

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

UATP IP, LLC,

Petitioner,

v.

SLICK SLIDE LLC,

Patent Owner.

**Case PGR2024-00054 (US Patent No. 11,998,854)
Ref. 58544-0002PS1**

VIDEOCONFERENCE DEPOSITION OF

DR. JON RUST 30(b)(6)

INDIVIDUALLY AND ON BEHALF OF

SLICK SIDE, LLC

OCTOBER 22, 2025

Page 1 - 94

8:48 a.m. - 1:43 p.m.

REPORTED BY:

Tamara L. Houston

CA CSR No. 7244, RPR, CGR, CCRR No. 140

Job Number J13639288

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

REMOTE VIDEOTAPED VIDEOCONFERENCE DEPOSITION OF
Dr. Jon Rust, taken on behalf of the Patent Owner,
commencing from 8:48 a.m. to 1:43 p.m., Wednesday,
October 22, 2025, before Tamara L. Houston, CSR No.
7244, CCRR, CRG, RPR.

THE SULLIVAN GROUP OF COURT REPORTERS

1 APPEARANCE OF COUNSEL:

2

3 On behalf of the Petitioner:

4 FISH & RICHARDSON P.C.
5 BY: CRAIG A. DEUTSCH, ESQ.
6 60 South 6th Street
Suite 3200
7 Minneapolis, Minnesota 55402
(612) 335-5070
deutsch@fr.com

8

9 FISH & RICHARDSON P.C.
10 BY: TOM ROZYLOWICZ, ESQ.
1000 Maine Avenue S.W.
Washington DC 20024
11 (443) 995-9380
rozylowicz@fr.com

12

13 On behalf of the Patent Owner and Witness:

14

14 WOOD HERRON & EVANS LLP
BY: BRETT A. SCHATZ, ESQ.
600 Vine Street
15 Suite 2800
Cincinnati, Ohio 45202
16 (513) 548-5310
bschatz@whepatent.com

17

18

19

20

21

22

23

24

25

THE SULLIVAN GROUP OF COURT REPORTERS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

INDEX TO EXAMINATION

WITNESS: DR. JON RUST

EXAMINATIONS	PAGE
MR. DEUTSCH.....	6
MR. SCHATZ.....	84

QUESTIONS INSTRUCTED NOT TO ANSWER

Page	Line
13	4
14	11
14	19
15	6
15	15
16	11
16	19
17	12
17	21
29	11
29	19
31	7
35	14
35	24

--000--

THE SULLIVAN GROUP OF COURT REPORTERS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

INDEX TO EXHIBITS

DR. JON RUST

UATP IP, LLC vs. SLICK SLIDE LLC

OCTOBER 22, 2025

Tamara L. Houston, CSR No. 7244, CRR No. 140, RPR

EXHIBIT	DESCRIPTION	PAGE
	None marked.	
	--o0o--	

1 WEDNESDAY, OCTOBER 22, 2025, 8:48 a.m.

2 * * *

3 COURT REPORTER: My name is Tamara Houston,
4 California Certified Shorthand Reporter Number 7244.

5 ---000---

6 (DR. JON RUST, having been
7 called as a witness was sworn to
8 tell the truth, the whole truth,
9 and nothing but the truth.)

10 ---000---

11 EXAMINATION BY MR. DEUTSCH:

12 Q. Thank you for being here today, Dr. Rust.

13 Just to start, I will recognize that our
14 conversation is being transcribed by the court reporter,
15 of course; and to make her job easier and to facilitate
16 an accurate record, it's important that we try not to
17 talk over one another. And so I'll ask a question, and
18 then I'll pause and provide an opportunity for you to
19 respond.

20 If any of my questions are unclear, please
21 just ask me to clarify, and I will restate or rephrase
22 the question. If you don't ask me to clarify, I'll
23 assume that you understood my question.

24 Is that fair today?

25 A. Yes.

1 Q. And on that point, it's important to provide
2 verbal responses rather than nodding or nonverbal
3 answers.

4 Is that fair?

5 A. Yes.

6 Q. And if you need a break at any time, just let
7 me know. We'll -- we'll take regular breaks, but just
8 let me know if you need a break and we can -- we can
9 accommodate that.

10 Dr. Rust, I think you are in Cincinnati,
11 Ohio, right now; is that correct?

12 A. Correct.

13 Q. And remind me where you reside.

14 A. Raleigh, North Carolina.

15 Q. And where do you currently work?

16 A. I'm retired.

17 Q. And do you do any consulting outside of your
18 engagement here, or is this the only thing that you are
19 working on at the moment?

20 A. I am involved with two other cases currently.

21 Q. What is the subject matter of those cases?

22 A. One is involved with a type of textile
23 processing machinery, and one is involved with nasal
24 swabs.

25 Q. And have you provided any testimony in those

1 cases?

2 A. I have.

3 Q. Have you been deposed in those cases?

4 A. I have not.

5 Q. About how many times would you say you've been
6 deposed previously beyond -- beyond those cases?

7 A. Well, I haven't counted it up, but I would say
8 in the ballpark of 20 times.

9 Q. And have those depositions been in district
10 court?

11 A. Some.

12 Q. Have you been deposed in a proceeding before
13 the PTAB before?

14 A. I don't understand the question.

15 Q. Do you understand this is a post-grant review
16 proceeding before the Patent Trial and Appeal Board at
17 the patent office?

18 A. I do.

19 Q. Have you ever participated in any other
20 proceedings before the Patent Trial and Appeal Board at
21 the U.S. patent office?

22 A. I'm not sure.

23 Q. You don't recall any depositions associated
24 with a proceeding before the U.S. patent office?

25 MR. SCHATZ: Objection. Form.

1 THE WITNESS: I'm not sure.

2 BY MR. DEUTSCH:

3 Q. Dr. Rust, you had said you were retired a
4 moment ago.

5 Do you recall around what time period that you
6 retired?

7 A. I was fully retired on June 30th, 2023, when I
8 became emeritus professor. So technically I'm an
9 employee of North Carolina State University, but unpaid.
10 Prior to that, in June 30th, 2020, was when I
11 truly retired, but I went, then, into phase retirement,
12 which means that I worked half-time for three years. I
13 gave up tenure, worked half-time for three years, but
14 was fully retired in '23.

15 Q. And what did you do prior to -- prior to that
16 time?

17 MR. SCHATZ: Objection. Form.

18 THE WITNESS: I would have to ask: Prior to
19 what time?

20 BY MR. DEUTSCH:

21 Q. Let's start with prior to 2020 that you
22 mentioned.

23 A. Okay. Prior to 2020 I was briefly a professor
24 of textile engineering at North Carolina State
25 University. I say "briefly" because -- well, I was a

1 professor of textile engineering for many years going
2 back to 1999, but not long before my retirement, I was
3 also associate Dean and the director of the ZTE, the
4 College of Textiles, industrial services unit.

5 Q. And in that role, did you do any projects
6 associated with recreational slides?

7 A. I did not.

8 Q. How about in any of your earlier professional
9 work?

10 A. I don't understand the question.

11 Q. Sure. Let me take a step back, and I can -- I
12 can break it down.

13 Maybe -- maybe let's -- let's start with
14 the -- the '854 patent; and when I say "'854 patent," do
15 you understand we're talking about Exhibit 1001, which
16 is U.S. Patent 11,998,854?

