:13 134:13 134:16 136:10 136:15 139:21 150:17 161:9,9 161:10 177:15 answered 36:1 42:10 66:21 67:5 73:4 80:14	88:19 94:2,14 answering 126:12 136:13 161:6,8 answers 8:12 apologies 8:21 appeal 1:1 120:16 appears 11:17 32:2 54:23 60:15 74:8 78:13 112:9 118:18 166:22 applicable 104:22 application 15:6 108:23 109:9,16 110:8,15 113:7 115:9,25 119:4 150:4 applications 21:20 29:18 applied 21:18 42:1 51:8 apply 17:17 41:19 applying 30:25 41:15 51:2 82:22,24 131:14 158:14 159:16 appreciate 83:21 approach 11:8 14:16 176:9,23 177:1,9,11
--	--	--	---

approached 79:3 approaches 176:24 177:17 approximately 2:4 area 79:13 105:25 argumentative 88:20 92:11 arms 15:18 24:25 25:10,24 102:20 126:21 127:17 array 120:20 art 6:23 7:1,3 23:23 35:13,15 38:8 41:19 42:1 59:5 79:5,9,16 79:18 82:1,7,11 83:8,9,11,15 84:21 87:23,24 88:13 96:19 100:4 101:8 102:18 103:3 110:12 112:10 120:1,6,9,14,17 120:23,25 126:13 135:11 135:16 143:9 148:19 164:3 171:19 177:12 articles 7:5 articular 89:18 91:11 97:7	112:25 125:22 136:4 139:2,18 141:14 articulating 139:4 asked 36:1 37:24 42:10 50:6 66:21,24 73:4 79:4,25 80:9 88:19 94:2 94:14 119:21 126:3 150:14 asking 47:4,5,9 47:10 50:3 66:25 93:7 96:22 104:5 115:13 148:9 153:19 154:2 156:15 158:6 aspect 82:5,9 aspects 82:14,15 assembled 52:4 53:17 56:16 104:17 assemblies 104:23 105:3 assembling 55:24 assembly 51:25 52:10,12,20,21 53:4 55:3,9 57:25 64:1 65:19 67:17 75:8,19 77:12 103:24 104:2,7	104:19,24,25 133:6,7 152:14 152:15,16,18,19 153:11,16,20 assist 99:13 131:14 158:15 158:21 associate 148:16 associated 7:5 assume 55:23 88:7 assuming 16:7 assumption 88:16 assumptions 88:10 attach 60:19 136:12 attached 19:5 55:21,21 56:24 93:17 99:13 127:22 131:16 132:15,16 137:7 140:10,21,22 158:16,22 attachment 18:14 155:7,18 audition 49:5 avenue 3:5,23 183:19 aware 9:17 80:3 80:10 86:23 177:13 axial 138:19	b back 7:2 17:3 19:12 20:3,6,16 22:8 23:11,12 53:19 57:11,12 57:23 58:2,5 60:20 69:13 70:5 71:10 72:9 74:23 77:2,3 80:18 83:19 86:21 87:22 95:15 115:6,22 116:11 117:1 122:2 123:15 130:22 143:19 144:2 147:3 152:21 153:1 155:22 166:2 170:23 172:8 174:6 177:20 178:19 179:10 179:10 180:16 background 7:4 19:9 22:25 82:6 82:15 backwards 40:5 40:10 ball 54:4 78:14 149:4 151:19 balls 149:5 banks 3:10 8:5 9:11,13 10:11 11:12 31:18,21 38:12,13,16 42:22 43:6 59:5
--	--	---	--

59:9,11 84:24 85:1 94:3,10,13 94:16 95:7 111:25 112:4 116:22 117:5 121:24 136:25 137:4 138:1,5 141:23,25 142:6 142:11,20 154:19 163:2 167:24 barbs 28:9 169:7 barrier 22:11 base 57:1 58:8,9 58:13,16,19,22 60:4,13,15,18 61:12,13,19,21 62:5,18,25 63:1 63:2,3,3,7,15,18 63:22 64:9,10 64:10,25 65:4,5 65:9,11,12 66:1 67:9,11 68:2,5,6 69:9,10,16 70:1 71:23 72:1,11 74:24,24 77:19 77:21 78:5,6 85:11 87:24 104:19,22 105:1 128:25 129:7,17 129:19 151:13 151:18 153:24 155:8,10 157:1 157:2,5,8,13,16	157:17,18 based 14:7,18 17:4 31:5 33:14 39:3 46:5 49:1 55:17 57:2 71:21 79:5 80:1 83:23 88:9,13 105:20 111:7 113:5 127:13 149:18 159:12 171:20 177:12 bases 69:3 78:5 basically 17:12 19:12 23:4 42:2 55:12 58:11 68:16 73:22 127:5 basing 88:12 basis 76:22 88:15 96:21 158:7 176:5 bear 142:6 beginning 2:4 12:13 62:7 127:9,9 131:12 146:1,5,18 148:8 178:5 begins 12:8 99:4 180:15 behalf 2:2 believe 39:10,21 42:6 44:18 48:16 49:12 59:16 60:23 67:19 68:11	69:14 71:5,15 72:22 73:9 75:7 86:12,14 88:23 90:18 101:9 106:20 108:6 117:24 118:10 129:8 134:20 140:8 143:11 150:16 151:19 153:21 154:13 162:21,22 181:19 182:1 believes 70:21 bend 23:12 beneficially 99:24 101:23 159:7 165:4 beneficiary 165:3 benefits 159:16 best 125:12,12 176:7 183:6 better 107:12 120:21 132:13 big 121:23 biggest 82:18 bit 8:24 11:4 26:3 85:21 86:25,25,25 87:8,9,12,21 88:22 93:14 96:11 118:19 123:7 147:7 159:19	blade 145:6 blades 20:12,15 20:23 28:9 169:8 blood 29:20 bo 144:10 board 1:1 10:23 10:25 11:5 44:3 44:15 45:20,25 47:11 96:19 120:16 183:10 board's 6:23 44:3 45:10,12 46:6,8,18,24 47:7 154:16 bodies 21:1,3 22:2,16 139:16 body 23:18 87:10 111:5 113:12 121:1 139:8,25 140:2 140:4,19,20 141:7 bone 16:1 20:19 21:1,8,9,11,13 21:14,22,23 22:4,12,12,19 23:20 26:1,5,18 28:10,18 29:16 29:21 31:16 35:8 38:10 50:24 51:5,10 51:14,16,18 81:7,9,15,17 85:22 98:6
--	---	---	---

105:16 106:3,7 106:8,15 107:14 107:16,18 108:2 108:16,17,22,25 109:3,7,9,14,18 109:20 111:15 111:18,20 114:12,16,18,19 114:22,22 115:1 115:2,10,11,15 115:16,17 116:1 118:13,13,14 122:18 127:1,25 128:5 136:2,7 136:11,12,16,22 138:22 139:1,6 139:8,10,11,15 139:16,24 140:1 140:2,6,9,9,11 140:12,17,24 141:5,12 144:7 144:10 145:7 146:18,20 160:6 160:15,21 163:12 166:24 169:9 171:13,24 173:7,15,16 176:19 179:16 181:3,4,18,21 181:22 bones 25:22 165:20 bony 20:18 113:1 166:15	border 140:4 boss 56:14,23 59:1 60:17 64:11 bottom 20:14,16 54:6,10 60:18 60:19 62:20 63:21 106:9 107:22 111:7 114:3 127:21 146:3 149:24 150:1 151:14 163:14 167:9 bottoms 143:25 166:24 boulevard 3:11 boundaries 38:6 bow 144:9 bowing 144:9 box 18:5,5,21 20:7,8,9,16 99:20,24 100:24 101:6,14,16,23 101:24 102:3,5 102:11,13,15,16 102:22 126:22 127:1,20,25 128:10,12 143:14,15,16,19 143:21 144:2 145:6 146:5 159:5,7,24 161:2,11 163:12 163:15,19 164:3 166:5,11 167:8	169:10,11,13 173:4,25 break 8:10 9:3 42:16,20 78:21 78:23 116:4,8 121:15 144:18 144:19 146:24 147:1,3,7,7,17 182:5,8 breaks 8:11 147:14 briefly 10:22 broach 31:7 85:21 86:1 87:22 89:24 90:8,18,20 93:13 96:2,4,8 97:17,21 98:5,8 98:16 100:16 broaches 28:9 29:12 169:8 bruce 13:20 built 14:18 85:15 130:25 bullet 123:7 125:2,4 bulletpoint 124:5 butt 56:12 button 78:13 c c 3:1 183:1,1 cadaver 13:25 cage 15:3 16:2	cages 14:14,19 17:6,16 148:17 california 3:5 call 20:12,17 25:9 31:10 40:17 56:20,21 65:7 101:8 108:15 145:24 166:10 167:5,7 170:11 called 15:17 17:2 58:8 60:1 62:5 65:4 73:22 calling 61:23 calls 7:25 8:2 60:12 camera 142:3 canal 29:15 cannulated 15:22 capable 28:10 169:8 171:24 173:6,7 181:9 capture 170:15 career 23:6 148:13 cartilage 21:7 21:14,19,25,25 22:1,4,6,8,11,13 22:14,15,19 26:16 105:17 113:1 139:11 140:10,11 144:7 145:6
---	--	--	--

cartilaginous 21:2 case 1:8 11:9 72:13 176:18 183:9 catch 67:8 categorize 58:23 143:14 ccr 3:22 183:4 183:11,17 cell 170:12 center 2:5 15:21 138:19,25 140:25 cerebral 23:9 certificate 5:25 certified 183:4 183:10,11 certify 183:5,7 183:10,12 cetera 153:12 cha 87:19 challenge 82:2 chamfered 178:15,17 chancellor's 2:5 change 7:14 33:8 42:8,12 49:1 92:5 124:22,22 141:11 changed 11:8 15:4 46:5 49:4 75:1	changes 7:18 22:9 changing 124:22,23 channel 15:16 15:20 16:5 18:3 19:3 24:21,22 24:23 25:2,11 25:14 26:5,10 54:23,25 55:20 55:24 56:3 85:14 102:19 126:9,20 127:10 127:16,17,18,24 128:7 channels 14:16 85:16 charac 172:25 characterization 22:21 33:17 173:18 characterize 151:1,6,11 155:13 157:4 160:24 166:5 167:4 171:18,19 172:16,25 173:22,22 179:1 179:18,19 check 61:24 checking 74:23 chi 93:12 children 23:8 chisel 18:21 20:7,8,10,16	40:25 41:4 89:20,22 90:2,6 90:8,13,20,23 91:2,13,17 92:13,21 93:7,8 93:12,12,25 94:1,22,23,24 95:2,12,15,16 95:18,20,22,25 96:1,2,9,13,15 96:23 97:8,10 97:18 98:13,19 98:23 99:20,24 100:24 101:14 101:24,24 102:5 102:13,15,16,23 125:24 126:7,22 127:1,2,20,25 128:6,11 143:14 143:15,19 144:2 146:5 159:8,24 161:2,11 163:15 163:19 164:3 166:5 167:8 169:10,11,13 chisels 18:5,5 99:15 101:6,16 131:16,18 148:17 158:24 159:5 163:12 choice 126:6 149:12 151:22 choose 85:10 120:8,9,13,18 121:2,4,11	126:4,5 chose 108:18 chosen 120:7 circles 69:19 circling 95:15 cited 35:13 82:17 83:9,11 84:7 civil 2:8 claim 11:7 12:9 12:13,14,18,23 22:23 24:3 26:23 33:25 36:20 39:13 40:2,6 41:2,5,7 41:7,14,17,23 41:24 44:5 45:23 46:4,6,8 47:13 53:16 57:23 79:8 80:18 81:1,3 85:14 152:24 153:4,8,13,17 153:19 154:4,4 154:7,8 155:22 155:24 156:1,3 156:6,14,15 157:2,6,6,10,10 157:17,20 168:19 170:25 171:10,15,21 172:2 179:10 180:18,20 181:10,15,16,25
--	---	---	---

claimed 24:3 29:3 claims 10:6 82:2 clamp 155:8 clarification 84:3 clarify 125:4 clasp 155:7 classify 30:19 125:3 128:9 clause 52:7,18 clean 23:20 clear 27:7,12 30:10 31:3 40:12 44:8 45:11 46:22 47:16 48:2 50:18 62:7 63:25 64:22 83:25 124:14 140:3 145:19 146:14 clearer 8:25 145:10 clearly 77:4 clicking 170:17 clip 155:7 clips 54:3 close 102:5 128:7 closed 29:13 31:7,10,11 111:11 128:12 146:5	closely 165:18 closer 22:6 closest 27:23 52:5 60:13 63:6 155:20 coating 21:22 coincide 44:15 col 179:12 collaboration 79:24 collar 87:7,7,10 colleague 14:11 colleagues 140:15 collectively 176:21 colon 27:1,25 column 12:3,5 12:10,12 27:15 28:3 33:12 39:6 49:14 57:24 80:23 81:1 86:14 123:16 152:8,10 168:23 171:9 174:16 176:13 179:12 180:19 com 132:17 139:8 combination 44:6 47:14 82:3 84:15 100:25 102:18,22 125:25 126:16 127:13 155:17	162:24 164:4 165:7 combinations 82:1 combine 89:15 91:8 97:4 102:24 103:2 117:4 125:19 128:18,23 129:13,23 130:5 130:12,17,19,20 131:5,25 133:3 133:10,13 164:9 165:23 combined 18:5 98:1 100:12,22 103:25 117:14 combining 90:10,21 93:15 100:4,6,7,18 102:10 103:17 126:6 130:19 135:7 158:7 159:13 come 17:3,9 19:14 21:7 22:18 49:2 50:11 87:22 151:25 comes 36:17 49:25 coming 120:1 148:1 comma 95:18	common 43:21 44:6 47:14 54:11 comp 100:11 company 14:6 17:2,14 183:19 compare 47:9 163:8 compatible 19:3 177:14 complete 39:10 39:22 42:7 127:5 139:12 completely 93:21 95:1 complies 138:2 component 28:15,22 53:3 58:14 61:18 64:5,6,8,8,23,24 66:18 69:12 71:21,22,23 72:20 74:8 104:6 122:10 components 27:11 33:23 55:2,8 58:25 59:24 60:2,7,22 61:3 63:2,10 64:1,7 67:19 68:7 72:19,24 103:24 104:1,7 104:9,11 105:13 comprises 86:25 87:7 181:17
---	--	--	--