17 A. I do.

18 Q. Were you aware of the '854 patent prior to
19 being engaged by Slick Slide for these -- for this
20 proceeding?

21 A. I was not.

22 Q. When were you first contacted by someone on
23 behalf of Slick Slide to work on this proceeding?

24 A. I believe it was around the beginning of the
25 2025 year, maybe the end of '24. I'm -- I'm not exactly

1 certain.

2 Q. And that's fine.

3 Do you recall who contacted you?

4 A. Yes.

5 Q. Who was that?

6 A. That would be Lou -- his last name escapes me.

7 Lou -- Brett's colleague.

8 Q. Understood. And is there anything that you
9 did before agreeing to be retained on -- on behalf of
10 Slick Slide for this proceeding?

11 MR. SCHATZ: Objection. Form.

12 THE WITNESS: As -- yes.

13 BY MR. DEUTSCH:

14 Q. What did you do?

15 A. Reviewed the materials to see if I felt like
16 it was in my realm of expertise and briefly considered
17 the merits of what was being asked.

18 Q. And what made you feel like it was within your
19 realm of expertise?

20 A. Because I've been working with textile fabrics
21 all my life; testing, analyzing fibers, fabrics,
22 polymers, manufacturing them as part of my work with
23 ZTE, the extension department, teaching the concepts of
24 fiber science, textile science, polymer science, and
25 many, many courses for -- gosh -- 40 years, I guess

1 almost.

2 Q. And did any of that experience involve a slide
3 system that used a ride vehicle?

4 MR. SCHATZ: Objection. Form.

5 THE WITNESS: I don't think so.

6 BY MR. DEUTSCH:

7 Q. Did you ever previously work for or perform
8 services on behalf of Slick Slide prior to your
9 engagement in this proceeding?

10 A. No.

11 Q. And I guess a couple related questions.

12 Did you ever work with Gary Schmit prior to
13 your engagement on this matter?

14 A. No.

15 Q. Did you ever work with Bron Launsby prior to
16 your engagement on this matter?

17 A. I don't recognize that name.

18 Q. When you were engaged -- let me rephrase that.

19 After you were engaged by Slick Slide, what
20 was your next activity?

21 A. To study the '854 patent and the Phillips
22 patent.

23 Q. Can you talk about your process for writing
24 your declaration? And in particular, I'm referring to
25 the declaration submitted as Exhibit 2027.

1 MR. SCHATZ: Objection. Form. And I'll
2 instruct the witness not to answer with respect to
3 portions of your question that could be implicated.

4 (Witness instructed not to answer the
5 question.)

6 BY MR. DEUTSCH:

7 Q. And I can rephrase that question.

8 Dr. Rust, without reviewing any --

9 MR. SCHATZ: Thank you, appreciate that.

10 BY MR. DEUTSCH:

11 Q. Dr. Rust, without revealing any privileged
12 communications, can you explain your process in writing
13 your declaration that was submitted as Exhibit 2027 in
14 this proceeding?

15 A. So review the background information and
16 review the materials submitted by the Petitioner,
17 consider the points brought up by the Petitioner in
18 terms of obviousness, in terms of other of the legal
19 terminology, and then study the patent and see what my
20 expert opinion was on that, and then begin formulating
21 my opinions on that, writing them down, and offering
22 them to counsel.

23 Q. And is that your usual process?

24 MR. SCHATZ: Objection. Form.

25 THE WITNESS: Could you be more specific with

1 that question, please?

2 BY MR. DEUTSCH:

3 Q. Sure. And I can -- I can break it down to be
4 more specific as well.

5 You -- you described the process of reviewing
6 materials and formulating your -- your opinions.

7 Did you prepare the draft that became
8 Exhibit 2027, your declaration?

9 MR. SCHATZ: Instruct the witness not to
10 answer. Privilege.

11 (Witness instructed not to answer the
12 question.)

13 BY MR. DEUTSCH:

14 Q. Without reviewing -- revealing any privileged
15 communications with counsel, did you prepare the first
16 draft of your declaration?

17 MR. SCHATZ: Instruct the witness not to
18 answer. Privilege.

19 (Witness instructed not to answer the
20 question.)

21 BY MR. DEUTSCH:

22 Q. To be clear, I'm not asking about any
23 communications with counsel or the content of those
24 communications.

25 I'm just asking about the declaration that you

1 submitted as Exhibit 2027, Dr. Rust.

2 Is that a document you prepared or was that
3 something that was provided to you?

4 MR. SCHATZ: Instruct the witness not to
5 answer. Privilege.

6 (Witness instructed not to answer the
7 question.)

8 BY MR. DEUTSCH:

9 Q. At what point in the process, Dr. Rust, did
10 you review a draft of Exhibit 2027?

11 MR. SCHATZ: Objection. Form. And I'll
12 instruct the witness not to answer to the extent it
13 requires revealing participation in the preparation of
14 the declaration by certain individuals.

15 (Witness instructed not to answer the
16 question.)

17 THE WITNESS: The first draft was what I wrote
18 in my professional opinions relating to the questions
19 brought forward by Petitioner, analyzing the patents and
20 writing what I felt about that. That's the first draft.
21 So I didn't review it; I wrote it.

22 BY MR. DEUTSCH:

23 Q. And in writing that first draft -- strike
24 that, please.

25 So just -- just to make sure I understood.

1 You wrote the first draft of Exhibit 2027?

2 A. I wrote -- I wrote in my words the information
3 that I felt responded to the allegations. I wrote the
4 first draft. It's not going to be -- that wouldn't have
5 been in the same form as the finished document, but that
6 was my -- those were my words I wrote.

7 Q. Did any text from your first draft survive
8 into the final draft that was submitted as Exhibit 2027?

9 MR. SCHATZ: Instruct the witness not to
10 answer. Privilege.

11 (Witness instructed not to answer the
12 question.)

13 BY MR. DEUTSCH:

14 Q. Without revealing any privileged communication
15 with counsel, did any text from your first draft survive
16 into the final draft that was submitted as Exhibit 2027?

17 MR. SCHATZ: Instruct the witness not to
18 answer. Privilege.

19 (Witness instructed not to answer the
20 question.)

21 BY MR. DEUTSCH:

22 Q. Dr. Rust, are you -- do you recall any of the
23 content from that first draft that you referenced a
24 moment ago?

25 A. I do.

1 Q. And is that text that appears in Exhibit 2027?

2 A. It is.

3 Q. And would you say that the entirety of your
4 first draft appears in Exhibit 2027, or were there --
5 well, let me rephrase that to make it simpler.

6 Tell me about your process in going from the
7 first draft to what was submitted as Exhibit 2027. And
8 to be more specific, were there multiple drafts that you
9 worked on before it was submitted as Exhibit 2027?

10 MR. SCHATZ: Instruct the witness not to
11 answer. Privilege.

12 (Witness instructed not to answer the
13 question.)

14 BY MR. DEUTSCH:

15 Q. Again, without revealing privileged
16 communication with counsel, Dr. Rust, did your opinions
17 change from your first draft and what you submitted as
18 Exhibit 2027?

19 MR. SCHATZ: Instruct the witness not to
20 answer. Privilege.

21 (Witness instructed not to answer the
22 question.)

23 BY MR. DEUTSCH:

24 Q. Dr. Rust, I'll wait for you to answer that
25 question.

1 MR. SCHATZ: The instruction is not to answer.
2 Privilege.

3 MR. DEUTSCH: I don't think there's anything
4 privileged, Counsel.

5 BY MR. DEUTSCH:

6 Q. Dr. Rust, let me ask a different question.

7 Did you have anyone, such as an assistant,
8 that helped assist with the preparation of your
9 declaration?

10 A. No.

11 Q. Can you identify, without revealing privileged
12 communication, each person, other than attorneys, with
13 whom you communicated as part of your work in this
14 proceeding?