comprising 12:25 24:24 26:10,21 28:8 28:16 34:14 35:6 37:17 49:15 169:4,7 171:11 179:14 compton 84:8 84:24 85:7,14 85:19,20 86:10 86:18,20 88:4 88:15 89:17,21 89:23 90:2,6,11 90:12,21 91:2 91:10,18 92:15 92:23 93:6,9 94:1,23,25 95:3 95:20,22 96:1,3 96:23 97:5,11 98:14,15,22 99:17,25 100:10 100:15,15,16,17 101:25 102:6,8 102:10,15,16,19 102:25 103:17 116:11 117:21 117:25 118:4,10 119:7,24 120:2 120:11 125:21 126:1,17 128:19 129:23 130:3 132:1,17 133:11 159:2,8 165:4,7 165:25 174:6 175:16,21,22	176:10,14 177:15,18 compton's 93:13 120:3 con 55:19 concentrate 170:18 conclude 82:3 concluded 182:14 concluding 47:6 confer 146:23 conference 2:5 conferred 7:19 confident 74:14 configuration 20:23 55:23 60:15 69:10 115:18,19 151:18 174:22 configured 28:18 35:8 50:24 51:5,10 51:13 171:13 179:16 181:18 confirm 27:12 35:22 70:5 72:10 74:11 76:3 90:19 conflating 123:14 conform 26:5 connect 54:5 74:9,25 126:23	connected 66:4 131:17 connecting 155:8 connection 20:1 155:6 connects 22:12 consent 2:3 consider 135:18 140:6 143:15 considered 150:14 considering 43:15,16 consist 96:10 consistency 22:9 64:21 consistent 47:23 48:1,12 56:25 60:4 157:6,10 constitute 34:11 constitutes 58:14 constrained 49:4 construction 34:1,4,6,12,25 35:11,24 36:10 36:20 37:5 39:6 39:11,17,19,22 39:24 40:2,6,11 41:2,5,7,14,23 41:24 42:8 44:3 45:12,23 46:4,6 46:8,25 47:22	48:13 construed 39:4 consultant 17:2 contact 21:23 50:1,12,22 106:7,15 107:16 107:18,23 108:1 108:25 110:23 114:17 116:1 122:17 contacting 109:3,7 115:2 contained 14:12 contentious 49:8 contents 12:1 context 41:23 41:24 55:17 continue 22:23 27:15 52:7 87:6 94:19 121:18 165:16 continued 9:4 9:22 10:2 38:24 42:21 78:24 116:9 121:16 137:3 138:4 142:9,15,22 144:20 147:18 148:5 182:4,9 continuing 28:1 contour 24:24 24:25 25:25 26:1 102:20
---	--	---	--

contoured 25:17	correctly 6:7 64:12	111:4,6,16 113:8,18,19	111:15 138:19 166:15 171:13
control 17:13	correspond 69:1 175:1	119:1,3,13,17 119:20,21,22	173:15 179:16 181:18,21
conveniently 159:4	corresponding 61:3,21 64:5 73:8,25 155:4	120:5,10,18,22 120:22 121:3,10 144:9 146:19,20 166:15 174:16	cuts 49:18 51:18 81:7,15 111:21 113:2,20 119:6 119:10 121:6 138:24 160:13 181:3
conventionally 99:19	corresponds 61:10 62:14 65:14 66:18 68:12,13	created 87:20 113:6 118:13,14 119:21 120:24 128:5 176:10	cutter 12:25 13:9 81:11 181:6
conversation 24:5 84:17 140:14	cortical 28:10 81:8,17 169:9 181:4	creates 110:21 creating 114:13 119:10	cutters 17:5 cutting 14:8 17:16 18:13 20:11,14,18,19 21:7,10 22:18 28:16,18 29:20 29:24 30:7 31:8 31:15 34:14 35:6,7,8,17,21 37:1,3,17 38:9 38:11 49:15,16 49:25 50:3,15 50:17,24 51:4 51:10,13,16,20 51:21 81:19 93:2,17 103:23 107:15 108:7 109:9 111:17 113:6,17,18 114:20,21,25 115:2,14,15,15 118:20,21,25
converted 149:19	coughed 168:5	cross 62:3 111:23 118:3,3 167:23 174:4	
convoluted 31:1	counsel 2:4 7:20 12:10 32:21 54:15 76:14 79:25 141:20 183:8	crossover 140:19	
coordinating 160:10	count 96:9	crystallizing 41:25	
copy 11:18 84:14 117:5,15 137:23	counterpart 64:2,24 65:3	current 43:18	
corners 96:5	couple 7:17,25 14:4 21:5	currently 41:20 65:13	
corporation 3:22 183:19	coupled 162:3	custom 13:22	
correct 6:10 7:14 9:15,20 10:14,17 16:15 33:17,19 38:6 56:10 58:24 62:10,11 64:14 66:16 67:17,18 68:15 76:6,7 77:13 78:18 81:4 98:16 103:18 106:4 114:14 116:1,2 141:15 142:19 154:19	court 3:21 183:4 183:10,11,13	customary 147:14	
	cover 12:21	cut 18:20 21:11 22:19 26:15 28:18 50:24 51:5,10,13 106:7,9 108:18 108:21 109:10 109:11 110:24	
	covered 9:7		
	create 13:25 22:19 85:19,23 86:2,4,16 108:13 110:14 110:21,24 111:1		

119:17 120:18 122:18 123:6,12 123:14,18,19,22 124:6,10,11 125:1 143:21,22 144:1,1,4,8 145:13,25 146:4 146:6,8 160:15 164:23 166:10 167:8 168:10,11 171:12,13,20,23 171:23,24 172:1 173:6,7 177:24 178:17 179:3,15 179:16,20 180:9 180:12,15 181:7 181:17 cylinder 25:4 98:5 cylindrical 14:18,19 15:16	decision 6:23 43:3,5,7 47:7 120:16 154:12 154:13,15,16 decla 36:11 declara 48:13 declaration 6:22,24 7:14 19:21 31:19 32:3 33:9 35:14 36:11 37:5,13 39:3 42:2,2 44:16,17 45:17 45:23 46:16 48:7,15,21 49:6 75:4,5 79:2,17 79:23 80:2,3,10 81:20 83:1,18 84:5,20 89:2 90:21 91:15 92:19 96:20 97:2 98:14 99:2 103:5 105:9 112:17 125:15 128:15 129:3,9 129:10,22 130:9 131:2,3,7 132:22 135:24 141:10 143:2 158:1,9 164:13 decorticate 21:14 26:17 81:8 109:24 110:3 127:25 145:7 146:19	166:24 181:4,22 decorticated 81:10 89:24 181:5 decorticates 81:17 decorticating 160:20 decortication 20:19 deem 82:1,2,15 83:11 133:8 defend 96:20 defi 134:9 define 34:25 41:21,22 133:19 133:25 134:1 135:6 152:25 169:10,15 171:15 181:16 defined 41:18 170:24 172:17 172:17 181:15 181:25 defining 24:8 definition 33:8 35:12 37:19 41:19 42:1,7 44:13 47:10 134:10,21 135:2 135:4 155:11 deformities 23:8 degrees 107:21 110:2 111:6	delivery 113:3 demonstrating 40:20 dense 22:10 dep 96:17 depended 150:3 depending 54:10 depends 110:20 144:14 depict 128:12 depicted 60:25 61:5 127:23 128:10 deponent 4:3 deposed 8:10 deposition 1:13 2:1,7 6:18 7:21 8:9,13 84:10 93:22 96:17 120:14 148:8 183:5 depressible 155:7,18 describe 14:11 16:23 19:22 20:9 26:24 27:2 28:1 50:14 53:24 55:2,8 79:2 84:15 85:18 86:3 87:1 100:3 103:11,19 105:7,13 118:8 126:13,18 127:4 129:6 130:10
d			
d 6:12 13:20 183:4,17 dall 13:20 date 1:9 183:11 183:18 day 2:2 105:16 deal 146:17 148:12 165:19 decades 13:24 21:5 decide 24:16 decided 11:4			

132:3 140:13 153:20 described 23:23 33:10 40:8 59:23 102:21 110:9,23 111:9 114:1 127:13 128:21 129:17 129:20 131:1 153:4 154:3,7 162:6,12 177:18 describes 129:3 129:4 131:9 describing 39:13 40:4 50:12 103:11 118:11 139:13 description 4:12 43:19 44:8 47:16 176:17 descriptions 71:6 design 15:9 17:7 17:13 designed 14:10 16:18 17:1,14 21:17 158:18 designing 14:6 79:6 detail 154:3 175:4 detent 54:4 151:19 detents 78:14 149:4	determination 30:4,19 41:15 determine 30:2 41:17 63:13 122:9,9 165:6 develop 17:3 developed 13:22 17:1,15 developing 14:6 device 26:9,10 26:14,21 27:3 27:18 28:2 49:23,24 50:6 52:1,5 81:6,14 99:12,23 101:23 131:14 143:14 143:23 144:4,13 144:23 145:1,3 152:14 158:14 158:17,21 159:6 159:20 167:4 169:3,5 176:19 181:2 devices 53:15 diagram 107:3 142:3 diameter 18:1 dictionary 134:8,21 diff 83:14 differ 168:15 173:18 difference 77:22 163:19	differences 27:13 83:8,10 83:15,17 151:10 151:11 different 23:22 25:18 60:7 74:25 109:16 122:24 129:24 129:25 131:17 145:14,15 149:12 152:6 167:11,13 175:24 176:25 differentiate 47:3,5 differently 48:1 167:14 difficult 63:11 dilated 17:25 dilators 18:3 dimensioned 106:1 direct 10:24 91:14 129:16 146:25 161:4 166:8 direction 17:24 dis 66:15 155:6 disassembled 55:20 disc 16:11 21:4 25:12 138:20,22 138:25 139:1,6 139:9,23,25 140:2,5,7,9,10	140:16,20,23,23 141:1,1,3,4,9 165:14,16 disclose 102:22 102:22 115:19 165:13 disclosed 85:9 100:9,13,21 144:23 165:24 174:21 175:22 discloses 99:17 131:13 158:13 159:2 165:13 disclosure 100:2 102:2 159:10 disconnect 78:16 155:6,18 discs 136:3,6,11 136:16,22 139:15,17 140:17 141:13 discuss 84:20 98:4 101:7 discussed 23:1 60:3 66:19 101:17 105:16 112:17 113:18 119:1 120:5 153:7 164:8 167:23 168:10 175:3 177:23 180:17,18 181:20 discussing 35:16 110:15
--	---	---	---

discussion 28:13 36:2 42:9 43:13 44:14 49:8 121:18 148:4 158:5 159:23 163:18 168:9 174:11,15 disease 23:10 disk 4:13 dislodged 106:3 109:14 115:11 115:14 dispose 123:18 disposed 2:12 28:17 49:19 66:4,15 77:25 87:12 171:12 179:15 dissertation 11:1 distal 19:25 20:13 27:17,21 65:7,12 66:7,11 67:13,16 76:1,9 76:10 77:25 125:2 151:13,15 166:5 169:4 178:15 distally 20:23 178:17 distance 106:24 107:10 111:20 distilled 42:3 distilling 41:25	distinc 50:17 distinction 27:12 29:9 50:18 distinctions 151:2 distinguish 146:9 dive 9:14 doc 80:2 dock 25:13 127:18 docked 15:20 document 4:13 11:11,13,17 12:6,22 24:6 27:16 28:6 31:25 32:2,7,9 32:13 33:2 39:8 43:10,11,16 45:22 48:19 49:12,17 54:21 56:9 58:7 59:14 59:16,22 62:4 67:18 69:8 70:1 73:10,21 74:2,7 81:5 82:10 84:11 85:5,6,7 89:6,23 91:20 93:11 95:24 97:14 98:3 99:11 101:9,21 103:15 105:10 107:6 108:8 112:8,9,18	117:24 118:10 122:7 123:24 126:3 128:20 130:6 132:12 133:9 136:2 137:5,14 138:9 141:21 143:6 145:12 152:13 155:3 156:2,22 158:13 161:1 162:1 163:11,22 164:18 166:9 167:7 168:17 169:3 171:1,11 172:20 173:2,15 174:20 175:8 176:17 178:14 179:3,14 181:1 documents 7:11 11:15 76:14 84:22 86:22 117:16 147:10 doing 10:19 15:6,13 18:7 29:22 88:11 donner 84:8 89:16,18 90:10 90:11,21 91:9 91:11,19,23 92:14,20 93:6,9 93:16 96:12 97:4,6,12 100:2 100:10 101:15 102:2,21,24 103:3,4,12,16	105:8,12 112:1 112:10 113:23 114:9 115:19 118:20,23 119:4 119:9,14,16,16 120:18,22 121:2 121:5,11,18,19 121:24 125:20 125:21,25 126:4 126:16,24 127:23 128:10 128:19 129:8,18 129:23 130:1,4 130:14,22,23,24 132:1,4,17,17 132:19,23 133:6 133:11,14 158:1 158:8 159:11,14 159:15,21,24 160:13,22 161:13 162:24 163:9,12,21 164:4,12,22 165:3,7 166:1 174:15 177:14 177:20,23 donner's 118:21 120:4 128:24 130:6 131:10 door 170:7 double 34:18 61:23 178:15 dove 108:16 dr 36:10 42:23 45:4 80:14
--	---	---	---

90:17 91:1,15 91:22 draw 72:18,23 drewry 1:15 2:1 4:3 6:1,6,9,12 8:5,22 9:10 11:1 27:13 31:4,19 31:21 32:25 38:15 42:23,24 43:9,9 44:12 45:4,10 48:21 59:6,11 68:20 70:16,19 71:5 79:1 80:9,14 84:25 85:1 90:17 91:1,21 91:22 95:20 97:2 112:1,4,8 143:1 144:25 147:11,20 154:11 157:25 162:17 167:17 174:8 drewry's 36:10 91:15 drill 1:10 15:24 16:5 17:8 85:21 86:1,7,10,15,19 86:24,25,25 87:2,4,8,9,12,13 87:16,18,21 88:5,7,8,16,22 88:24 93:14 96:11 100:17 118:12	drive 6:14 driving 149:12 149:12 dual 113:1 119:17 120:4 duly 6:2 183:10 dystrophy 23:9 e e 3:1,1 15:17 142:18 183:1,1 e.g. 100:23 102:4 159:7 earlier 57:8 62:23 105:16 119:15 126:3 148:14 150:6 164:8 early 23:6 east 3:11 edge 21:7 28:17 28:17,18 33:5 33:16 34:14 35:4,6,7,7,17 36:5,13 37:2,2 37:18 39:9,15 39:20 40:8,14 40:19 41:1,4,10 42:5 43:22 45:18 49:15,16 49:17,19,20,21 49:23,25 50:2,3 50:5,7,20,21,22 50:24 51:5,10 51:13,20,21,23 122:4,9,12,14	122:16,18,21 123:2,4,6,12,14 123:15,18,19,19 123:20,22,23 124:2,6,9,10,11 124:12,16 125:1 125:3,6,8,10,11 144:1,8 145:13 146:6,8 166:10 166:11,13 168:11 171:12 171:12,13 172:3 172:16 173:6,14 173:19 177:24 177:24 179:4,15 179:15,16,20 180:1,5,6,9,9,12 180:13,14 181:17,17 edges 20:18,20 21:10 22:18 29:24 31:15 35:19 38:9 40:19 41:12 45:24 47:24 50:11,15,16,17 146:4 168:10 171:20 172:1 173:4 efficiency 100:1 102:1,6 103:1 159:9 165:5 efficiently 164:24	either 54:5 55:23 62:20 113:2 167:19 181:21 182:12 element 56:19 56:20 58:2 64:12,17,25 65:3,13,14,15 65:17,17 66:1,4 66:18 67:14,15 67:25 68:1,3,11 68:12,13,14,20 69:1,2,23,25 70:2,3 71:8 72:2 72:6,7,8 73:1,2 73:6,8,12,13,14 73:15,17,19 74:4,19,20 75:11,13,21,24 76:4,8,11,12 78:16,17 105:24 153:9 178:17,24 178:24 179:13 179:13,19 elements 58:3 69:1 77:23 106:14,25 153:11 embed 108:17 embedded 115:16 embodied 98:15 embodiment 65:20 66:6,12 69:11 85:20
---	--	--	--

86:6,8 87:17 97:24 98:2,17 98:21,22 112:16 112:24 113:23 113:24,25 114:2 114:15 143:17 160:12 162:6,10 embodiments 86:15,17 87:2,4 87:5,16 88:6,7 88:22,23 162:7 162:13 employee 17:1 183:8 empty 44:10 45:13 47:18 enables 52:11 152:16 enclosed 173:3 encounter 21:20 encountered 29:5 57:5 ended 163:11 endplate 21:2 22:1 139:5,7 140:18 141:1 ends 26:4 126:23 146:3 149:2 engaged 14:6 77:21 109:12,14 engages 78:7 engineers 17:15 english 133:21	enter 17:24 18:4 127:24 entered 10:1 137:21 entire 34:24 80:18 165:17 entirety 33:23 34:9 environment 26:18 envision 126:19 127:12 equivalence 71:21 72:16,17 72:22 equivalent 67:20 68:3,6 69:24 70:3,12 70:24 71:7,16 71:19,24 72:7 74:16,20 75:7 75:12,15 77:11 77:24 78:3 equivalents 76:12 150:15,19 esq 3:4,10,10 established 157:14 et 153:12 evacuated 29:21 everybody 96:24 evidence 41:8 49:1	evidenced 183:11 evolution 83:23 evolved 82:21 ex 131:8,8 exact 86:13,20 86:21 131:2 132:21 133:20 154:2 exactech 10:13 exactly 44:14 74:8 79:21 87:3 87:13 113:13 138:21 151:7 165:7 exam 174:4 examination 4:1 6:4 148:6 examined 6:2 examiner 83:21 examining 11:17 12:6,22 24:6 27:16 28:6 32:2,9 33:2 39:8 43:11,16 45:22 49:12,17 54:21 56:9 58:7 59:16 59:22 62:4 67:18 69:8 70:1 73:10,21 74:2,7 81:5 82:10 84:11 85:7 86:22 89:6,23 91:20 93:11 95:24 97:14	98:3 99:11 101:9,21 103:15 105:10 107:6 108:8 112:9,18 117:24 118:10 122:7 123:24 126:3 128:20 130:6 132:12 133:9 136:2 137:14 138:9 143:6 145:12 152:13 155:3 156:2,22 158:13 161:1 162:1 163:11,22 164:18 166:9 167:7 168:17 169:3 171:1,11 172:20 173:2,15 174:20 175:8 176:17 178:14 179:3,14 181:1 example 40:24 43:21 50:9 86:24 100:16,24 101:13,24 126:5 176:18 177:6 examples 38:7 except 2:11 114:1 exclude 157:21 excuse 132:6 152:24 153:4,24 154:4 159:20 161:25 177:10
---	---	--	---

178:24 exhibit 4:11,12 4:13 9:12 31:19 48:20 59:10,12 85:2 112:5 116:16,17 136:24 137:4,6 137:8,12,17,20 141:22 158:1,1 162:18,25 163:2 167:18,24 174:3 174:8 177:20 exhibits 147:20 exit 107:14 109:14 114:22 115:1,11,11,15 expect 134:9 144:12 experience 13:17 16:14,20 23:4,19 29:5 53:11,15 79:6 80:1 82:11 148:9,11 151:25 experiences 23:1 expert 9:14 10:13 96:18 expiration 183:11,18 expl 37:4 explain 12:17 12:19 33:20 34:10 37:24 52:8 55:12 56:6	57:3 76:23 78:10 80:4 81:12 96:18 109:21 125:25 126:15 130:16 explained 47:23 122:8 131:10,24 explaining 76:19,21 explains 103:3 129:9,16 133:5 explanation 31:5 80:11 84:4 131:2,3,9 133:8 explanatory 28:12 explicitly 48:25 82:16 exploded 103:22 exposed 33:4,16 35:4 36:5,12 39:9,15,20 40:7 40:14,19 41:1 42:5 43:22 45:18 expressed 157:18 expressly 169:11 extend 25:11 extensive 14:20 14:22 extent 13:17	external 58:21 extract 150:24 extraction 20:5 99:13 131:15 158:16,22 f f 183:1 face 44:7 47:15 fact 83:25 87:15 92:19 93:5 103:1 169:25 170:16,17 factors 151:21 factual 96:21 139:22 failed 11:6 fair 8:19,20 11:25 12:1 20:7 22:21,22,24 31:17 33:17 35:25 96:14 fairly 11:25 fall 41:5 155:11 falls 41:1 familiar 11:16 11:25 32:1 33:25 59:15 84:16 135:12,16 135:18 138:8 140:15 far 173:1 175:25 fastener 11:2 feature 53:13 61:9,10 130:25 135:7	featured 113:4 features 61:5 62:13,15 113:25 153:2 159:13 162:6,11,12 federal 2:8 feedback 80:1 feel 49:3,4 50:6 feels 176:6 femur 138:16 138:18 field 79:5 82:12 fig 61:8,9 figure 9:2 54:13 54:14,16,20,22 55:4,15,17 56:2 56:3,4,6,6,8 58:2,5 59:19,21 59:24 60:8,22 60:24,25 61:6 61:10,11,13,15 61:16,19,21 62:10,13,14,15 62:18 63:7,16 63:17 64:3,7,7,9 64:10,11,15,16 64:22 65:2,15 65:20,25 66:3 66:12,17 67:3 67:25 68:3,6,7 69:1,2,5,7,8,16 69:20,23,24,25 70:2,3,14,17 71:8,8,15,16,19 71:25 72:6,7,15
---	--	---	--

72:16,19,20,24 72:25 73:2,7,8 73:10,11,13,14 73:15,17,19 74:1,3,4,15,16 74:21 75:7,8,11 75:13,14,15,19 76:4 77:4,10,12 77:17,20 86:24 103:14,20 104:4 105:7,8,11 117:20,23 118:4 118:9 119:2,6 119:11 120:3,10 122:2,4,14,15 122:20 123:9,21 124:2,2 130:1 143:4 145:19 150:6,6,8,9 151:2,3,7,7,8,17 151:23,24 152:21 153:1,4 153:20 154:3,4 154:13 155:10 157:5 160:22,25 161:20 163:6,8 163:8,13,20,20 166:2 167:1,3,5 167:15 168:3,16 168:23 172:8,24 173:17,18,20 174:12 175:7 176:9,23 177:10 177:24 181:9	figures 59:19 64:19 71:6 72:25 113:24 114:1 118:25 128:10 143:7 162:1 176:19,20 178:19,20 180:7 filed 9:18 final 146:20 finally 25:17 financially 183:8 find 33:3 35:2 43:17 83:13,14 106:21 125:15 finding 141:20 fine 125:8 147:2 147:15 finish 44:1 170:21 finished 144:22 firm 3:21 first 6:2 12:9,22 12:23 13:1,3,23 14:3 16:14,16 21:6 24:4,16,18 24:24,24 25:25 26:1 28:4,7 33:1 34:3 35:23 41:16 43:14 49:21,25 50:3 50:11,22 64:3 91:21 122:11,18 122:25 124:5 132:22 146:6,8	152:24 158:11 164:16 169:6 fit 21:12 25:21 five 11:23 89:11 97:16 99:9 fixed 25:14 52:16,25 53:4,8 53:19 57:16,18 128:25 149:7,20 149:25 152:2,5 flag 137:12 flat 106:16 111:4 flatter 25:19 flip 11:12 12:3 31:24,24 32:10 38:19 43:12 44:18 59:14 84:5 florida 3:12 flush 115:7 focus 129:25 174:12 focused 50:19 follow 12:11 21:8 29:2 85:25 88:1 90:16 107:1 128:4 144:9 followed 20:15 following 34:8,9 55:14 82:4 97:3 154:1 169:1,2 176:17,21 183:11	follows 6:2 9:4 9:22 10:3 38:24 42:21 78:24 116:9 121:16 137:3 138:4 142:9,15,22 144:20 147:18 148:5 182:4,9 force 20:5 131:14 158:15 forefather 13:21 forget 124:10 forgive 22:3 form 2:11 103:25 113:21 181:22 formalities 2:9 forming 12:24 13:7 81:9 181:5 forms 2:9 81:17 found 10:23 11:5 79:16 four 8:3 89:11 128:13 162:3 frain 65:24 fresno 3:5 front 20:12 30:15,24 31:14 49:11 69:7 98:5 101:1 130:2 145:13,23 146:17 158:3 180:6 fruit 3:5
--	--	--	--

full 6:11 11:18 17:13 43:14 fully 8:16 136:15 function 19:16 19:23 24:15 55:10,16 57:16 58:17 67:22 78:12 110:9,17 111:8 114:11,21 129:1 131:22 149:18 152:1 160:14,19 166:13,18 167:14 functional 75:12 77:11 114:5 150:15,18 functionalities 164:24 functionality 165:10 functionally 67:20 71:16 74:16 77:24 78:3 functions 60:24 61:4 62:9 70:7 77:19 87:8 90:20 96:2,4,8 97:18 129:1 160:1,7 173:21 181:24 further 19:25 20:13 24:24	35:10 129:22 131:24 143:19 144:1 155:3 171:15 175:3 182:10 183:7,10 183:12 fuse 21:24 23:14 23:15,15 175:23 fused 23:25,25 fusing 1:10 fusion 7:6 13:22 13:24 16:15 21:17 23:2,5,23 51:3 82:20 99:14 120:2 126:2 135:12 158:23 164:25 165:15,18,19,20 165:25 175:24	143:16 162:15 167:13 173:25 175:11,12 176:3 gestures 8:14 getting 18:18 36:6 135:10 170:16 give 40:24,24 59:10 79:4 97:13 104:3 111:22 125:14 126:24 133:24 136:25 162:17 given 17:10 118:3 gives 25:14 go 9:1 12:16,18 12:20 15:15 16:9 22:8 23:12 23:19 25:12 26:24 27:2 29:15 31:21 32:4 48:15 49:14 54:13 56:2,3 57:23 59:19 60:20 64:8 69:13,19 70:5 71:10 72:9 74:11 77:2,3 80:18 81:20,21 82:25 86:21 94:7 99:1 103:4 103:5,12 105:5 110:1,2 111:6 112:11 115:6	116:7,11 121:6 121:7,8,19 122:2 123:16 128:14 130:1 135:23 143:1 144:5 152:8,21 152:25 154:10 154:10,22 155:22 158:25 159:23,24 160:22 161:6,12 163:6 164:13 165:12 166:2 168:3,19 169:25 170:23 172:8 174:6,6,16 175:6,6 176:13 177:20 178:19 179:7 goal 17:17 god 13:19 goes 25:9 34:13 36:3 83:19 87:1 108:16 going 8:15,18 9:17,19 15:21 24:16,17 25:1 28:1 51:4 58:2 74:22 76:2 77:9 78:20 82:4 91:6 93:18 94:7 96:19 102:3 106:14 108:13 116:4 124:5,6 126:14 142:1
	g		
	gap 171:19 general 84:17 158:18 174:23 generally 82:5,8 82:14,15,18 118:2 generation 17:3 geometrical 174:22 geometries 175:14 176:1 geometry 21:12 25:4 54:4 108:14 111:7 113:8 119:22		

144:6,11,17 170:13,19 180:16 good 14:24 106:21 121:13 gotten 170:7 government 137:15 graft 23:21 111:24 175:2 greater 175:3 grooves 108:14 108:18,21 111:21 ground 8:9 9:7 84:7,8,16 101:1 grounded 36:16 grounds 80:5,6 80:10,11,12 85:12 grouped 101:18 guess 6:22 19:25 20:17 22:7 28:1 28:13 37:15 49:21 50:13 53:6 60:12 82:18 85:13 86:5 87:15 101:7 122:18 135:9 143:18 145:14,25 146:24 147:13 152:7 guide 15:11,22 87:9,10,11 94:6	94:17 guys 146:23 h h 59:9 half 147:2,4,7 hammer 18:14 18:17,23 19:1,4 19:5,8,10,14,16 19:17,18,20,24 20:4,6 51:25 52:4,10,12,16 52:17,17,20,21 53:2,4,6,10,10 53:17,19,22,25 54:5,9,25 55:3,8 55:13,16,18,20 56:11,11,12,16 56:24 57:1,4,5,9 57:14,25 58:10 58:18,23 59:2 59:22 60:2,5,14 60:16,19,24,25 61:14,15 62:9,9 63:15,23 64:1 64:13,18 65:1 65:19,25 66:10 66:13 67:16,24 69:9,16 71:15 72:12,19 73:11 73:12,15,16 74:11,15 75:8 75:18 77:12,18 77:20 78:7,11 78:14 92:25 93:15,16 96:10	99:12,23 101:22 103:24 104:2,5 104:7,12,13,17 104:19,23,23,25 105:3 126:8,24 127:3,23 128:3 128:18,22,23,24 128:25 129:1,8 129:14,20,23 130:7,7,8,14,15 130:17,24,25 131:10,11,14,20 131:22,24,25 132:3,5,15,18 132:19,23,24 133:6,7,10 135:8 148:10 149:5,7,17,19 149:22 150:20 150:22 151:2,3 151:17 152:13 152:15,17,19 153:3,12,20 155:8 158:14,17 158:21 159:6,15 164:4,22,24 181:8 hammers 53:12 53:12,23 62:23 99:19,19 148:12 148:15 159:4,4 hand 8:5,14 38:14 42:22 59:5 111:25 112:1 137:8,25	138:18,19 154:11 handed 11:12 50:5 handing 9:11 59:11 112:4 handle 16:10 54:25 55:22 57:16,18 104:12 126:24 127:22 149:20,25 151:14,15 152:2 152:16 157:14 159:17 162:3,5 happened 20:2 happens 115:3 happy 18:24 42:11 84:20 152:5 hard 122:7 145:23 147:22 hash 171:24 he'll 146:24 head 20:3,6 27:17,18,21 28:2,5,15 29:3,6 29:10 30:18 33:4,15,17,24 35:3 39:9,14,20 40:7,13,18,23 42:4 44:9,10 45:17 47:17,18 50:10 54:24 55:22 56:18 75:16 103:23
---	---	---	---

106:4,6,12,14 108:7 109:15,23 110:6,13 111:2 112:23 113:17 113:18,25 114:4 114:22,25 115:10,14,20,24 118:20,21,25 119:9,17 120:4 120:9,18 160:5 162:2,5,10 169:4,5 178:14 178:16 181:8 headphone 170:6 headpiece 32:15 heads 30:1,12 headset 170:12 heal 21:24 hear 36:9 51:12 169:22 173:11 hearing 2:12 height 111:10 111:12 help 13:14 120:15 henderson 3:11 3:16 hereto 137:7 hill 3:11,16 hip 29:14,16 31:7 hired 17:2 history 7:2 35:9	hit 124:5 hits 122:25 hold 53:18 126:21 148:3 149:6,25 153:23 157:8 holds 57:21 hole 86:16 87:20 119:21 home 6:13 honest 6:16 honestly 77:8 hoping 147:24 hotel 2:5 hour 8:12 42:18 78:21 144:18 147:2,4,7 hours 7:12 8:3 11:19,23 huh 38:13 77:1 151:9 161:14 164:11 166:20 181:19 hump 23:17 hwlaw.com 3:13,13 hypothetical 120:25	identification 85:15 identified 61:13 61:18,19 63:1 64:25 68:1 71:23 79:12 85:14 86:1 98:14 100:25 104:6 106:1 115:3 identify 15:7,14 17:22 50:7 58:3 58:3 60:8 62:12 62:16 63:9,25 64:2,4,5 65:16 68:25 71:20 73:2,3,6,7 74:19 74:20 77:4 79:9 79:19 82:13 83:10,17 86:20 88:4 91:2,17 92:13,22 93:8 93:19,25 94:22 94:24 95:3,19 95:20 96:22 97:10 98:23 100:7,11,17,19 101:3 104:1 105:19 106:7 108:6 125:8,9 138:21 ignorance 22:3 ii 83:4 iliac 24:24 26:1 81:16 102:20	ilium 23:13 25:19 26:2,2 81:8 113:2 127:18 136:4 139:3,10,18 141:14 181:3,22 illustrated 19:21 illustration 19:10 image 138:8,11 138:14,18,19,24 140:25 163:13 166:19 imagine 40:17 immediately 40:12 impact 131:22 162:4 impacting 87:11 impaction 99:13 131:15 158:15 158:22 impactor 99:12 99:18,23 101:22 131:13,20 158:14,20 159:3 159:6 implant 12:24 13:7,23 14:7 15:15 16:6,10 16:16 17:4 18:9 18:10,11,25 19:1 21:12,12 21:15,23 22:20
--	---	--	--