15 MR. SCHATZ: Objection. Form.

16 THE WITNESS: Yes.

17 BY MR. DEUTSCH:

18 Q. Please do so.

19 (Court Reporter requested clarification.)

20 THE WITNESS: Sorry, Tamara. I just said no
21 one but myself.

22 BY MR. DEUTSCH:

23 Q. And so when you say no one but yourself, you
24 didn't communicate with Dr. Spiegelberg, for example, in
25 preparing your declaration?

1 A. To the best of my recollection, I had no
2 communication with Dr. Spiegelberg until after my
3 declaration had been submitted.

4 Q. Let's -- let's go ahead and turn to your
5 declaration, in particular, paragraph 22.

6 MR. SCHATZ: Craig, how do you want to handle
7 that? Should we open up the exhibit here? Do you want
8 to screen share; or alternatively, we do have a paper
9 copy in front of us unmarked, unannotated. You just let
10 us know what you think would be best.

11 MR. DEUTSCH: That -- that's fine. Yeah.

12 BY MR. DEUTSCH:

13 Q. Whatever -- whatever you're comfortable with,
14 Dr. Rust. If you want to use the paper copy, that would
15 be fine.

16 MR. SCHATZ: Thank you for that, Craig. I
17 think that's the best approach just because it's
18 difficult to get the whole context when you're just
19 scrolling on a screen.

20 MR. DEUTSCH: Yeah. Understood.

21 MR. SCHATZ: Okay, great. Thank you.

22 BY MR. DEUTSCH:

23 Q. So if you could turn to paragraph 22 briefly.
24 This is just below the heading, Legal Principles.

25 A. Yes.

1 Q. Paragraph 22 indicates that "I've applied the
2 legal principles described in the following paragraphs
3 which were provided to me by counsel for the
4 Petitioner."

5 Do you see that?

6 A. Yes.

7 Q. Who provided you with these legal principles?

8 A. Counsel sitting with me.

9 Q. Okay. Thank you.

10 A. Incorrect. Counsel for the Petitioner. I
11 misspoke.

12 Q. And what do you mean by that?

13 A. In the documents provided, with a history of
14 the petition.

15 Q. You mean in the legal principles that you
16 pulled from the documents submitted with the petition?

17 A. To the best of my recollection, yes.

18 Q. Let's skip forward past that section, and the
19 next section is "Person of Ordinary Skill in the Art,"
20 and this is at the bottom of page 20, begins at
21 paragraph 33.

22 At paragraph 33 you begin describing a
23 POSITA's ordinary level of skill. And I'll just -- I'll
24 just read that. "Based on my knowledge and experience
25 in the field and my review of the '854 patent and its

1 file history, I believe that a person of ordinary skill
2 in the art as of the critical date, POSITA would have
3 had at least (1), a Bachelor's degree in engineering,
4 materials science, or a related field with (2)
5 experience in textile design, engineering, or fiber
6 science."

7 Do I have that correct?

8 A. Yes.

9 Q. And then in paragraph 34, you indicate that,
10 "With respect to Claims 1 to 17, and" -- excuse me, "27
11 to 28 of the '854 patent, a POSITA would also require at
12 least five years of measurement and analysis experience
13 in the field of coefficient of friction."

14 Do I have that right?

15 A. Yes.

16 Q. And then in the next sentence, "I am relying
17 upon Dr. Spiegelberg's opinions in connection
18 therewith."

19 Did I read that correctly?

20 A. Yes.

21 Q. Dr. Rust, why do you identify Claims 1 through
22 17 and 27 through 28 there specifically?

23 A. Because they are related to coefficient of
24 friction.

25 Q. And so are you saying you're relying on

1 Dr. Spiegelberg's opinions in connection with
2 coefficient of friction aspects of the claims because he
3 has the requisite level of skill with respect to
4 coefficient of friction?

5 MR. SCHATZ: Objection to form.

6 THE WITNESS: Dr. Spiegelberg is an expert --
7 I understand that he's an expert in friction and
8 measurement and analysis friction, but -- yeah. That's
9 why I'm relying on him as the expert.

10 BY MR. DEUTSCH:

11 Q. And is it -- is it fair to say where the text
12 of your declaration is the same as Dr. Spiegelberg's
13 declaration, that that's an example of where you're
14 relying on his expertise?

15 MR. SCHATZ: Objection to form.

16 THE WITNESS: In part.

17 BY MR. DEUTSCH:

18 Q. When you say "in part," what do you mean by
19 that?

20 A. I mean that I have a -- well, I'm relying on
21 Dr. Spiegelberg's opinion as an expert in the
22 measurement and analysis of coefficient of friction.
23 That's -- that's correct.

24 Q. And so did you confer with Dr. Spiegelberg
25 before your declaration was filed?

1 A. Not to my recollection.

2 Q. Did you review Dr. Spiegelberg's opinions
3 before your declaration was filed?

4 A. I'm not sure.

5 Q. So could you clarify, Dr. Rust, how you relied
6 on his expertise?

7 A. In communication with counsel, specifically on
8 issues of addressing aspects of coefficient of friction,
9 I relied on Dr. Spiegelberg's opinions.

10 Q. You're not sure if you've reviewed
11 Dr. Spiegelberg's opinions before submitting your
12 declaration?

13 A. I must have because -- yeah, I must have. I
14 just don't recall when specifically.

15 Q. You don't recall if it was before -- before
16 submitting the declaration?

17 MR. SCHATZ: Objection. Asked and answered.

18 THE WITNESS: I don't remember when I first
19 reviewed his opinions. Opinions --

20 BY MR. DEUTSCH:

21 Q. Do you recall how you became aware of
22 Dr. Spiegelberg's opinions?

23 A. Provided to me by counsel.

24 Q. Okay. So I don't mean to belabor this. We
25 can jump to some specific substantive paragraphs and --

1 I'm just trying to understand kind of where -- what's
2 your opinion and what -- what's Dr. Spiegelberg's
3 opinion.

4 A. Okay.

5 Q. Let's turn to paragraph 49 of your
6 declaration, Exhibit 2027.

7 And in the second sentence in paragraph 49,
8 the text indicates, [as read], "In my opinion, however,
9 Dr. Wong [sic] is not correct when he suggests that the
10 ways that the slope of the slide, the weight of the
11 rider, and the materials forming the slide and sliding
12 vehicle influence the speed at which the rider/sliding
13 vehicle descend the slide are all consequences of simple
14 principles of physics."

15 Did I read that correctly?

16 A. Yes.

17 Q. And then in the last sentence of paragraph 49,
18 "These are complex issues that are only understood
19 through experience in the manner in which the
20 coefficient of friction is impacted by each of these
21 factors."

22 Is that correct?

23 A. Yes.

24 Q. And so that's something that I understand
25 you're relying on Dr. Spiegelberg's analysis of?

1 A. No.

2 Q. You're not relying on Dr. Spiegelberg's
3 analysis for this coefficient of friction discussion?

4 A. I don't need Dr. Spiegelberg's opinion on the
5 information in paragraph 49.

6 Q. So what are the complex issues that you're
7 referring to in that sentence?

8 A. Well, there are many. One of the documents
9 submitted by Petitioners for Dr. Wang outlined ten, but
10 I -- I can begin to say, you know, that it's not only
11 the materials forming the slide, but the materials --
12 well, let me read it carefully.