24:8,13 26:19 30:8,11 81:10 81:17,18 85:19 85:22 89:25 108:14,16 110:4 110:14,20,22,24 111:13 113:3,8 113:9,10,11,12 114:13 117:25 118:1,13,14,17 119:19 128:4 144:10 146:20 160:6,12,21 165:1 166:16 173:16 175:12 175:13 176:1,3 181:5,23 implants 79:6,7 82:21,23 165:15 175:24 improvements 100:1 102:1,6 102:25 159:9 165:5 inadvertently 149:16 incising 174:24 175:1 incision 18:1 127:11,15 include 139:5 162:6 171:2 included 6:24 7:6 84:20 92:24 101:16	includes 99:18 113:25 114:2 131:20 159:3 162:2 164:22,23 178:15 including 2:9 83:18 129:7,17 131:18 153:11 165:24 inconsistent 157:20 incorporated 165:10 incorrect 68:9 increase 18:1 independent 12:9 index 4:1,11,20 indicated 62:7 63:17 indicates 86:20 indicating 60:6 individual 15:8 information 6:24,25 30:17 46:21 77:15 initial 14:18 initially 15:10 97:18 144:5 initiates 24:12 injury 121:9 inn 2:4 insert 111:3 inserted 106:12	inserter 16:9 18:11 19:1 inserting 25:24 126:21 127:9,16 insertion 13:1 15:14,18 16:7 17:21 24:7,7,18 24:21,22,23,25 25:8,10,24,25 81:10,18 85:15 102:20 118:16 127:14,15 164:25 181:6 inside 35:8 41:11 81:9 181:4 instance 166:6 instances 25:3 institution 43:2 43:5,7 47:7 instrument 12:25 13:9,22 14:7,11 15:5,5,8 15:25 16:16,25 17:8,16 18:7,12 19:12,13,15,16 19:21 20:2,9,21 21:13,16 25:13 27:22,23 28:23 29:6 30:13,16 30:18 31:8,10 31:11,12,13 35:18 37:9 49:22 50:8 51:2 52:5 53:1,19	54:6,6,24 55:1 56:17,23 57:9 57:11,17,19,21 59:3,25 60:3,5 60:21 62:24 68:21,23 73:22 74:10,25 75:1 81:11,15,19 87:21 93:16 96:12 103:22,23 103:25 104:18 107:21 108:19 109:17 110:1 111:10 119:19 120:24 121:8,10 123:6 126:4,5,7 126:23 127:2,19 127:20,22 128:1 130:22,23,23 131:15 132:16 132:18 145:13 145:24 146:1 149:2,6,14,25 150:3,4,24 158:16 159:18 164:10 165:11 175:12 181:7 instrumentation 17:6 instruments 13:25 14:1,8,10 14:14,17 15:7 15:22 16:4 18:4 18:14,18 19:2 20:8 25:6,15
---	---	--	--

29:1 30:14,24 30:25 31:6 51:16 53:17,18 56:16 82:24 85:23 86:2,4 96:11 99:14 102:24 103:2 120:20 121:2,4 131:18 132:15 148:16,18 150:15,20 158:23 164:9 165:14,24 intended 15:1 24:8 109:22 110:5,11,14,16 110:16 114:11 114:21 115:10 115:11 118:21 119:18 inter 140:1 interact 55:9 interaction 58:21 interbody 148:16,17,17 interchanging 37:15 interested 183:8 interface 141:1 interior 106:23 internal 41:10 58:17,22 interpret 155:4 162:9 172:23	175:9 176:23 interpretation 43:17,20 45:1 45:14,16,19,25 46:10,11,15,19 47:2,8,20 48:5 150:18 interrupt 86:9 91:25 93:3 126:11 129:15 interruption 9:21 intervertebral 4:13 136:3,6,11 136:16,22 138:20,22 139:1 139:6,9,15,16 139:17,23 140:1 140:2,5,7,16,17 140:23 141:7,13 165:14 intimately 25:21 intra 112:25 intradiscal 14:14 82:19 intramedullary 29:15 intraver 138:22 intrinsic 41:8 introducing 24:21 26:9 invalidity 79:8 80:4,5 85:11 88:9	invention 44:9 47:17 involve 17:8 involved 16:24 17:19 19:17 59:1 132:4 involves 36:12 45:12 ip 3:4 ipr 9:15 10:18 11:4 94:5 ipr2022-00625 1:8 ipr2022-00840 10:12 iprs 10:5 irrigation 115:7 issue 1:9	28:11,19 35:8 50:25 51:6,14 51:17,19 79:7 79:13 81:6,9,15 81:16 82:20,24 83:22,22,23 84:1 89:16,16 89:17,18,19 91:9,9,10,11,12 97:4,5,5,6,7 99:14 100:2 102:2 105:17 106:13 107:22 109:23,24 110:6 111:3,13 112:25 113:19 118:12 120:1 125:19,20 125:21,22,23 126:2,15,20,21 127:17 128:3 135:12,13 136:5 139:3,4,5,9,12 139:19,24,25 140:9,12 141:15 145:3 158:23 159:10 160:15 164:21,25 165:2 165:19,25 169:9 171:14 175:24 179:17 181:2,5 joints 29:19 145:1 175:23 jump 7:13 june 1:9
---	---	---	--

k	103:22 105:16	175:25 180:6	171:12 172:1,2
k 3:4 15:11,13	105:21,24,24	knowing 40:9	172:13,19 173:9
15:21 16:2,4	106:16 107:6,23	40:11	173:14 177:5,16
17:25 18:1	108:16 115:7	knowledge 82:6	177:24 179:15
kalamazoo	118:12 122:7	82:16 121:1	179:23 180:1,9
13:21	123:1,8,9,12	183:6	180:13,14
keel 113:1,21	124:25 126:6	known 82:5,9	181:11,17
114:20 119:6,10	138:17 145:14	82:14,15,19	learned 20:25
120:4 160:12	145:18,25	177:12	21:5 53:18
keels 108:15	148:11,12,23	l	leaving 17:14
110:25 111:8,14	149:4,11 151:13	l 13:20,20	left 49:14 107:5
113:4,8,10,12	151:21,21	labs 13:25	109:18 138:18
113:13,16	155:17,17	lack 31:15	legal 79:14
114:14 115:2	160:18 167:12	landscape 79:14	length 15:3
119:14,17,18	173:2	language 46:1,2	118:3 149:24
160:13	knew 18:10	153:13 157:6,10	150:2
keep 23:16	23:24 31:6	157:20 171:21	lengths 111:11
50:17 56:10,25	82:23	latch 155:7	licensed 183:10
63:24 77:23	know 8:10,11	lateral 138:15	light 28:13
78:2 95:13,15	8:23 22:5 23:6	law 3:4	33:10 39:12
111:4 112:2	23:17 24:11	layer 140:10	41:7,22 42:9
116:4 134:17	29:22 30:17	laying 15:12	49:2
170:13,18	31:11 32:15,19	lcr 3:22	liked 53:18,20
kelly 3:16 9:25	38:20 42:12	lead 49:21 88:23	likewise 174:22
10:1	47:3,3 56:14	leading 28:17	lim 51:24
kennedy 3:11	73:21 92:16	35:7 49:19,20	limitation 11:6
kids 23:16	102:17 105:22	49:23 50:2,4,5,7	12:17,17,20,20
kind 13:21 16:7	109:25 116:13	50:16,20,21	27:6 33:11
19:7,18 20:9,15	117:13 118:2	51:23 122:4,9	50:23 51:1,25
22:5,8,9 23:20	130:16 132:13	122:11,14,16,21	80:25 81:3
24:12 25:2,13	132:14 135:3,6	123:1,15,19,19	123:20 157:17
25:14 30:17	136:17,19	123:23 124:2,9	157:18 162:7
35:20 54:7	142:17 146:25	124:12,16 125:3	171:8,10 180:8
56:12 58:8	149:10 157:20	125:6,8,9,11	180:8,17 181:9
79:14 85:13	160:18 162:14	166:10,13	

limitations 27:2 27:9,10 82:13 85:17 153:2 limited 94:3,10 95:9 169:11 line 12:5,11,13 12:22 26:21 27:15 37:16,16 37:17 48:16 81:1 86:14 87:5 123:10,11 168:23 171:9 172:12 174:3 178:6,8,17 179:12 180:19 lines 27:19 33:12 89:11 99:9 123:18 152:11 153:22 168:25 169:1,2 171:9 174:17 176:16 180:10 link 83:25 listed 7:3 95:18 litigation 50:19 little 8:23,24 11:4 12:21 23:22 25:19,19 26:3 31:1 43:20 78:20 109:16 122:24 123:7 144:18 167:13 170:2 llc 1:6 2:3	locate 178:23 located 24:15 51:22 64:13,17 65:1,5,9 67:11 67:14,16 75:17 75:21,24 76:5,9 locating 13:1 24:4,6 163:1 location 18:24 24:8,18 35:5 65:16,18 86:13 86:21 lock 54:9 57:9 57:11 63:20 69:14 70:6 130:8 149:2,3 152:2 lockable 53:12 locked 52:16,19 52:21,25 53:23 56:24 57:13 58:1 60:15 62:19,21,25 63:7,15 65:21 66:1,7,10,13 69:10,17 77:19 78:8 131:21 148:14 149:7,19 151:15,18 152:16,19 159:16 locking 53:9,24 55:24 57:14 59:22 60:4,20 72:11,15 74:10	104:22,23,25 129:21 130:8,25 131:21 132:14 132:18 148:21 148:23 149:12 149:21 150:21 150:21 151:12 151:23 153:3,11 154:7 locks 58:12,20 60:21 63:21 67:23 68:21 lodged 18:16,18 114:22 long 8:2 14:20 20:2 97:14 116:5 132:12 147:1 longer 62:24 look 7:2 11:11 11:13,15,16 31:7,8,13,14 32:1 35:17 39:5 40:10 50:6 55:7 55:15 59:15 60:20 69:2 85:5 86:21 89:1 103:4 104:15 107:2,2,5 112:15 117:20 118:4 119:25 120:2 123:9,15 124:1 125:14 134:8 138:8 140:22 143:18	145:16,19,21 147:10 150:5,7 158:8 167:1 looked 19:22 31:12 37:12 looking 38:21 41:24 48:19,20 60:11 72:15,25 86:13 113:17 120:3 122:20 123:21 125:7 127:5 129:15 131:8 132:7,24 141:6 looks 25:6 104:16 118:2 119:3 144:14 lot 29:22 41:23 64:6 loud 112:3 148:3 170:7 louder 170:2,10 lower 139:7 lunch 121:15 lytvyn 3:10 4:3 5:4,4,5,5,6,6,7,7 5:8,8,9,9,10,10 5:11,11 6:5 8:5 8:8,22 9:1,5 10:4,9 12:12,15 27:4,7,14 30:22 31:2,18,23 32:19,22,24 36:4,10,14,18 38:12,14,18,20
--	---	--	---

38:25 39:2	154:18 158:5	making 30:3	62:21 70:7
42:13,17,19,22	161:3,16 162:23	98:4 122:17	82:10 109:17
42:25 43:2,5,8	163:1,10 164:5	151:22	115:5 116:5,6
44:22,25 45:3,6	166:7,21 167:6	man 116:25	119:13,19,20
45:9 48:20,23	168:9 172:11,19	manners 165:22	126:6 129:4
54:16,19 59:5,9	173:9 174:2,11	marked 9:12	130:16 139:25
59:13 66:23	177:3,5,16,23	59:12 85:1	147:6,13,13,23
67:2,4,6,10	179:23 180:3,5	112:5 137:6	150:17 152:1
68:18,22,24	181:11 182:6,11	martz 143:11	153:10,21 162:9
70:9,13,15,18	m	144:24 167:18	170:17 174:24
70:21,23 71:3,4	m 59:9	167:21,22 171:2	177:4
73:5,19,24	made 14:2 19:2	171:20,23	meaning 50:23
74:13 76:16,20	53:23,25 58:18	match 110:22	176:25
76:23 77:5	62:23 80:17	113:9 155:21	meaningless
78:20,25 80:9	83:7,20 97:2	175:12	123:20 180:9
80:14,16 84:24	176:2,2	matches 128:5	means 12:20
85:4 88:25 90:5	mail 142:18	matching 64:23	33:3 35:3 40:19
90:17 91:1,5,14	main 55:2 121:5	material 7:17	41:17 45:2 52:9
91:16 92:9,12	maintain 75:9	11:6 22:14	52:20 57:24
94:20 95:6,8,10	76:11 111:12	31:15 35:20	58:4,10,15,24
95:14,17,21	maintains	38:3 40:22	59:2 129:21
97:15,20 108:4	111:10,21	41:11 140:19	130:8 131:5
108:5 111:25	make 8:12,21,24	materials 6:19	152:18 155:5
112:7 116:10,23	15:2 27:11	6:21 49:1	177:6
117:10 121:13	30:18 45:11	mating 155:5	meant 33:21
121:17 122:1	48:2 61:24	matter 92:18,19	129:13 133:3
132:8,10,20	77:16 107:16	93:4,5	mechan 131:21
136:24 137:8,10	108:24 113:1	mccullough	mechanical
137:20,23,24	114:17 120:16	3:22 183:4,17	150:2
138:6,7 141:23	122:12 126:25	mean 13:5	mechanism
142:1,5,10,12	127:15 144:13	14:24 37:25	17:22 20:1 53:9
142:16,24,25	152:2	39:12 40:16,23	53:25 54:25
144:17,21	makes 44:8	42:11 48:13	55:1,3 60:20
146:21 147:4,6	47:16 50:22	50:15 53:16	74:9 85:15
147:12,16 148:9	126:9 139:12	57:18 58:16,17	105:1 131:21

151:12,19,23,23 153:3,12 154:7 155:9,16 mechanisms 148:21,23 149:13,21 150:21 152:3,6 medtronic 17:2 17:3 meet 123:11 124:18 147:11 meeting 125:3 meets 124:24 125:1 member 72:11 174:24 175:1 members 28:10 169:8 memorialized 80:2 memphis 3:23 6:14 183:20 mention 43:21 119:16 157:1 mentioned 7:1 16:19 20:8 25:2 26:14,17 35:17 37:6 57:8 62:23 79:12 101:11 119:15 127:3 137:5 148:14,19 148:20 151:20 153:7 157:17 mentions 37:7 86:7,10,19	messed 167:2 metal 25:11 method 1:10 12:23,25 24:2,3 85:18 89:17 91:10 97:5 99:25 101:25 102:5,14,19,25 103:17 120:3,3 125:20 126:2,16 129:21 132:1 133:13,16,16,17 133:19,20,22,25 134:1,6,9,21,22 134:23 135:3,4 135:5 159:8 165:4 175:22 176:18 methods 13:18 24:1 128:19 133:11 165:13 165:15,25 mic 8:23 michigan 13:21 14:3 mind 24:13 mine 47:1,23 minutes 33:11 75:6 97:16 147:12,14,15 182:5 mischaracteri... 122:12 mississippi 183:2,5,10	misspoke 30:11 68:14 misstate 45:4,7 misstated 69:18 misstatement 91:7 misstates 44:20 44:24 68:19 90:3 91:3 95:5 mistaken 63:21 117:25 modification 129:3,16 131:9 163:18 modifications 15:2 modified 14:15 modify 128:24 139:20 175:11 modular 131:17 132:14 motion 22:7 53:1 57:20,22 58:20 67:24 motivate 164:2 move 8:23 13:2 22:13,25 24:2 24:20 25:13 27:5 28:14 42:15 49:10 51:24 52:18 53:10 98:13 135:9 150:22 154:6	moved 20:5 movement 63:22 moving 149:19 muffled 147:23 156:17 multiple 20:19 20:23 22:18 35:15 89:19 90:13,23 91:12 92:21,22,24 93:6,24 94:21 94:23 95:1,11 96:6,13 97:8 98:7,11,18 104:9 118:11 125:23 132:15 144:4 176:1 mumbly 169:24 muscular 23:9 23:10
			n
			n 3:1 15:17 name 6:11 13:20 63:10 73:6 100:8 104:3 183:11 names 100:19 necessarily 170:8 necessary 85:22 need 8:10 18:23 24:14 30:17 33:22 55:17 76:18 77:15

84:14,22 93:20 96:10 111:23 114:17 116:4,4 139:4 147:11 169:20 170:1 needed 17:12 18:9,10 19:2 23:25 128:2 150:1,2,25 needing 181:9 needs 49:3 neither 10:25 64:7 nel 142:16 nelson 3:4 4:4 4:21,21,22,22 4:23,23,24,24 4:25 5:1,1,2,2,3 5:3 7:19 8:21 10:8 12:10,14 26:25 27:8 30:21,22,23 32:13,14,17,21 32:23 36:1,8 38:20 39:1 42:10 44:20,23 44:24 45:1,7,8 48:19,22 54:15 54:17 66:21,25 67:3,5 68:17,19 69:18 70:8,10 70:11,14,17,20 70:22,25 71:2 73:4,18,20 74:5 76:13,19,21	77:1 80:8,13 88:19 90:3,15 90:25 91:3 92:8 92:11 94:2,3,8 94:12,14 95:5,7 95:13,15 132:6 132:9,11 137:17 137:22 141:20 141:24 142:4,12 142:16,18,23 146:23,24 147:1 147:2,5,9,15,19 148:1,7 154:11 154:14,21 156:8 156:13,15,19 157:25 158:4 161:5,18 162:17 162:24 163:5,16 164:6 166:12,25 167:10,17,22 168:2,6,14 169:20,23 170:1 170:4,9,11,14 170:20,22 172:7 172:15,21,22 173:12 174:5,7 174:10 175:20 177:8,19 178:8 178:11 179:25 180:4 181:13 182:5,10 neurosurgeons 82:22 never 30:15 147:7	new 17:12 136:24 137:20 news 14:24 nods 8:14 non 17:15 nope 117:18 north 3:5 nose 123:7 124:25 125:2 noted 68:23 notice 2:3 notification 129:9 november 1:16 2:2 11:5 number 38:16 43:6 56:14 59:10 60:11,14 60:21 63:15,16 66:13 69:9 73:11 74:23 103:6 106:20,21 107:12 116:12 121:20 124:23 125:12 141:21 170:11 172:9 173:23 183:11 numbered 48:18 numbers 76:14 105:22 114:7 numer 145:9,9 numeral 12:5,8 56:19 61:18,22 83:4 98:16	104:2 106:24 122:6,21 124:19 125:7,11 numerals 60:9 62:16 63:25 92:15 93:10 106:12 145:9 numeric 83:2,5 145:9 numerous 38:7 64:19
			o
			oath 77:7 134:18 136:14 objection 4:20 10:8 26:25 30:21 36:1 42:10 44:20,20 44:22 66:21 68:17,23 70:8,8 73:4 74:5 76:13 76:16,17,21,24 88:19 90:3 91:3 92:8 94:9,17,18 95:5,9 161:3,16 162:23 163:10 164:5 166:7,21 167:6 172:12,19 173:9 174:2 177:3,16 179:23 180:3 181:11 objections 2:10 94:4,5 obligation 136:15

obvious 82:2 89:15 91:8 97:3 99:11,22 101:21 125:19 128:18 129:5 131:5,25 133:10 158:20 159:5 165:2,23	59:4,20 62:2,4 62:18 63:5,12 64:3,9 65:20,23 67:11 68:18,22 69:18,22 70:18 71:3 72:5 78:19 78:22 80:17,22 81:5,20,24,24 83:6 84:2,6,23 89:3 92:4 93:11 93:20 94:25 97:13 99:8 100:14 103:4,10 103:13 105:6 112:6,14 113:11 116:11 117:15 117:16,18,22 118:7 121:14 122:3 123:17 124:19 125:16 128:16 129:6 134:7 135:25 137:16 138:6 141:8,19 142:1 142:4,12,23,24 143:1,3,13 144:16 147:12 147:16 148:8,20 150:5,11 151:1 151:21 152:4,8 152:10,11,21,23 153:10,19 154:10,20,22,24 155:3,9,13,19 155:22,23 156:2	156:22,23 157:4 157:9,16,24,25 158:3,5,10,11 158:25 159:19 159:22 160:7,14 160:17,22,23 161:11,12,22 162:16 163:4,6 163:7,17 164:2 164:13,15 165:12 166:3,4 166:13,17 167:2 167:3 168:1,3,8 168:9,19,21,24 169:3,10 170:1 170:20 171:2,8 172:1,14 173:17 174:1,6,9,11,18 175:5,9,14 176:8,13,15 177:20,22 178:4 178:10,19,23 179:1,5,7,9,18 180:5,16,24 181:14 182:2,7 ole 2:5 once 18:9 41:18 ones 19:19 20:11 29:1 30:5 79:17,18,19,21 146:16,17 open 28:16,17 28:20 29:1,4,7 29:10,11 30:2,5 30:16,20,20	31:12 33:3,9,10 33:16,24 34:4 34:12,13 35:1,3 35:5,7,10,11,16 35:18,24 36:6 36:12,16,21 37:5,9,16,17,18 38:2,4,9 39:4,11 39:14,15,17,22 39:25 40:1,3,6,8 40:13 42:3,8 43:13,20,23 44:3,5,6,11,13 45:2,8,12,15,19 46:19,25 47:13 47:14,18,21,24 47:25 49:9,15 49:17,23 51:23 81:7 102:4 105:15 107:24 109:17,18 111:11 115:12 117:16 134:8,17 134:20 143:17 143:20 163:11 167:8 168:11,17 171:11,12,20 172:18 179:13 179:14,22 180:16 181:2,14 181:16,24 opening 28:24 29:23 30:8 31:9 37:1,15 40:16 40:23 41:12
---	---	---	--

45:24 172:17 173:24 179:15 operable 164:24 operate 75:15 110:16 145:3 operates 145:4 operating 108:7 operation 52:11 52:17,19 106:6 106:12 110:17 152:16,17 operative 24:11 opined 10:6 opinion 11:6 33:2 35:2 45:15 65:14 75:9 79:24 87:24,24 88:9 89:21 90:1 90:6 92:18 93:5 111:14 136:6 144:25 165:8 167:15 173:7 opinions 7:18 46:4,5,17 48:25 79:4,7 80:1 84:19 opportunities 87:20 opposing 28:7 111:17 146:2 169:6,18 171:1 171:3,5 optional 86:7,11 86:19 87:14 88:5,16	order 55:18 85:13 114:16 121:5 ordinary 44:7 47:15 82:6,11 88:12 164:2 171:19 orientation 53:21 75:14 149:8 176:12 original 15:24 16:25 45:16 46:16 49:5 orthocision 1:4 7:20 orthopedic 82:22 99:17 158:17,18 159:2 165:21 otte 84:8 100:25 101:4,11,13 102:12,20,24 162:18,19,24 163:14,15,20 164:3 165:13,24 166:2 167:1 168:15 172:8,9 172:10,14,16 outcome 10:7 176:7 183:8 outside 6:25 7:7 41:13 102:8 161:3 162:23 166:7 174:4	overlap 79:15 79:22 overview 101:8 own 17:9 18:22 79:23 91:21 owner 1:7 2:3 3:9	palsy 23:9 paper 38:16 43:6 154:11,15 154:15,15 para 161:24 paragraph 12:7 32:12,21 33:1 33:22 34:8,10 34:24 35:23 36:3,11 37:12 37:16 39:5 43:14,24,25 45:20 48:21 81:25 83:7 91:23 99:3,4,7 100:18 101:4,10 101:12,15,20 112:15,16,20 113:22 131:13 132:2,7,14 135:24 154:23 155:1 158:6,7,8 159:1,12 161:12 161:24,25 163:18 164:13 164:17 165:17 175:6,10 176:22 178:4,8 parallel 72:24 parallels 72:18 parameters 17:10 pardon 161:7 parentheses 102:4,5
		p	
		p 3:1,1 p.m. 182:15 pa 12:10 page 4:12 32:4 32:10,11,22 34:15 37:16 38:19,21,22,25 43:12,25 44:1 45:20 47:6,6 48:15,17,18,18 54:15 81:21 82:25 84:5 89:1 94:16 95:11 97:2 98:14 99:1 99:7 101:20 102:13 103:4,5 103:6,12 105:5 105:9 112:11,13 125:15 128:14 132:8 135:23 143:1,5 144:22 154:22 169:1,2 pages 34:20 painteq 1:6 2:3 pair 28:7 169:6 169:16,18 171:1 171:2	

part 9:19 28:4 34:11,14 35:6 36:2 44:25 45:6 58:9,14 62:21 77:9 82:10 91:3 102:21 108:15 138:10 139:6,7 140:6 141:2,8 144:2 153:16 159:23 partially 35:24 68:19 particular 17:19 23:8 29:3 29:14 57:4 66:6 66:12 79:17 86:6,7 103:1 108:23 113:7 114:15,25 118:22 120:9 143:16 148:10 153:9 160:9,11 176:3 177:10 particularly 60:1 100:1 102:1 159:9 176:8 parties 43:17 183:8 parts 26:22,23 pass 15:22 18:11 25:15 54:24 98:4 121:11 126:9 127:1	passage 35:20 105:16 169:10 170:24 179:2 passed 87:9 past 53:23 54:1 patent 1:1,1,7,9 2:2 3:9 6:22 8:6 8:7,7 10:6 11:18 11:20 12:9,12 15:19 19:8 22:24 28:4 33:12 34:1,15 35:13 38:8 41:8 41:15 49:11 54:13,16 56:4 57:2 61:1,22 62:10,15 64:2,6 64:10,20,24 65:2,15,18 66:17 67:15 68:4,12,14 69:25 70:4,17 71:9,17,20,25 73:8,16 74:1,3 74:17,21 75:8 75:12,19 76:4 77:12,18,20 78:6 79:5 80:19 81:2 82:3 83:9 83:11 85:8,10 85:11,17 101:1 101:2 104:16 116:11 120:15 120:17 123:15 147:21 150:6,12	151:8,12,24 152:9,22 153:5 156:16 168:20 179:8 patent's 43:19 44:8 47:16 patents 9:18 23:23 pathway 18:3 25:15 26:6 patient 15:12 27:23 63:6 121:8 128:8 patients 23:14 24:1 pause 38:23 81:24 86:14,22 97:14 98:3 101:9 105:11 112:12 123:24 132:12 137:2 138:3 142:8,14 142:21 156:2,22 157:12 161:22 167:2 182:3 pc 3:4 peel 21:7 pelvis 23:16 138:18 perform 14:3 15:8 24:15 26:7 86:4 114:21 126:18 127:6 166:14,18	performed 15:1 128:22 160:1 165:20 performing 24:19 110:17 126:2,14 performs 160:14 permanently 127:22 person 82:6,11 88:12 110:12 120:1,5,8,13,17 120:23,25 126:13 135:11 135:15 138:15 personal 53:11 personally 53:25 135:20 perspective 86:24 126:1 pertain 143:10 pertaining 13:18 petition 38:14 38:22 42:3 44:16 80:6,12 petitioner 1:4 3:3 10:12,25 39:4 petitioner's 43:17,19 phone 170:12 phonetic 11:1 36:16 42:4 49:5
--	--	---	--