13 It talks about the materials forming the slide
14 and forming the sliding vehicle, but there's no mention
15 of the morphology of those materials; there's no mention
16 of the surface characteristics; there's no mention of --
17 of -- I don't think there's any mention of lubricant.
18 There are -- there are many, many things that come into
19 play.

20 Q. And in that last sentence you also indicated
21 that, "These are complex issues that are only understood
22 through experience in the manner in which the
23 coefficient of friction is impacted by each of these
24 factors."

25 When you referred to "experience" in that

1 sentence, you're referring to the experience a POSITA
2 would possess; is that correct?

3 A. Yes.

4 Q. And is that experience that would require five
5 years of measurement in analysis experience in the field
6 of coefficient of friction?

7 A. Yes.

8 Q. But you're not relying on Dr. Spiegelberg in
9 speaking to what a POSITA would understand in this
10 regard?

11 A. No.

12 Q. So what -- what aspects do you rely on
13 Dr. Spiegelberg's analysis for?

14 MR. SCHATZ: Objection. Form.

15 THE WITNESS: He's an expert in friction.

16 BY MR. DEUTSCH:

17 Q. And so you're deferring to his opinions when
18 it comes to coefficient of friction?

19 MR. SCHATZ: Objection. Form.

20 THE WITNESS: In some instances.

21 BY MR. DEUTSCH:

22 Q. Are you qualified to speak to a POSITA's
23 experience with respect to coefficient of friction?

24 A. I believe I am, yes.

25 Q. What instances are you relying on

1 Dr. Spiegelberg's analysis and not your own?

2 A. I'm not sure. I'd have to go through the
3 declaration to point out something specific in relying
4 on him as an expert.

5 Q. Let's go ahead and do that. When you say "I'd
6 have to go through the declaration to point out
7 something specific," I think it would be helpful to have
8 that understanding.

9 A. Is there a question?

10 Q. So my understanding is you're relying on
11 Dr. Spiegelberg's analysis when you speak to subject
12 matter related to coefficient of friction; is that
13 correct?

14 A. I'm relying on Dr. Spiegelberg as an expert in
15 friction and the coefficient of friction.

16 Q. And so where the -- where the text of your
17 declaration is -- let me rephrase that, Dr. Rust.

18 Let's turn to paragraph 148 of your
19 declaration. The second sentence, paragraph 148,
20 states, "In this regard, I have reviewed the opinions of
21 Dr. Spiegelberg and rely in part upon them."

22 What parts do you rely on Spiegelberg and on
23 what parts do you not rely on his analysis?

24 MR. SCHATZ: Objection. Form.

25 THE WITNESS: Dr. Spiegelberg brought the

1 reference of Benabdallah. He has opinions on the
2 coefficient of friction for different materials, be that
3 as -- as our outline are mentioned here in paragraph
4 148. I rely on him as an expert; however, these are my
5 opinions.

6 BY MR. DEUTSCH:

7 Q. So what do you mean you rely in part on them?

8 A. I mean, he -- he's the expert. I have
9 opinions. I have opinions in the document, but I don't
10 claim to be an expert in coefficient of friction or
11 friction testing, although I have a lot of experience
12 with it.

13 Q. Understood. A moment ago, Dr. Rust, you had
14 stated that Dr. Spiegelberg brought the reference of
15 Benabdallah.

16 What do you mean -- what do you mean by
17 Dr. Spiegelberg brought the reference?

18 A. I mean, that's not a reference that I
19 provided. A reference was provided to me.

20 Q. You don't know if Dr. Spiegelberg provided
21 that to you or someone else provided that you to?

22 A. I don't recall.

23 Q. Dr. Spiegelberg could have provided that to
24 you?

25 A. It was -- it was provided to me by counsel. I

1 guess I assumed that Spiegelberg found it and submitted
2 it. I don't know. I don't know.

3 Q. Let's turn to paragraph 141.

4 I guess one -- one follow-up question to make
5 sure I'm understanding, Dr. Rust, were the opinions
6 about the Benabdallah reference that are presented in
7 your declaration presented to you as Dr. Spiegelberg's
8 opinions?

9 MR. SCHATZ: I'm going to instruct the witness
10 not to answer based on privilege.

11 (Witness instructed not to answer the
12 question.)

13 BY MR. DEUTSCH:

14 Q. Without revealing privileged communications,
15 what led you to believe that the analysis of that
16 reference was Dr. Spiegelberg's opinion?

17 MR. SCHATZ: I'll instruct the witness not to
18 answer. Privilege.

19 (Witness instructed not to answer the
20 question.)

21 BY MR. DEUTSCH:

22 Q. Dr. Rust, you did mention that counsel
23 provided you Dr. Spiegelberg's opinions, correct?

24 A. Yes. I think that's correct.

25 Q. So -- so you didn't discuss with

1 Dr. Spiegelberg whether that analysis reflected his
2 opinions or whether that was provided by counsel to him
3 as well?

4 A. I don't recall communicating with
5 Dr. Spiegelberg prior to submitting my declaration. I
6 just don't recall.

7 Q. So you don't have an opinion on whether this
8 analysis is Dr. Spiegelberg's analysis or whether it was
9 analysis provided by counsel to Dr. Spiegelberg?

10 MR. SCHATZ: Objection. Form.

11 THE WITNESS: I'll go back to the paragraph.
12 Which one is it? 147; is that it?

13 BY MR. DEUTSCH:

14 Q. A moment ago we were talking about 148.

15 A. 148. These opinions are my opinions, as I
16 said previously.

17 Q. And in the second sentence when you say you've
18 reviewed the opinions of Dr. Spiegelberg,
19 Dr. Spiegelberg didn't communicate to you that those
20 were his opinions, correct?

21 A. No. I don't -- I don't think so. I don't
22 recall. No. I said I don't recall the first time I
23 communicated with Dr. Spiegelberg. I don't think it was
24 before I submitted this directly.

25 Q. Have you communicated with Dr. Spiegelberg at

1 a later time, possibly?

2 A. Much later, yes.

3 Q. And do you recall what's -- what you discussed
4 with Dr. Spiegelberg in that later conversation?

5 MR. SCHATZ: I'm going to instruct the witness
6 not to answer. Privilege.

7 (Witness instructed not to answer the
8 question.)

9 BY MR. DEUTSCH:

10 Q. Dr. Rust, I understood from your previous
11 statement that you communicated directly with
12 Dr. Spiegelberg; is that not correct?

13 A. I have.

14 Q. And do you recall what the content of those
15 discussions were directed to?

16 MR. SCHATZ: Craig, you're just asking if he
17 recalls?

18 MR. DEUTSCH: I'm sorry, is that a question,
19 Counsel?

20 MR. SCHATZ: Yeah, I'm sorry, Craig. I was
21 just trying to clarify your question.

22 BY MR. DEUTSCH:

23 Q. Dr. Rust, do you want me to repeat the
24 question?

25 A. Please.

1 Q. What was the content of those discussions with
2 Dr. Spiegelberg that did not involve counsel?

3 MR. SCHATZ: Instruct the witness not to
4 answer. Privilege.

5 (Witness instructed not to answer the
6 question.)

7 MR. DEUTSCH: Counsel, so you're instructing
8 the witness not to answer questions that don't involve
9 attorney-client privileged communications?

10 MR. SCHATZ: Well, I disagree with the
11 statement you just made. I'm instructing the witness
12 not to reveal any privileged information which would
13 include work product.