110:14 145:7 165:8 171:24 phrase 36:12,15 42:15 51:6,13 51:15 52:3,14 52:24 82:4 phrased 27:9,10 phrases 50:18 pick 127:14 149:11 picture 163:21 piece 34:5 pieces 25:10 pilot 86:16 87:20 place 18:11 58:12 72:15 109:18 126:21 133:15 144:11 placed 14:17 25:22 26:19 87:8 97:17 149:21 175:2 placement 89:25 placing 122:10 plan 8:11 planar 178:6,9 178:14 plane 112:23 planning 24:11 plate 162:4 play 82:9 110:9 played 151:22	please 6:11 8:6 8:12,17 12:3 28:4 31:20 32:10 33:1,20 33:20 34:7,9,10 37:14 39:7 43:3 43:12 44:2 59:7 59:19 60:8 61:25,25 62:12 62:15 65:22 68:15,25 73:2,3 73:6,7,18 74:19 74:20 75:23 80:8 81:21 84:25 85:5 86:11 87:6 88:17 89:9,13 90:15 91:2,17 92:10,13,22 93:25 94:3,16 94:22,25 95:2 95:22 96:25 97:10 99:2,10 99:16,21 100:7 100:11,17 103:19 104:2 105:7 106:7,11 106:11,11 108:6 112:1,11,15,19 112:19 117:20 125:10 126:13 128:15 129:9 130:15 131:4,7 133:2,4,7 134:3 134:5,7 135:2	135:23 136:1 137:11 142:16 145:8 147:19 152:12 154:11 155:24 156:1,1 156:9 158:19,25 161:24 162:17 163:6 165:12,17 166:2 168:3,19 168:25 174:7,16 174:19 176:13 178:4 180:19 point 9:8 15:14 24:7,7,22 25:25 37:4,14 44:12 44:14,17 48:14 48:24 49:7 76:14 81:10,18 85:15 86:9,10 87:3 88:17 101:11 117:9 121:13 125:2,3 125:4 127:14,15 129:2,10 130:9 130:15 131:1 132:21 158:6 181:6 pointed 158:6 pointing 60:7 62:17 105:24 107:6 173:3 points 107:10 123:9 portion 43:18 58:9 77:4 86:20	88:4 98:5 129:2 129:10 132:16 146:5 164:22 170:25 171:15 174:21,24 175:1 180:18 portions 34:8,11 80:4 posita 33:3 35:2 89:15 91:8 97:3 99:22 101:22 125:19 159:5 165:2,23 position 52:11 52:15,19,22,22 52:25 58:1,1 62:20 69:15 72:12 77:19 152:15,17,19,20 157:2,4,9,17,19 positioned 78:1 119:11 157:13 157:21 positioning 77:22 108:3 positions 70:7 possibility 157:21 possible 109:2 posterior 14:16 posteriorly 15:11 potentially 68:19
--	---	---	--

practice 57:6 94:6,17 pre 24:11 71:12 preamble 12:19 12:23 13:5 preceding 172:12 predictable 101:25 102:6,25 159:9 165:5 predictably 99:25 predominantly 149:9 prefer 152:3 preference 152:1 176:6 preferred 57:13 176:12 preparation 6:18 7:20 79:14 84:9 89:16,17 91:9,10 97:4,6 100:2 102:2 114:12 125:20 125:21 126:16 159:10 160:6 164:21 165:3 prepare 85:22 110:4 127:24 164:25 166:24 173:16 prepares 89:18 91:11 97:6 125:22	preparing 75:5 79:2 89:24 141:25 160:21 165:14,16 prerogative 17:9 present 3:15 114:2 presented 30:1 presents 176:18 preserve 76:25 presume 8:18 pretty 19:20 117:11 prevents 58:20 63:22 67:24 previous 10:5 28:13 42:11 129:21 139:21 162:7,13 previously 9:12 51:8 59:12 68:1 71:14 85:1 86:18 101:17 112:5 114:24 115:3 122:8 137:20 prime 145:24 146:4,12,14 prior 6:23,25 7:3 17:14 23:23 35:13,15 38:8 41:19 42:1 55:24 59:5 79:5 79:9,16,18 82:1	82:17 83:8,9,11 83:15 84:21 87:23,24 96:19 100:4 101:8 102:18 103:3 112:10 143:9 probably 7:12 11:23 14:4 117:17 121:4,11 151:25 155:20 176:6 problem 147:25 procedure 2:8 13:7,10 15:9 17:23 24:19 29:20,22 51:3,9 98:12 99:14,17 109:19 115:8 118:11 120:2 126:15,19 127:4 127:6,12 128:21 131:19 158:23 159:2 procedures 13:24 82:21 135:12 158:18 proceeding 49:2 174:2 proceedings 9:4 9:15,22 10:2,2 38:24 42:21 78:24 116:9 121:16 137:3 138:4 142:9,15 142:22 144:20	147:18 148:5 182:4,9 proceeds 121:1 process 35:21 38:11 41:16 55:25 78:10 79:1 82:20 product 183:13 professional 148:13 profile 119:14 145:19 prohibits 52:19 152:17 project 11:24 14:5,20 16:24 17:10 79:13,14 79:16 prone 18:18 pronoun 53:5 65:24 pronouncing 6:6 pronouns 63:9 134:7 proper 35:24 properties 22:14 proposed 39:5 40:11 43:17,20 prosecution 7:2 35:9 protective 21:22 prototypes 14:1
--	---	--	---

protruding 113:12	66:11,13,14,15 67:15 75:20	29:2 30:16 31:3 35:22 36:8,15	132:21,25 133:4 133:5
protrusion 87:11	76:5 78:1 151:13,18	37:21 39:18,21 42:6 46:7,14,23	r
provide 6:16 10:13,24 18:3 21:11,15 26:18 29:23 31:19 35:12 45:24 53:1 79:7 81:25 84:24 100:14 104:10 120:15 124:19 125:10 132:18 133:8 135:2 147:19 157:25 167:17 174:7 177:10	152:14 153:11 153:16 162:3,4 public 9:19 77:9 96:23 pulled 18:10 purpose 20:22 57:14 83:18 93:21 96:17 108:3,20 110:12 110:14 114:6 118:21 120:14 144:3 173:13 175:16,21,22	47:4,9 70:15,18 72:4,14 77:6 88:1 90:1,15,24 91:1 92:1,16 93:3,20 95:1 96:22,25 97:10 115:13 123:21 123:23 124:1 126:12,12 134:12 136:13 136:15 141:9 154:1,6 169:21 170:23 172:19 173:9 177:5,16 179:23 181:11	r 3:1 59:9 183:1 rail 109:10 rails 106:10,17 107:19 108:8,12 108:14 rasp 16:5 18:21 18:21,21 21:8 89:20,22 90:2,7 90:9,13,20,23 91:2,13,17 92:13,21 93:7,8 93:12,13,25 94:22,23,24 95:2,12,16,16 95:18,25 96:3,4 96:9,13,15 97:9 97:11,19 98:4 98:13,19,23 99:20,24 100:24 101:14,24,24 102:5,13,15,16 102:23 114:16 118:23 125:24 126:7,22 127:21 159:8
provided 20:5 44:13,15 45:16 45:20 47:10 79:10,11,20,25 126:8 150:23 174:13	pursuant 2:3,7 push 78:13 put 15:10,12 17:25 18:2,8 23:20,21 25:20 26:4 30:14 50:10 81:14 126:20 127:16	questioning 172:12 174:3 questions 9:7 77:8 79:25 146:21 170:15 182:10,11	rasping 15:25 112:23,24 114:2 114:4,6,9,17,21 115:1,16,25 178:6,9,14,16
provides 22:7 26:6 35:9 58:17 81:18 107:20 131:2 141:5 164:22 176:7	puts 25:6 putting 14:14 30:23 118:14 124:4	quick 74:9,24 78:21 155:6,18 quickly 77:3 quite 36:9 118:19 147:6 159:19	rasps 18:5,6 20:20 99:15
providing 85:21	q	quote 10:24 82:4 91:14 95:14 97:9 129:16 131:7,8	
provisions 2:8	qualify 33:16 36:20 37:9 179:20 180:1		
proximal 20:18 21:10 51:25 60:12 63:3 64:13,17 65:1 65:11 66:2,4,7	question 2:11 8:16,17,17,18		

101:6,16 131:16 131:18 148:17 158:24 159:5 rather 77:3 rationale 159:12 read 12:18,19 24:3 27:20 28:4 32:25 33:5,14 33:18,22 34:4,9 34:23,24 39:5,7 39:18,19 41:7 43:14,25 45:10 45:11 47:5 48:8 51:4,13 52:7,7 55:5 69:13 70:5 71:10 72:9 74:22 75:2,4 80:25,25 87:6 87:19 88:6 89:9 89:13 90:11 91:6,22 92:3 93:18 99:2,10 99:16 100:5,8 101:19 102:3,7 112:19 125:18 132:3 133:2,4,4 133:7,12 136:1 137:11 152:11 152:25 153:13 153:18,21 154:25 156:3,6 156:18,20 158:11,19 161:24 168:25	170:25 171:8 174:18 176:16 176:22 178:4,12 179:2,12 180:17 180:19 181:25 reading 39:12 39:17 86:23 95:8 96:16 ready 32:20 really 18:20 63:10 147:22,23 149:17 150:3 170:18 reamer 15:25 16:5 reamers 14:18 29:12 reason 6:15 11:3 18:24 74:5 90:21 121:5 149:10,11 reasoning 90:10 reasons 22:17 83:20 rec 144:15 recall 10:16,19 10:21 56:18 60:1 62:20 63:19 70:6 72:12 74:8 79:21,22 86:15 98:25 113:13 143:7,9 148:25 receive 142:13	receiving 110:14 recently 14:4 16:20 21:17 recessed 149:4 recited 82:16 153:13,16 154:8 reco 125:12 recognize 43:9 54:20 85:6 112:8 138:10 175:5 recollection 85:9 reconcile 78:4 reconvene 147:16 record 6:11 7:8 8:7,15 9:1,6,19 10:25 11:3 12:16,19 24:4 27:8,12 32:25 34:10,25 38:16 39:7 43:18 44:2 45:11 48:2 52:8 60:8 62:7,17 63:13,24 65:16 68:11,15,20 69:19 71:14 72:23 76:3,17 76:24 77:9,10 81:1 82:5 89:14 91:6 92:3 93:19 95:8,23 96:23 97:15 99:2,10	102:4 112:20 124:15 125:9 131:4 133:2,5 136:1 137:21 140:3 145:10 146:14 148:5 156:20 157:14 164:17 172:12 180:20 183:6 recorded 8:14 recording 60:9 rectangle 109:18 111:1,7 rectangular 17:6,16 110:24 111:23,24 113:10,11,20 114:13,14 118:2 119:4 144:15 174:21,24 175:1 175:15 recular 113:9 refer 8:6 59:6 84:22 94:6 102:7 105:20 112:16 145:8 162:19 reference 7:3 35:4 59:6,17,18 60:9 62:3 83:9 84:25 86:13 90:18 93:10 100:9,20,25 103:3 104:2 106:11 112:1,10
--	--	--	--

113:23 114:1 117:21 121:19 122:5,5 143:9 162:18 167:23 167:23 173:23 175:17,18 referenced 19:8 33:9 56:19 61:22 86:12 92:15 98:16 101:5 102:14 105:23 107:16 112:17 113:23 references 6:23 7:1 35:15 38:8 40:12,13 79:16 79:19 82:17 83:8,16 84:7,9 84:14,21 85:11 96:20 100:4,12 100:19 102:18 129:24 145:9 175:6 referencing 40:9 84:18 referred 15:18 176:21 180:7 referring 101:15 114:7 145:11 refers 63:13 98:15 106:24 114:9 reflect 97:15	reflected 8:15 refrain 63:9 134:5,7 regard 64:23 98:8 regarding 26:22 79:4,7 regardless 63:21 regular 8:11 rela 65:16 relate 84:19 related 165:19 183:7 relates 48:6 79:5 160:12 relation 65:18 67:11 relative 65:5,10 75:18,22,24 119:11 relay 93:14 releasably 155:8 release 93:14 released 52:11 52:15,22 53:8 58:1 150:23 152:15,20 releasing 52:20 57:24 58:4,9,14 58:24 129:20 130:8 151:22 152:18 155:5,9 155:16	relevance 10:8 relieve 78:14 relying 84:15 remainder 36:3 remember 10:7 10:18 54:2 reminding 134:18 remnants 21:9 removal 20:18 29:25 30:9 31:16,16 35:20 37:2 38:10 40:22 41:11 133:5 remove 21:14 22:18 26:16 108:22 112:25 114:19 118:12 128:6,6 130:21 144:6 145:5 146:7 166:23 removed 16:3 21:22 109:20 115:7 removing 56:1 98:6 131:10 132:4,23 160:20 render 82:2 87:23 rendering 88:9 renders 123:20 repeat 32:16 73:18 75:23 76:2 80:8 90:15	99:5 151:5 156:11,11,14 169:20 173:8 repeatedly 77:10 repeating 78:2 rephrase 36:19 71:3 88:2 96:25 114:24 172:21 replace 90:22 130:6,13,17 replaced 91:18 92:14 93:9 97:11 replacement 29:14 31:7 130:10 132:19 replaces 92:20 93:6 replacing 93:14 93:15 96:10 98:18 130:14,19 131:10 132:3,22 132:23 133:6 replied 150:16 reported 183:5 reporter 9:23 9:25 32:14 43:4 59:8 71:1 112:2 116:7 117:3,8 121:14 147:22 148:2 156:5,7 156:10,14,17 162:20 167:20 168:4,13 169:19
---	--	---	---

169:22,24 170:3 170:5,10,13,16 170:21 172:6 173:8,11 175:18 178:7 182:7 183:5,11 reporter's 5:25 reporters 183:10 reporting 3:21 3:22 183:13,18 reposition 19:1 reproducible 15:1 reproduction 183:13 require 50:2 108:24 required 77:7 86:16 requirement 36:6 requirements 88:14 requires 43:23 reserve 48:25 49:6 92:4 141:11 reserved 2:11 respect 45:8 173:18 174:3 179:19 181:14 response 10:10 38:13 41:3 47:12 51:7	55:11 77:1 90:4 114:23 123:25 124:13 134:11 151:9 157:12 161:14 164:11 166:20 175:19 181:19 rest 33:22 34:6 158:25 restate 36:8 retained 10:13 11:23 14:5 17:7 retraction 87:9 87:10,11 retractor 18:2 reverse 53:21 review 97:13 155:24 156:1,15 156:21 reviewed 6:19 6:21 7:4 84:9 156:25 reviewing 7:11 ridges 20:15 28:9 115:15 169:8 right 9:6,11 12:4 23:25 27:16 34:16 48:16,16,25 49:6,8,14 50:19 52:10 66:5 67:3 69:23 76:25 92:5 98:19 101:10 105:11	107:12,19 110:16 112:14 117:19 123:8 126:14 131:12 133:9 138:19,25 141:11 144:22 147:11 148:25 162:12 165:18 180:6 rigid 26:6 ring 19:13 149:5 risk 121:9 rods 23:10,21 role 82:8 110:9 173:13,19 roman 62:16 63:25 83:2 room 2:6 170:7 rotary 12:25 13:8 14:8 17:5 17:15 18:13 81:11,19 181:6 rotate 107:20 110:2 111:5,22 rotation 149:15 roughened 16:1 rounded 123:8 rules 2:8 8:9 9:7 run 23:11 s s 3:1 15:17 59:9 176:19 sacral 24:25 25:25 102:20	sacro 79:6 sacroiliac 1:10 12:24 13:8 28:11,19 50:25 51:5,9,14 81:6,9 112:25 136:5 139:3,19 140:12 141:15 169:9 171:14 179:17 181:2,5 sacrum 23:13 25:19 26:1 81:7 81:16 113:2 127:18 136:4 139:2,10,18 141:14 181:3,22 safe 56:3 saw 117:8 saying 41:21 87:15 105:22 107:1 111:4 118:23 125:5 129:22 says 28:6 35:5 37:17 39:19 57:24 83:15 87:1,3 95:1,11 95:16 96:7,16 100:23 101:6 102:4,14 112:23 133:13 138:25 139:14,15,16 155:3 scalpel 36:20,23 36:23 37:3,8
---	---	--	---

scenario 107:17 108:1 109:11,13 115:21 123:5 scenarios 31:6 107:24 scope 161:3 162:23 166:7 174:4 scrape 29:16 scraping 21:9 115:17 screw 16:1,10 130:24 screwed 16:6 screws 23:21 130:22 seated 26:1,2 sec 41:18 second 9:1 17:3 21:10 41:18,20 87:7 91:22 97:13 113:22 117:12 125:15 136:1 142:7 143:21 144:8 154:22,25 155:1 162:8 166:4 secondary 20:17 seconds 137:1 section 7:4 19:9 86:23 100:4,8 101:7,17 102:9 102:21 103:11 109:19 111:23	118:3 131:24 153:18 177:9 180:20,23 181:10,20 sections 176:21 secured 11:2 securing 176:18 see 12:5 18:9 19:10,11 31:8 31:14 37:13 39:16 54:22 59:21,24 60:2,7 60:16,17,22 62:12,13,17 69:3 70:7 72:19 72:20 86:12,22 89:4,8 103:14 104:4,6 105:7 117:23 118:8 119:2,6 120:10 128:17 137:16 138:17,23 143:4 145:18 seeing 143:7 seem 70:6 seen 30:15 162:1 select 119:23 120:4 176:2,25 177:11 selectively 11:2 self 28:12 send 141:23,25 142:1,10	sense 21:21 58:10 172:2 sent 142:18 sentence 33:1 33:14,18,21 34:3 35:23 44:1 48:3 89:4,13 90:11 92:25 99:3,9,10,16,21 100:23 101:18 101:19 102:7 112:19,21 113:5 113:22 128:17 130:11,12 131:6 131:7 133:8,12 136:1 137:11 138:25 139:13 139:14,15,20 140:13 141:12 141:16 154:25 158:19 162:8 163:17 sentences 47:6 48:9,9,11 52:2 158:11 164:17 178:12,13 separate 50:18 68:7 89:19 90:13,23 91:12 92:21,22,24 93:6,24 94:22 94:23,24 95:2 95:11 96:6,13 96:15 97:8 98:7 98:24 102:17	125:23 separation 111:12,16 serve 111:8 137:21,23 served 9:14 service 166:17 set 13:23 14:11 14:18 15:24 16:25 17:8,12 17:16,20 18:13 18:13 19:21 20:11 21:17 104:7 111:20 sets 165:21 shaft 20:2,3,4 55:21 56:12 57:1 60:3,16 63:22 65:6,10 65:18 66:2,5,15 67:12,15,16 73:15,16,22 75:16,17,18,20 75:22,25 76:1,5 76:9 78:1,2,15 93:16 104:13,17 162:2,4 shank 86:25 87:12 shape 113:19 118:1,16,22 120:5,10 121:5 144:10,12 174:12,23,25 175:2
---	--	---	--

shaped 21:15	159:13,17	153:3 154:3	175:23,24
share 43:20	sharma's 62:8	155:10 159:20	sic 28:3 99:25
140:8,9	129:1 131:11	160:1,24 163:20	108:10 110:17
sharma 59:6,8,9	132:5	164:12 167:4	side 19:14 22:6
59:17,23 60:24	shiny 22:9	172:24 173:17	57:11,12 61:25
61:19 62:8,13	short 9:3 13:12	176:9,23 181:8	61:25 64:4,4
62:18 63:16,17	38:23 42:20	shows 56:6	107:7 115:24
64:1,3,5,9,13,16	78:23 81:24	85:20 86:6,24	121:7,7 138:15
64:19,23,25	86:13,22 98:3	89:23 101:13	sided 34:18
65:9,17,20,25	101:9 105:11	103:23 177:6	110:1 162:3
66:5,19 67:14	112:12 116:8	si 7:6 13:11,11	sides 15:13,13
68:1,7,11,13	123:24 137:2	13:16,18,22,23	25:18 28:8
69:3,4,5,20,23	138:3 142:8,14	14:6,15 15:2,6	105:14 107:10
70:2 71:8,15,24	142:21 144:19	15:11 16:2,14	111:12 128:13
72:6,10,20 73:2	147:17 156:2,22	17:3,17,24	143:17,20 167:8
73:7,10,13,14	157:12 161:22	18:19 21:17,19	168:18 169:6,15
73:17,19 74:4	167:2 182:3,8	21:25 22:15,25	169:18 170:24
74:15 75:3,13	shorter 149:24	23:1,3,5,15,23	171:1,3,5,16
75:21,24 76:8	shortly 142:13	24:7 25:24	sierra 3:4
77:11,18 78:6	shot 163:20	29:19 35:8 51:2	sierraiplaw.com
78:10,11,17	show 8:13 35:15	51:17,19 79:7	3:6
84:8 99:12	101:2 137:25	79:13 81:15	signature 2:10
116:20,21	138:24 142:2	82:20,24 83:22	32:8 48:16
128:18,23 129:7	163:12,14	83:23 84:1	182:13 183:16
129:14,17,19,20	176:12	89:16,18,19	signed 91:7 92:3
129:21 130:5,7	showed 23:24	91:9,11,11 97:5	significance
130:15,17,24	100:25 115:21	97:6,7 99:14	27:25 133:15
131:13,25	showing 55:19	106:13 109:23	significant
132:14,24 133:7	64:11 66:12	110:6 113:19	163:19
133:10,13,13	69:9 77:18	120:1 125:20,22	signify 26:22
135:8 147:20	91:24	125:22 126:2,20	51:6
150:7,8 151:4,8	shown 62:25	135:11,13	similar 19:8,10
151:17,24	63:7 66:1	139:24 145:1,3	21:19,21 22:1
155:11 157:5,9	118:25 138:10	158:23 164:25	22:15 53:16
158:8,13,17,21	138:13 151:2,3	165:19,25	74:24 82:19

86:5 90:8 93:12 93:13 96:8 113:25 119:3,13 127:20 139:10 165:21,22 similarity 113:3 simple 41:25 48:3 92:1,1 simpler 135:3 simultaneous 112:24 simultaneously 115:2 single 48:3 89:19 90:11,12 90:22,22 91:12 91:18,24 92:14 92:20 93:5,9,16 94:4,13 95:9 97:7,11 98:7,9 98:15 103:2,22 103:23,25 110:1 122:21 125:7,23 126:7 132:17 133:7 144:4 164:9,23 sir 6:17,20 7:9 7:22,22 8:20 9:9 9:16,20 10:15 11:10 12:2 22:22 29:8 32:2 32:6,9 33:13,19 34:5 43:11 53:14 54:21 59:16 61:2,7	62:11 67:18,21 68:9 71:18 74:18 75:10 76:7 77:14 78:18 80:7 84:11,13 85:7 92:7 103:18 104:20 105:4 110:7 112:9,18 119:8 135:22 138:9,12 143:6 143:8 145:2 148:22 154:9 155:12 157:3,7 157:23 160:16 163:3,22 164:1 167:16,25 169:12,14 171:7 171:17,22 172:20 174:14 179:21,24 180:2 180:12 181:12 sit 12:18 48:8 site 127:11 six 11:23 89:11 size 18:9 175:2 sj 175:3 skill 82:6,11 88:12 110:12 120:1,5,8,14,17 120:23,25 126:13 135:11 135:15 164:3 171:19	skills 183:6 skip 43:24 slap 18:14,17,23 18:25 19:3,5,8 19:10,14,15,17 19:18,20,23 20:4,6 52:4,16 52:17 53:2,10 53:17,23 54:5,9 55:20 56:11,11 56:16,24 57:9 58:10,18 59:2 59:22 60:2,5,14 60:16,19 61:14 61:15 62:8,23 63:15,22 65:25 66:10,12 67:23 69:16 71:15 73:11,12,14,16 74:10 77:18,20 78:7,14 92:25 99:12,19,23 101:22 104:4,12 104:13,17 126:24 127:3,23 128:3,22,24,25 129:1,8,23 130:7,7,17,24 130:25 131:10 131:11,14,20,23 132:5,15,18,19 148:10,12,15 149:5,7,17,19 150:20,22 151:2 151:3,17 153:3	153:12,20 158:14,17,21 159:4,6,15 164:4,22,23 181:8 sleeve 52:17 53:6,10 54:5,9 56:11 57:1,8,15 58:10,18,23 59:2 60:2,5,14 61:14,15 63:15 65:1,25 66:10 66:13 67:24 69:9,9,16 72:11 73:11,12,15 74:11 77:18,21 78:7,11,14 128:25 149:5,7 149:17 150:22 155:8 slide 51:25 52:10,11,20,21 53:4,6,9,12,25 55:3,8,13,16,18 57:4,5,25 60:24 60:25 62:9 64:1 64:13,17 65:1 65:19 67:16 72:19 74:15 75:8,18 77:12 103:24 104:1,7 104:19,22,23,25 105:2 128:18,23 129:13,20 130:14,15
--	--	---	---

131:25 132:3,23 132:24 133:5,7 133:10 135:8 149:5,22 152:13 152:15,16,17,18 slides 58:11,11 slight 67:23 slippery 22:7,9 slots 28:9 113:21 169:8 small 117:11 smooth 114:3 snap 19:14 149:6 snapped 54:7 soft 114:12,19 139:11 144:7 145:6 146:7,18 160:6,20 166:23 solid 18:21 30:6 37:3 solve 77:2 somebody 37:24 126:1 somewhat 34:2 sorry 11:14 13:2 23:1 30:13 36:17 37:21 42:19 43:1,2 44:23 45:7 53:3 61:9 62:6 63:8 65:22,23 66:9 66:10,24 86:9 87:3 91:25,25 91:25 92:16	93:3 99:5 102:13 107:1 108:3 109:21 112:12 114:8 115:13 116:3 125:14 126:11 129:15,15 132:6 135:6 136:9,25 142:6 150:8,9 151:5 153:15 154:1 155:25 161:22 163:23 168:4,5,7 169:2 169:20 172:9 173:8 174:25 178:20 sort 121:9 space 15:19 16:11,13 17:25 18:16 21:1 23:20 25:9,12 25:22 26:4 29:19 31:15 38:2,2,4,9 44:10 45:13 47:18,25 105:18 111:13 127:17 128:3 165:14,16 168:11 172:17 172:23 173:3 spaced 20:24 spaces 118:12 speaker 133:21 speaking 76:16 94:4,8 130:2	speaks 126:6 130:11 spec 74:22 specific 23:3 83:10,17 100:11 100:20 129:9,10 130:1,3 181:16 specifically 10:12 13:18 17:7 23:2 49:22 51:18 80:4 85:10 104:16 132:2,7 specification 43:21 55:6 71:11 72:10 74:12 75:3 77:3 88:13,14 97:14 105:23 112:13 specifics 84:21 spend 42:14 spent 7:11,23 11:19 22:24 49:9 118:19 150:5 159:19 spherical 124:25 spinal 14:13 17:4,6,16 21:20 23:8,10 79:6 82:19,21 83:24 99:17 148:15 159:2 165:16,18 165:21	spine 14:15,25 15:5,20 19:21 20:25 21:3,6,18 22:16 23:12,15 29:18 82:23 83:22,25 135:16 135:19 138:16 138:17 140:15 145:5 165:15 square 118:3,18 119:4 stacked 20:22 22:17 stacks 117:7,13 stand 35:23 46:16 88:21 92:2,5,20 93:24 132:13 139:21 standard 19:20 19:23 41:14 121:1 start 17:23 21:7 21:8 24:17 28:20 62:6 73:1 123:1,12 131:12 146:6 174:25 178:12 starting 43:14 81:1 101:20 164:18 168:22 178:5,8,13 180:18,21,22,25 starts 24:4,12 86:14 89:4 99:6 99:9 122:17
---	---	--	---

123:6 178:6,7 state 6:11 71:14 76:17,24 87:13 91:23 125:9 131:4 135:3 183:2,5 stated 44:16 68:10,13,20 72:16 75:6 76:4 76:8 77:10,25 80:6,12 90:17 90:19 93:5 106:2 114:24 157:16 181:16 statement 77:16 83:7,15,18,19 91:21 92:2,6 93:18 97:3 99:3 125:17 130:13 139:22 statements 78:4 states 1:1 9:18 34:15 35:5 88:5 92:20 93:24 94:21 95:24 113:23,24 128:17 129:11 137:15 158:7 stating 77:17,23 82:3 stay 69:20 step 13:1,3 24:4 24:10,18,20 25:23 26:8,13 26:21 27:17	41:16,16,18,20 stephen 3:16 steps 13:1 24:2 27:10 30:3 86:3 118:11 126:18 stomach 15:12 stop 12:21 26:11 56:12 87:8,10 stopping 121:13 straighter 25:20 strike 76:25 108:4 struc 74:14 structural 27:11 28:21 38:5 61:5 61:8,9,9,10 62:13,14,14 63:10,25 66:18 69:24 70:3 71:7 71:21,24 72:2,6 72:7,16,17,18 72:20,22 74:20 75:12 76:12 77:11 135:7 150:15,19 structurally 71:16,19 74:16 75:7 77:24 78:3 structure 33:4 33:15 35:3 39:8 39:14,19 40:7 40:13 42:4 45:17 61:14 63:16 67:23 73:25 78:6	111:18 136:3 139:2,9,12,17 141:13 153:7,12 153:15,15,24 154:3 155:5,10 155:10,15 157:5 157:9,19,21 158:17 166:5 172:24 173:1,5 173:17 179:1,19 180:7,14 structures 175:5 176:19 stuck 18:16,22 117:17 128:2 stuff 7:17 53:22 style 81:13 subsequent 11:9 16:19 26:22 113:3 substan 174:23 substance 38:3 substantially 174:20,23,25 suffice 147:12 sufficient 46:20 suggesting 43:22 suitable 145:1 suite 3:5,11 sum 23:4 supplement 39:23 48:25 49:6	supplemented 49:4 support 23:18 supported 85:16 supposed 134:19 sur 110:18 sure 10:9,21,22 15:10 28:6 29:2 41:14 42:17,19 42:19 55:14 60:18 61:24 64:21 69:15 70:11 85:25 86:16 88:1 100:15 117:17 122:12 182:6 surf 143:22 surface 30:7 106:16,19,23 107:15,18,19,22 107:25 108:7,12 108:20,21,22,24 109:2,6,8,25 110:8,17,18 111:4,15,17 114:2,3,4,16,17 114:20 115:1,16 115:22,23,25 123:10,13 124:17,18,24,25 125:1 127:21,25 136:16,22 139:2 144:6 146:1,3,6
---	---	---	---

146:17 163:13 163:14 166:22 surfaces 28:7,8 29:17 40:18 81:8,16 89:18 91:11 97:7 105:14 106:7,18 106:22 107:15 108:7 109:11,12 109:13 111:16 112:25 113:1 114:6,10 115:15 123:1 125:22 126:22 127:21 136:2,4,7,11,12 138:22 139:1,15 139:16,18 140:17,24 141:12,14 143:21,22,25 144:4,8 145:5 146:2 162:14 167:12 168:11 169:6,7 171:6 181:4 surgeon 13:20 15:10 17:22 18:4,7,24 20:1 20:13 24:12 25:6,9,14 26:7 27:22 52:6 54:10 57:12,21 60:13 86:3 110:13 126:8,14 126:25,25 127:7	149:3,16,24 150:24 152:1,5 176:6 surgeons 23:7 23:19,24 53:18 57:10 62:24 82:22 83:24 152:2 165:21 surgeries 14:3 165:18,19 surgery 14:2 24:12 26:7 29:15 82:19,20 83:23 84:1,1 165:15 surgical 13:7 17:23 36:23 49:22 51:3 99:14 109:19 115:8 120:24 128:9 131:15,19 132:4 148:11 158:16,22 176:7 suture 128:7 suturing 127:11 sworn 6:2 92:3 synonymous 37:18 system 14:7,25 17:4,14 systems 17:4	tab 155:7,18 table 39:6 50:10 50:12 122:10,11 122:25 124:5 tail 108:17 take 11:11 23:10 31:13 42:16 44:17 54:8 55:22 78:21 89:1 112:15 117:20 118:4 119:25 130:17 139:4 144:18 146:24 150:5,7 182:5 taken 2:1,7 talk 67:25 talked 118:24 119:10 125:17 160:11 talking 24:10 27:9 30:10,11 30:23 33:11 40:25 41:9 50:16 65:13 66:5 68:22 69:20 71:5 72:14 76:15 98:19 101:10 118:19 124:10 130:2,3,14 136:8 144:23 146:16 148:23 159:19 170:10	talks 132:22 172:2 tampa 3:12 taper 25:20 tapered 33:4,16 35:4,19 36:5,13 39:9,15,20 40:8 40:14,16,19,20 41:1,4,10,13 42:5 43:22 45:18,24 47:23 tasked 119:25 teach 87:25 129:24 teaches 87:25 89:22 90:2,12 teachings 165:24 team 17:15 technically 143:18,19 technique 14:8 15:4 23:22 159:16 techniques 83:24 165:25 teeth 20:20 28:9 162:14 169:7 tell 35:18 94:17 122:7 tennessee 3:23 6:14 183:20 term 27:25 33:3 34:4,12,25 35:3 35:10,11,24
	t 15:17 16:10 183:1,1		