14 MR. DEUTSCH: The basis for Dr. Rust's
15 opinions presented in his declaration and his testimony
16 here today is fair game and not something that is
17 prevented as attorney-client privilege. So I'll ask
18 again -- go ahead, Counsel.

19 MR. SCHATZ: I'm sorry. I just don't think I
20 understood your commentary there.

21 BY MR. DEUTSCH:

22 Q. Dr. Rust, I think you testified that you're
23 relying on Dr. Spiegelberg's analysis, at least in part,
24 correct?

25 A. I'm -- I'm relying at least in part on

1 Dr. Spiegelberg as an expert in the -- yeah, in the
2 topic of friction and coefficient of friction.

3 Q. And you also testified that you didn't
4 communicate with Dr. Spiegelberg prior to submitting
5 your declaration, Exhibit 2027, correct?

6 MR. SCHATZ: Objection to form. Asked and
7 answered.

8 THE WITNESS: I've answered this numerous
9 times.

10 BY MR. DEUTSCH:

11 Q. Well, I'm just trying to understand, Dr. Rust,
12 the basis for your opinions and, you know, what reflects
13 Dr. Spiegelberg's analysis and your basis for stating
14 that the analysis in paragraph 148, for example, is
15 based on the opinion of Dr. Spiegelberg.

16 MR. SCHATZ: Objection. Form.

17 THE WITNESS: I never said that. I said they
18 were my opinions.

19 BY MR. DEUTSCH:

20 Q. Well, in the second sentence you state, "In
21 this regard, I've reviewed the opinions of
22 Dr. Spiegelberg."

23 What were those opinions that you reviewed?

24 A. I don't remember right now.

25 Q. So you don't have an opinion on whether what

1 you reviewed was the opinion of Dr. Spiegelberg, or you
2 don't remember what you reviewed?

3 MR. SCHATZ: Objection to form.

4 THE WITNESS: As I said, paragraph 148, those
5 are my opinions.

6 BY MR. DEUTSCH:

7 Q. And so that paragraph 148 -- here, let me
8 rephrase that.

9 Your opinions in paragraph 148 were informed
10 by Dr. Spiegelberg's opinions relayed to you by counsel?

11 A. The opinions in paragraph 141 are my opinions.

12 Q. Let's go to paragraph 141 --

13 A. Okay.

14 Q. -- briefly. The last sentence of paragraph
15 141 states: "Open spaces attendant to 'mesh' would
16 inform a POSITA that the coefficient of friction and
17 friction would increase because [expert to insert
18 analysis here.]"

19 Is that a portion of your declaration where
20 you planned to insert Dr. Spiegelberg's analysis?

21 A. You know, I -- I have to guess that this is a
22 spot where counsel thought that I needed to expand more
23 in my opinions. And obviously I failed to do that. It
24 just demonstrates the fact that I was the one that --
25 that wrote the declaration.

1 Q. I mean, that demonstrates that you wrote that
2 last sentence of paragraph 141? Is that what you're
3 saying?

4 A. Well, it demonstrates that I was asked to
5 provide more information in my role as an expert, to
6 write more content in that specific place. And I
7 missed -- I missed it.

8 Q. Do you recall any portions of your -- of this
9 declaration that you wrote? Or let me break that down.

10 Do you recall any sentences in paragraph 141
11 that you wrote?

12 MR. SCHATZ: Instruct the witness not to
13 answer. Privilege.

14 (Witness instructed not to answer the
15 question.)

16 MR. DEUTSCH: I'm not asking Dr. Rust about
17 any communication with counsel.

18 BY MR. DEUTSCH:

19 Q. I'm just asking if you recall writing any of
20 the text in paragraph 141.

21 MR. SCHATZ: Yeah, I understand exactly what
22 you're asking. Instruct the witness not to answer.
23 Privilege.

24 (Witness instructed not to answer the
25 question.)

1 BY MR. DEUTSCH:

2 Q. Dr. Rust, do you recall any other texts in any
3 other paragraphs that he wrote?

4 MR. SCHATZ: Instruct the witness not to
5 answer. Privilege to the extent the question is asking
6 for a particular subject matter that he wrote or did not
7 write.

8 BY MR. DEUTSCH:

9 Q. Dr. Rust, I think you said a moment ago "I was
10 the one that had wrote the declaration."

11 Is that correct?

12 MR. SCHATZ: Object to form.

13 BY MR. DEUTSCH:

14 Q. Let me rephrase that, Dr. Rust. Just --

15 MR. DEUTSCH: We've been going for quite a
16 while. We can take a break if you'd like.

17 THE WITNESS: It's fine.

18 MR. SCHATZ: Great. Thank you. Appreciate
19 that.

20 (Recess.)

21 BY MR. DEUTSCH:

22 Q. Dr. Rust, are you familiar with burlap
23 material?

24 A. I am.

25 Q. Is burlap a woven material?

1 A. It is.

2 Q. And what -- let me rephrase that.

3 Are you familiar with types of weaves that are
4 used when constructing burlap?

5 A. I am.

6 Q. What types of weaves were used for burlap?

7 A. There were probably -- yeah, I don't know
8 exactly how many, but certainly a plain weave was used.

9 Q. What's a plain weave?

10 A. That's the simplest weave where the weft and
11 the warp run over each other --

12 (Court reporter requested clarification.)

13 A. Weft, W-E-F-T, and warp yarns go over and
14 under one another.

15 Q. Does burlap have an open construction?

16 MR. SCHATZ: Objection -- objection to form.

17 THE WITNESS: It has a woven construction.

18 BY MR. DEUTSCH:

19 Q. I can be more specific, Dr. Rust.

20 Would a plain weave burlap material have an
21 open construction?

22 MR. SCHATZ: Objection. Form.

23 THE WITNESS: It has -- it's a -- so plain
24 weave burlap is a woven construction.

25

1 BY MR. DEUTSCH:

2 Q. Are you saying you once used the phrase "open
3 construction" in driving a plain weave burlap?

4 MR. SCHATZ: Objection. Form.

5 THE WITNESS: Would you repeat the question,
6 please?

7 BY MR. DEUTSCH:

8 Q. Are you saying that a plain weave burlap
9 material does not have an open construction?

10 MR. SCHATZ: Objection. Form.

11 THE WITNESS: I'm saying it's a woven fabric.

12 BY MR. DEUTSCH:

13 Q. And so some plain weave burlap materials have
14 an open construction?

15 MR. SCHATZ: Objection. Form.

16 Is there a question?

17 BY MR. DEUTSCH:

18 Q. Do you understand the question, Dr. Rust?

19 A. So I haven't analyzed burlap fabrics for this
20 case.

21 To answer your question, I would need to see
22 the fabric in question and take time to review it and
23 study it.

24 Q. And what would you consider in determining if
25 it had an open construction?

1 MR. SCHATZ: Objection to form. And outside
2 the scope.

3 THE WITNESS: I would analyze the fabric and
4 study it to determine the characteristics of the fabric,
5 compare it to definitions.

6 MR. DEUTSCH: I've uploaded Exhibit 2012 into
7 the chat. I'll pause just a moment so that you can open
8 it?

9 MR. SCHATZ: Craig, is it a lengthy exhibit;
10 do you know?

11 MR. DEUTSCH: No, it's not.

12 MR. SCHATZ: We're going to see if we have a
13 paper copy here in the room because we're having trouble
14 opening it.