36:6,12,16 37:5 37:13 39:4,11 39:22,25 40:11 41:17,19,22,22 42:3,7 43:13,22 44:3 45:12,13 45:15,19 46:19 46:25 47:20 49:9,16,20 50:2 50:3,5 53:16 57:24 94:13 123:3 130:20 133:16,19,20,22 135:2,4 155:15 terminate 178:16 terminologies 57:2 terminology 56:10,25 60:4 104:10 105:11 terms 2:7 27:9 27:10 39:13,23 40:9 41:7,21 44:5 47:13 79:8 123:14 155:15 155:16 testified 6:2 testimony 6:16 10:13,24 11:9 44:21,24 45:4 68:8,15 76:20 76:25 90:3 91:7 91:8 92:4,5 93:23 94:5,21	95:1,5,11 96:16 120:15 122:13 124:22 134:18 137:6 161:4 166:8 174:4 182:14 thank 25:23 27:5 28:3 31:22 32:23 44:12 48:14 51:21,24 73:13,17,20 74:4 76:25 78:19 80:13 82:25 84:4 85:3 89:1,21 99:1 105:5 107:13 116:3 121:12 122:23 125:14 128:9,14 132:11 133:12 141:18 142:4,23 163:3 167:25 182:11 theirs 47:2 thereto 131:16 thing 24:16 121:9 things 111:19 181:16 think 7:16,16 15:18 22:24 26:3 27:1 28:12 30:10 33:22 34:5,6 36:2,7,17 37:20 38:7 40:1 40:1,15 41:6,9	42:14 46:3,3,20 46:21 47:1,1,2 47:22,25,25 48:6,12 49:9 50:21 52:9 58:7 58:8,16 59:1 60:12,20 61:23 62:4,19 63:19 63:19,20 67:5 68:9 71:13 77:2 78:20 80:17 83:19,20,21,24 84:19 88:21 89:23 90:8 91:4 91:20 92:17,24 93:11,13 95:4 96:2,4,7,7,9 97:17 98:4,8 100:24 101:17 102:18 106:23 106:24 107:17 108:13 110:20 115:12 117:1 121:13,21,23 122:16,22,24,25 123:2,7 124:3,4 124:5,17 126:3 129:4 130:11,21 131:5 139:23 140:11,18 143:16,24 144:5 144:22 145:19 146:21 147:2 150:20 151:12 152:5 160:11	164:8 166:9 167:12,19 170:6 170:8 173:2,6 173:21 176:11 180:7,11,12 thinking 50:9 third 39:6 99:3 99:3 thomas 3:10 thomas.banks 3:13 thoracic 138:16 thought 127:8 134:14 thread 54:9 57:8 58:13 149:1,3,16 151:16 threaded 54:8 56:14 57:11 58:8,19 64:11 104:16 155:6 threads 58:11 58:18,19,21,22 59:1 three 8:3 56:15 89:11 109:12 134:13 168:25 throw 76:18 tibia 11:2 time 7:10,15,23 10:1 14:5 19:24 22:25 42:14 49:9 75:2 107:22 117:16
--	--	---	--

118:19 121:8 125:18 147:10 147:22 150:5 159:19 182:14 times 53:19,20 134:13 tines 15:17 16:5 26:4 tip 25:8 28:16 28:17,20,23 29:4,7,10,11 30:2,6,17,20,20 31:9 33:3,9,10 33:16,24 34:4 34:12,13 35:1,3 35:5,7,10,12,16 35:24 36:6,12 36:16,21 37:5,9 37:17,18 39:4 39:11,14,22,25 40:1,3,6,9,13,16 40:22 41:12,13 42:3,8 43:13,20 43:23 44:3,5,6 44:10,13 45:2,8 45:12,15,19,25 46:19,25 47:13 47:14,18,21,24 49:9,15,17,23 51:23 56:15 59:25 73:23 74:10 81:7 93:17 105:15 109:17 115:12 125:2 144:1	167:8 168:17 171:11,12,20 172:18 178:15 178:16,17 179:13,14,16,22 180:16 181:2,14 181:16,24 tipped 31:12 tips 20:14 25:21 29:1 41:11 74:25 143:17,20 145:25,25 171:23,23 tissue 22:10,19 26:15,16 28:18 29:20,24 30:9 31:16 35:8,20 37:2 38:10 50:1 50:24 51:5,10 51:14,17,18 81:7,15 105:17 106:3,8 107:14 109:14 114:12 114:19 115:1,5 115:11 139:11 144:7 145:6,6 146:7,18 160:6 160:15,20 166:15,23 171:13 173:7 179:16 181:3,21 title 1:10 today 6:15 12:18 48:8 50:6 83:21 92:6	93:24 148:9 today's 6:18 7:20 84:10 together 54:7 58:19,20 100:18 101:18 took 85:13 tool 16:7 22:17 37:3 56:13,17 89:16,17,19 90:12,22 91:9 91:10,12,18 92:14,20 93:6,9 97:4,6,7,12 98:7 98:15 100:2,8 100:11,12,15,16 100:17,20,21 102:2 103:2,16 103:19 105:12 105:17 110:21 119:20,23 122:5 122:10 124:12 124:16 125:6,10 125:11,20,21,23 126:16 128:9,22 130:1,3,4 131:17,22,23 132:4 149:22 157:10 159:10 159:13 160:24 164:21,23,23 165:3,21 168:10 168:15,15 171:2 172:24 180:6 181:8	tooling 113:25 148:11 162:2,5 162:10 tools 17:17,19 19:6 29:13,23 85:18 89:20,20 90:13,14,23,24 91:13,13,17 92:14,21,22,22 92:24 93:2,6,7,8 93:20,24,25 94:22,23 95:2 95:12,14,16,19 95:25 96:6,7,10 96:14,15 97:8,9 97:21 98:7,11 98:18,20,24 99:18,24 100:3 100:7,18 101:14 101:23 102:4,7 125:24,24 129:25 148:10 159:3,7 160:1 165:10 top 20:14,16,20 34:23 44:1 50:10 54:6,10 56:18 62:20,21 62:25 63:20 66:7 73:1 101:20 105:15 106:9,16 111:5 114:3 123:10 127:21 137:11 137:13 143:5,25
--	--	--	--

146:2 163:14 166:23 167:8 torque 149:15 total 8:3 11:21 163:20 touch 10:22 50:6 122:11 touched 26:3 towards 8:24 59:18 76:1,10 tracking 8:22 trademark 1:1 traditional 17:6 161:2 transcript 8:13 9:17 183:6,12 transfer 183:13 transferred 15:5 transition 22:13 141:4 transitioning 27:8 52:21 57:25 152:18 transitions 22:5 transparent 138:17 travel 78:15 trial 1:1 18:8,10 18:23 94:6,16 120:15 trials 18:7,22 trick 37:21 39:18 77:6 124:1 134:12	141:9 tried 14:1 trivial 83:8,12 83:13,13,16 trouble 8:22 troy 1:15 2:1 4:3 6:1,12 true 45:18 139:21 183:6 truthful 6:16 134:19 truthfully 77:8 134:20 try 36:19 trying 32:17 56:9 91:23 106:20 110:10 110:11,21 125:4 140:13 tube 15:20 25:3 25:4,7,20 tubes 14:17 25:17 tubular 18:2 turn 54:9 94:16 146:22,22 two 8:1 13:24 16:22 20:11 23:1 25:10 27:19 30:1,14 30:23 40:18 41:16 47:3,5,6 48:9 50:18 54:11 58:20 63:2 67:19 68:6	71:21 78:4 86:1 89:11 96:8 106:17 107:15 107:19 108:12 111:19,21 113:10,12,20 117:16 121:6 129:24 136:25 143:24,24 148:25 149:8 150:14 155:20 158:11 160:13 164:16 178:12 178:12 type 21:19 22:4 54:3,4 57:5 59:25 113:5 119:2 144:12 148:18 154:7 types 28:25 131:18 152:6 175:24 typically 30:5 108:15 typos 7:17	unauthorized 183:13 uncommon 23:7 under 36:19 41:1,5 77:7 134:18 136:14 136:14 undercut 19:13 understand 8:16 9:20 32:15 33:23 40:3 41:10,21 55:13 55:18 60:23 64:12 understandable 44:7 47:15 understanding 12:7,17 13:4 24:9 26:13,20 27:19,24 28:21 35:10 39:13 41:6 49:16,20 50:25 51:15 52:2,14,23 55:16 56:7 57:3 62:8 66:3,14 81:13 105:2 109:22 110:5 114:5,10 123:3 130:20 133:16 133:21 147:23 understands 27:13 understood 8:18 41:9 46:18
		u	
		u.s. 1:9 116:11 uh 38:13 77:1 151:9 161:14 164:11 166:20 181:19 ulti 10:23 ultimate 118:16 ultimately 10:23 118:14	

unfixed 53:20 unintelligible 30:24 32:13,18 70:22,23,25 71:2 153:25 160:10 169:17 united 1:1 9:18 137:15 universal 99:12 99:23 101:22 131:13,16,20,22 131:23 158:14 158:20 159:6 unlock 149:3 unlockable 53:13 unlocked 53:20 78:9 131:23 148:15 150:23 159:17 unlocking 78:10 unscrew 18:12 130:23 unscrewed 55:25 unsupported 43:18 unthread 149:3 149:17 upper 23:18 upright 23:16 url 137:25 usability 159:18 use 12:25 13:8 14:14 18:17,25	20:25 21:16 31:5 35:12 37:25 53:21 87:22 88:5,6 89:16,22 90:2 90:22 91:9 97:4 99:11,18 106:11 109:23 110:3,5 110:11,22 118:23 119:15 120:7 124:4 125:19 126:15 131:14 145:1 149:15 158:15 158:18,20 159:3 164:3 165:21 170:12 175:14 176:18 used 14:16,25 15:4,8 17:5,16 19:19,20 24:1 26:16,17 29:14 29:16 31:7 36:7 44:6 46:4,17,21 47:14 48:7 51:16 53:2,4,10 54:12 85:19,23 86:2,15 87:2,4 88:8,22,24 98:11 99:19,24 99:25 101:23,25 102:5,14,15 106:6 111:16 113:18 119:9,20 133:18,23 134:2	134:22 135:1,5 135:9 148:15,16 148:18 149:8 159:4,7,8 165:4 useful 112:24 uses 90:6,12,12 130:12 using 14:8,13 18:20 21:6 22:17 37:11 63:9 65:24 81:11 86:4 87:16,17 94:4 102:19 109:8 110:13 111:1 115:20,22 118:21 119:16 127:4,4 128:22 132:5 134:7 159:15 176:19 181:6 usually 147:13 utility 34:1 utilize 128:3 utilized 174:22	vernacular 13:6 versus 72:24 vertebral 21:1,3 22:1,16 111:5 139:8,25 140:4 140:18,20 165:20 vertical 123:11 video 8:14 60:9 videoconferen... 3:7,17 view 86:24 88:13 100:1,10 102:1 103:1,23 138:15 145:20 155:4 159:10 177:14 179:2 violation 183:14 visible 55:3 voice 112:2 void 12:24 13:8 21:11,15 22:19 24:8 26:18 29:19,21,23 30:7 31:9,14 35:19 37:1,6,8 37:10,13,15,18 37:19,25 38:1,2 38:2,4,6 44:9,11 45:13 47:17,19 47:24 81:10,18 85:19,22,24 86:2,4 89:24 105:15,19,20,25 106:2 107:14,20
		v	
		v 1:5 vague 94:17 validity 41:15 120:16 var 81:25 various 81:25 verbal 8:12 veritext 183:19	

107:23 110:4,15 110:21,21 111:1 113:5,18,19 114:13,14,25 115:3,4,9,14,23 118:13,13,15,16 118:22 119:2,3 119:11,13,17 120:10,19 121:3 121:10 128:5 144:10,12 146:20 160:21 166:15 173:3,24 174:12,16 176:10 181:6,23 voids 38:7	140:3 147:10 149:15 156:4,18 162:25 wanted 11:3 15:14 17:23,24 27:7,11,12 44:12,17 48:14 48:24 49:7 53:5 54:11 57:10 62:24 64:22 79:1 101:2 120:22 122:12 129:25 149:24 ward 3:11,16 watched 14:3 way 7:18 8:13 11:8 15:1 20:16 23:11 30:22,25 40:20 42:8 44:7 44:18 47:15 48:11 49:4 50:12,14 60:25 61:4 62:9 75:14 80:17 98:6 105:22 110:2,3 110:23 119:13 119:20 127:10 133:23 134:2 135:1,5,8 142:13 145:4,10 146:14 148:18 149:2 183:8 waymar 6:14 ways 177:7	we've 7:25 22:24 42:14 49:9 53:22,22 78:20 125:17 144:17 157:14 162:22 website 137:14 week 7:25 went 9:6 14:2 15:19 19:3 20:4 173:19 wheelchairs 23:17 wheth 148:10 width 105:25 william 3:4 wire 15:11,11 15:13,21,23 16:2,4 17:25 18:1 witness 2:10 9:11,15,24 31:22 40:20 42:16,18 60:5 66:22 78:22 85:3 112:6 117:1,4,6 121:25 137:6,8 137:19 138:2 146:23 154:17 161:15 162:22 163:3 167:21,25 168:5 witnessed 13:10	wnelson 3:6 woodworking 86:5 word 38:1 39:16 43:15 80:11,11 94:4,13 95:9 130:12 133:15 133:24 134:1,9 134:21 worded 48:1 words 13:5 44:6 47:14 99:4 work 14:15 18:8 55:13 57:4 126:1 183:13 worked 13:19 79:3 working 14:16 15:16,20 16:4 18:3 19:3 23:7 24:21,22,23,23 25:2,5,11,14 26:5,6,9 40:5,10 54:23,24 55:20 55:24 56:3 79:12 85:14,16 102:19 119:24 126:9,20 127:10 127:16,17,18,24 128:7 works 55:18 wrap 43:13 write 79:23 written 43:19 44:8 47:16
w			
wait 142:5 172:6 waived 2:10 182:13 walk 127:5,12 want 9:24 17:13 19:11 24:14 29:19,19 41:21 49:7 50:17 51:12,12,12 55:5 65:16 69:19 71:20 72:18 84:22 86:19 90:18 95:17,19 96:14 105:10 109:10 109:10 116:5 124:14 139:20			

wrong 34:15 wrote 48:12 www.veritext.... 3:24
y
y'all 116:5 173:11 yeah 9:25 16:9 16:17 24:6 30:13 38:7 39:12 40:15 42:11,19 66:6 66:22 68:15 86:5 89:6 107:4 107:8,9,12 117:13 121:25 140:18 141:17 142:6 145:12,21 145:23 146:15 146:19 150:11 150:11 160:11 161:11 177:2 178:22 180:22 year 11:4 16:21 years 13:19 14:4 16:22
z
zoom 10:2

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at www.veritext.com.