15 MR. DEUTSCH: Okay. No problem. And if -- if
16 nothing else, I can share screens. This one is only
17 four pages.

18 BY MR. DEUTSCH:

19 Q. Do you have Exhibit 2012, Dr. Rust?

20 A. I do.

21 Q. Are you familiar with this exhibit?

22 A. I've seen it.

23 Q. Is this an exhibit that you had identified in
24 preparing your declaration 2027?

25 A. I've seen it.

1 Q. You mean you were familiar with it from your
2 prior work, or -- is that what you meant?

3 A. No.

4 Q. Is this an exhibit you identified in preparing
5 your declaration, 2027?

6 A. Yes.

7 Q. If you turn to page 4, there's a heading
8 labeled as, "Description."

9 Do you see that?

10 A. Yes.

11 Q. Could you read the second sentence?

12 A. "Sourced from thick, fibrous sustainable, and
13 hypoallergenic, 100 percent jute fibers, burlap is woven
14 in a loose plain, 1-over-1 style weave."

15 Q. Are you familiar with what it describes as a
16 "loose plain 1-over-1 style weave"?

17 A. Yes.

18 Q. What does it mean when it describes the weave
19 as loose?

20 MR. SCHATZ: Going to object as outside the
21 scope.

22 THE WITNESS: So in textiles, one would
23 describe a fabric as loose or -- or other similar
24 terms -- if the construction is easily deformable.

25

1 BY MR. DEUTSCH:

2 Q. And is that a function of the way that it is
3 woven?

4 MR. SCHATZ: Objection. Outside the scope.

5 THE WITNESS: Yes.

6 BY MR. DEUTSCH:

7 Q. In the next sentence it says, "It is slightly
8 see-through where the woven yarns meet."

9 Do you see that?

10 A. Yes.

11 Q. What does it mean that "it is slightly
12 see-through"?

13 MR. SCHATZ: Objection. Outside the scope.

14 THE WITNESS: Slightly -- slightly see-through
15 I would say refers to the fact that there are holes in
16 the structure.

17 BY MR. DEUTSCH:

18 Q. And by that do you mean that there are holes
19 or open areas that are large enough to see through
20 visibly?

21 MR. SCHATZ: Objection to form. Objection.
22 Outside the scope.

23 THE WITNESS: That's how it's described here.

24 BY MR. DEUTSCH:

25 Q. And so on this example there is open areas

1 between the yarns that make it slightly see through?

2 MR. SCHATZ: Objection. Outside the scope.

3 THE WITNESS: There may be, yes.

4 BY MR. DEUTSCH:

5 Q. Just going back to what you said a moment ago
6 about the material being easily deformable, is it --
7 when you say "easily deformable," do you mean that the
8 threads or yarns can move easy relatively to each other?

9 MR. SCHATZ: Objection. Outside the scope.

10 THE WITNESS: That may be the case. I was
11 really referring to the fact that the fabric is easily
12 deformable in terms of sheer.

13 BY MR. DEUTSCH:

14 MR. DEUTSCH: Just uploading another exhibit,
15 one moment. It's another small one so hopefully this
16 comes through on your end.

17 THE WITNESS: 2005?

18 BY MR. DEUTSCH:

19 Q. Yeah. Looks like you have a paper copy of
20 Exhibit 2005 in front of you?

21 A. Yes.

22 Q. Great. Are you familiar with Exhibit 2005?

23 A. I've seen it.

24 Q. It looks like there's a date in the top left
25 corner and a time.

1 Is that the date and time that you pulled this
2 reference -- or let me rephrase that.

3 Is that the date and time that you saved this
4 reference from the internet?

5 A. I didn't save this reference. I don't think.
6 I don't remember doing it.

7 Q. Was this one provided to you?

8 A. Isn't this Petitioner's reference?

9 Q. This -- this is Exhibit 2005?

10 A. Yes.

11 Q. To clarify, it's patent owner's reference
12 2005.

13 A. I didn't understand what you said.

14 Q. I'm sorry. I was just clarifying. I think
15 you had asked if this was Petitioner's reference, and I
16 was just clarifying this was patent owner's Exhibit
17 2005.

18 A. Okay.

19 Q. So... and I understand from your response
20 previously that this was a reference that was provided
21 to you?

22 A. I think so.

23 Q. If you could turn to 1(a) on page 1 it
24 recites, "a sturdy plain-woven cloth usually of cotton
25 used especially for bedsheets."

1 Do you see that?

2 A. Yes.

3 Q. Are you familiar with the construction of
4 bedsheets?

5 A. Yes.

6 Q. Are bedsheets woven?

7 A. Yes. Not always.

8 Q. And typically -- let me rephrase that. A
9 woven construction is common for bedsheets.

10 Would you agree with that?

11 A. I would.

12 Q. Are bedsheets typically airtight?

13 MR. SCHATZ: Objection. Outside the scope.

14 THE WITNESS: To be fair, you would need to
15 tell me what you mean by "airtight." That's not a
16 technical term that we use in describing textile
17 fabrics.

18 BY MR. DEUTSCH:

19 Q. Sure. I can rephrase that.

20 Are bedsheets typically constructed to be
21 permeable to water vapor?

22 A. They are.

23 Q. And what is it about the woven construction of
24 bedsheets that allows water vapor to pass through the
25 material some?

1 MR. SCHATZ: Objection. Beyond the scope.

2 THE WITNESS: For what -- sorry, I didn't mean
3 to interrupt.

4 BY MR. DEUTSCH:

5 Q. I'm sorry. Go ahead, Dr. Rust.

6 A. So for water vapor to pass through the
7 bedsheet, there must be voids large enough to allow a
8 water molecule to pass through.

9 Q. And I would imagine that's by design in a
10 bedsheet; is that correct?

11 Or let me rephrase that. What would happen if
12 bedsheets were constructed in a way that did not allow
13 water vapor to pass through in that manner?

14 MR. SCHATZ: Objection. Beyond the scope.

15 THE WITNESS: Then water vapor wouldn't pass
16 through.

17 BY MR. DEUTSCH:

18 Q. And when you talked about voids large enough
19 to allow a water molecule to pass through, is it correct
20 that you are describing voids between warp and weft
21 threads?

22 MR. SCHATZ: Objection. Beyond the scope.

23 THE WITNESS: Not necessarily.

24 BY MR. DEUTSCH:

25 Q. Is it your opinion that water vapor passes

1 through the yarns themselves primarily or through voids
2 between the warp and weft threads?

3 MR. SCHATZ: Objection. Beyond the scope.

4 THE WITNESS: It depends.

5 BY MR. DEUTSCH:

6 Q. So in some cases, the weave is such that voids
7 are large enough for water vapor to pass through between
8 the warp and weft threads, correct?

9 MR. SCHATZ: Objection. Beyond the scope.

10 THE WITNESS: That may be true.

11 BY MR. DEUTSCH:

12 Q. Does the type of weave impact the size of
13 interstices in the fabric?

14 A. It does. It can, if I may change that answer.

15 Q. And so some weaves have larger interstices and
16 some might have smaller interstices, depending how it's
17 weaved?

18 A. That's correct.

19 Q. A bedsheet having a weave with larger
20 interstices would promote breathability because there
21 would be larger open spaces for water vapor to pass
22 through?

23 MR. SCHATZ: Object to form.

24 BY MR. DEUTSCH:

25 Q. Is that correct?

1 MR. SCHATZ: Object to form. And objection.
2 Beyond the scope.

3 THE WITNESS: Different woven constructions
4 will have different breathability.

5 BY MR. DEUTSCH:

6 Q. All right. Let's turn to the patent,
7 Exhibit 1001.

8 Do you have the '854 patent?

9 A. I do.

10 Q. I'd like to take a look at Column 10. The
11 first full paragraph begins on line 17, and it begins
12 "Referring now to Figure 5."

13 Do you see that?

14 A. I do.

15 Q. And it states now, "Referring now to Figure 5,
16 an enlarged view of a portion" --

17 (Court reporter admonishment.)

18 BY MR. DEUTSCH:

19 Q. -- "of a portion 5 of the mesh layer 64 of
20 Figure 4 is shown illustrating characteristics of a mesh
21 material 46."

22 Do you see that, Dr. Rust?

23 A. I do.

24 Q. And then the next sentence continues, "In that
25 regard, the mesh material 46 is a woven mesh that

1 comprises a weave of threads formed of monofilament
2 synthetic fibers."

3 And then the next discussions continues on the
4 top of Column 11 with more detail about aspects of the
5 mesh material. And, in particular, at -- beginning at
6 line 10, if you could turn to Column 11, line 10, what
7 is the density of the work threads in the Figure 5
8 embodiment?

9 A. According to line 11, it's approximately 22
10 threads per centimeter of mesh material.

11 Q. Is it fair to say that a maximum diameter of
12 warp threads, when there are 22 warp threads per
13 centimeter, would be about .45 millimeters?

14 MR. SCHATZ: Object to form.

15 THE WITNESS: I haven't done that analysis.

16 BY MR. DEUTSCH:

17 Q. And another way, if the diameter were greater
18 than 22 threads would fit in 1 centimeter; is that
19 correct?

20 MR. SCHATZ: Objection. Outside the scope.

21 THE WITNESS: I'm sorry. Could you repeat the
22 question, please?

23 BY MR. DEUTSCH:

24 Q. Sure. And I don't mean to ask you to do math
25 on the fly; I'm just looking at the --

1 A. Oh.

2 Q. I'm sorry, did you say something?

3 A. I said, oh.

4 Q. Oh, okay. I'll repeat the question.

5 A. Okay.

6 Q. Is there some maximum number -- let me
7 rephrase that.

8 Is there a maximum diameter for the warp
9 threads at which point the diameter would be too large
10 to fit 22 threads per centimeter?

11 MR. SCHATZ: Objection to form. Objection.
12 Outside the scope.

13 THE WITNESS: Yes.

14 BY MR. DEUTSCH:

15 Q. And is that maximum about .45 millimeters,
16 just based on multiplying the diameter of 22 warp
17 threads?

18 A. That sounds reasonable. You said you weren't
19 asking me to do the arithmetic.

20 Q. Yep. Fair enough.

21 If we go back to the top of that paragraph at
22 the bottom of Column 10, at lines 61 to 65, what is the
23 largest range of warp threads listed by the '854 patent?

24 MR. SCHATZ: Objection. Outside the scope.

25 THE WITNESS: 0.6 millimeters, and then

1 followed up particularly between 0.2 to about 0.4.

2 BY MR. DEUTSCH:

3 Q. And so in the example in which the diameters
4 are .6 millimeters, warp threads are aligned side by
5 side with no gaps in between the threads; is that
6 correct?

7 MR. SCHATZ: Object to form. Objection.
8 Outside the scope.

9 THE WITNESS: Would not fit 22 monofilament
10 fibers each of a diameter of .6 millimeters into a
11 centimeter of fabric.

12 BY MR. DEUTSCH:

13 Q. Take another example, so if it were
14 .45 millimeters, for example, that would be within the
15 range of .1 and .6, correct?

16 MR. SCHATZ: Object to form. Objection.
17 Outside the scope.

18 THE WITNESS: A filament of diameter
19 .45 millimeters would be within the range of .1 to
20 .6 millimeters.

21 BY MR. DEUTSCH:

22 Q. And so with that diameter, the threads would
23 be side by side without open spaces in order to fit 22
24 threads per centimeter, correct?

25 MR. SCHATZ: Objection. Outside the scope.

1 THE WITNESS: If you say so. I didn't do the
2 arithmetic. And I turned my phone off before we started
3 this.

4 BY MR. DEUTSCH:

5 Q. Understood. Yeah. I'm not asking to you do
6 the math. Said another way, whether it's .45 or some
7 similar diameter, there's -- there's a -- a thread
8 diameter where they would be side by side without open
9 spaces.

10 MR. SCHATZ: Objection. Outside the scope.

11 THE WITNESS: Yes.

12 BY MR. DEUTSCH:

13 Q. And so some of the examples in that range, one
14 tab open spaces, if you are at that thread -- thread
15 diameter, whatever that number is?

16 MR. SCHATZ: Object to form. Objection.
17 Outside the scope.

18 THE WITNESS: And the question was a little
19 confusing for me because --

20 BY MR. DEUTSCH:

21 Q. I'm sorry. Yeah, I'm sorry. I can -- I can
22 rephrase -- rephrase again. Thanks -- thanks for
23 asking.

24 Just to try to say that more clearly, I'll --
25 I'll rephrase again.

1 Dr. Rust, a thread diameter of about
2 .45 millimeters in order to fit 22 threads per
3 centimeters, there would not be open spaces between
4 those threads, correct?

5 A. Not --

6 MR. SCHATZ: Object to form. Objection.
7 Outside the scope.

8 THE WITNESS: Not saying specifically for a
9 diameter of .45 because I haven't done the arithmetic,
10 but that or around that number.

11 BY MR. DEUTSCH:

12 Q. Understood.

13 Would you consider a weave having around that
14 .45 thread diameter we've been talking about to be a
15 mesh layer?

16 MR. SCHATZ: Objection. Outside the scope.
17 Objection to form.

18 THE WITNESS: Could you be a little more
19 precise in the question, please?

20 BY MR. DEUTSCH:

21 Q. Yeah, I can try to rephrase -- rephrase that.

22 In the example we've been discussing where the
23 warp threads of the maximum diameter of 22 threads per
24 centimeter, which is about .45 millimeters, would you
25 consider that to be a mesh layer?

1 MR. SCHATZ: Objection. Outside the scope.

2 THE WITNESS: I don't understand your
3 question. I'm sorry.

4 BY MR. DEUTSCH:

5 Q. I can -- I can try to rephrase again,
6 Dr. Rust.

7 I think we were -- the ranges that the '854
8 patent is giving, they are talking about the mesh layer,
9 correct?

10 A. Yes.

11 Q. Let's -- let's turn to a little bit earlier in
12 Column 10. The patent discusses a range of open area.

13 Do you see that? I'm looking in the middle of
14 Column 10.

15 A. I do.

16 Q. Is it your opinion that in order to be a mesh
17 layer, the open area must be in the range of about
18 35 percent to about 50 percent?

19 MR. SCHATZ: Objection. Outside the scope.

20 THE WITNESS: No.

21 BY MR. DEUTSCH:

22 Q. So as it's used in the '854 patent, it's your
23 opinion that the layer would still be a mesh layer if
24 openings were larger, smaller than 35 percent to about
25 50 percent?

1 MR. SCHATZ: Objection. Outside the scope.

2 THE WITNESS: Perhaps.

3 BY MR. DEUTSCH:

4 Q. When you say "perhaps," would it no longer be
5 a mesh layer if the open area is 10 percent or less?

6 A. Perhaps.

7 Q. If it's less -- let me rephrase that.

8 So is it your opinion that if the open area is
9 less than 10 percent, it's not a mesh?

10 MR. SCHATZ: Objection. Outside the scope.

11 And objection to form.

12 THE WITNESS: That is not my opinion.

13 BY MR. DEUTSCH:

14 Q. So an open area smaller than 10 percent
15 wouldn't preclude a material from being a mesh layer?

16 MR. SCHATZ: Objection. Outside the scope.

17 THE WITNESS: That is correct.

18 BY MR. DEUTSCH:

19 Q. Would an open area of 1 percent preclude it
20 from being a mesh layer?

21 MR. SCHATZ: Objection. Outside the scope.

22 THE WITNESS: I've -- I've never heard of
23 something like that, but I don't think it would
24 necessarily preclude it. But it would be a very
25 strange --

1 BY MR. DEUTSCH:

2 Q. I didn't want to interrupt. I wasn't sure if
3 you were thinking or if that concluded your answer.

4 A. No. No, I was finished. Yeah.

5 Q. Okay.

6 A. Thank you.

7 Q. What about, you know, if we go a step smaller
8 and it's .1 percent open area, would that preclude --
9 let me rephrase that.

10 Would a .1 percent open area preclude the
11 material from being a mesh layer?

12 MR. SCHATZ: Objection to form. Objection.
13 Outside the scope.

14 THE WITNESS: All right. So to be a mesh
15 layer means that the material is characterized by
16 openings, and that means that there is a technical
17 specification that -- that indicates the size of the
18 opening or the percent of open area.

19 So when you talk about smaller and smaller
20 sizes and larger and larger sizes, what distinguishes it
21 from being a mesh or being sheeting is whether it's
22 characterized by those open spaces.

23 The burlap example that you brought up earlier
24 is a prime example. That example lists clearly how it's
25 characterized. It's characterized by fabric weight as

1 10 ounces. Okay? It's not characterized by the
2 openings or the size of the openings; and, therefore,
3 it's not a mesh.

4 Similarly, I can't respond to 1 percent or --
5 or 10 percent as it is, or it is not a mesh because it
6 depends on whether the fabric is characterized as to the
7 size of the opening.

8 BY MR. DEUTSCH:

9 Q. And so based on that -- that -- let me
10 rephrase that. If I'm understanding you correctly,
11 Dr. Rust, there's not a clear dividing line, in your
12 opinion, based on the size of the openings?

13 MR. SCHATZ: Objection to form. Objection.
14 Outside the scope.

15 THE WITNESS: That's not what I'm saying.

16 BY MR. DEUTSCH:

17 Q. You're saying you can't respond to 1 percent
18 or 10 percent as it is or is not a mesh because it
19 depends on whether the fabric is characterized as to the
20 size of the opening; is that correct?

21 A. That's correct. If the fabric is
22 characterized as this is a fabric with 1 percent
23 openings, that is characterized in the fabric by that --
24 by the openings. That would make it a mesh.

25 Q. Just going back to the '854 patent and the

1 example in Figure 5, in your opinion is there a point
2 where that material is no longer characterized by
3 openings?

4 MR. SCHATZ: Objection. Outside the scope.

5 THE WITNESS: Figure 5 clearly shows the
6 fabric with openings. I mean, I don't -- maybe I don't
7 understand the question.

8 BY MR. DEUTSCH:

9 Q. We talked about -- let -- let me rephrase
10 that.

11 The -- if -- if a thread diameter were
12 selected such that the threads were merely touching,
13 would the layer still be characterized by open spaces?

14 MR. SCHATZ: Object to form. Objection.
15 Outside the scope.

16 THE WITNESS: It could be.

17 BY MR. DEUTSCH:

18 Q. Why is that?

19 A. Because if they're nearly touching, that means
20 they are not touching. And that means there are spaces
21 in between. And that means that if that material is
22 characterized -- if those spaces are characterized in
23 terms of size or percent area, then it can be a mesh. I
24 mean, mesh is -- that's my answer.

25 Q. I guess, Dr. Rust, what do you mean by

1 "characterized in terms of size or percent area"? Are
2 you talking about the structure of the mesh, or are you
3 talking about a specification sheet listing open area as
4 a parameter of the material?

5 A. If the material is characterized by the size
6 of the openings or the percentage of open area, then
7 it's a mesh. Burlap is characterized by the fabric
8 weight; therefore, it's not a mesh. I mean, I've
9 answered this.

10 Q. Dr. Rust, is it your opinion that woven
11 material where threads are touching does not have open
12 spaces?

13 MR. SCHATZ: I'm going to object to form. And
14 object. Outside the scope.

15 THE WITNESS: That's not my opinion.

16 BY MR. DEUTSCH:

17 Q. The woven material where threads are touching
18 can still have open spaces through the material?

19 A. Any woven material has threads touching.

20 Q. So a woven material in which the warp threads
21 are touching can still have open spaces through the
22 material?

23 MR. SCHATZ: I'm going to object, outside the
24 scope.

25 THE WITNESS: A woven material where warp

1 threads, yarns, or filaments are touching could still
2 have spaces but would not be characterized by those
3 spaces; therefore, would not be a mesh, if I understand
4 the question correctly.

5 BY MR. DEUTSCH:

6 Q. Dr. Rust, is it your opinion that the example
7 disclosed by the '854 patent where the warp threads are
8 at the maximum possible diameter of 22 threads per
9 centimeter is not characterized by open spaces and is,
10 therefore, not a mesh?

11 MR. SCHATZ: Objection. Outside the scope.

12 THE WITNESS: Your question makes no sense to
13 me. I'm sorry.

14 BY MR. DEUTSCH:

15 Q. A moment ago you talked about an example where
16 the warp threads are at the maximum possible diameter
17 for 22 threads per centimeter.

18 Do you recall that?

19 A. I do.

20 Q. And so in that example, is it your opinion
21 that the material would not be characterized by open
22 spaces and, therefore, is not a mesh?

23 MR. SCHATZ: Objection. Outside the scope.

24 And objection to --

25 THE WITNESS: So that took a while to get the

1 whole question packaged up.

2 Can -- can we -- can you repeat it in a --
3 maybe a more concise manner? I mean, I want to be
4 precise and accurate with my answers, and --

5 BY MR. DEUTSCH:

6 Q. Yeah. I -- I really appreciate that. So
7 certainly, yeah, I can rephrase it.

8 In the example disclosed by the '854 patent
9 where the warp threads are at the maximum possible
10 diameter for 22 threads per centimeter, is it your
11 opinion that that material is not characterized by open
12 spaces and is, therefore, not mesh?

13 MR. SCHATZ: Objection. Outside the scope.

14 THE WITNESS: Yes. So a little clarification
15 here. I have hearing aids, and I still sometimes miss
16 things, so sometimes I miss a word in your questions,
17 and that would cause me to not understand the question.
18 And if that has happened, I apologize.

19 BY MR. DEUTSCH:

20 Q. Yeah, thanks for pointing that out. We could
21 have the reporter read back the question and your answer
22 just -- just to confirm.

23 A. No, I understood the question the last time.

24 Q. Okay. Okay.

25 A. And I answered it. Yes. My point was if you

1 had asked that same question earlier and I said I didn't
2 understand it, it's because I may have missed a word.
3 It may have been worded fine, but I just didn't hear it
4 fine.

5 Q. Yeah. Understood. Thank you.

6 Were you familiar with woven nylon materials,
7 Dr. Rust, prior to the '854 patent?

8 A. I was.

9 Q. Do you know generally when you first learned
10 of nylon as a material that could be woven?

11 A. As a layperson or as an expert?

12 Q. I mean, as a -- as a -- well, either one, and
13 then I have a follow-up question for you, Dr. Rust.

14 A. Okay. Okay. I'm sorry for asking questions.
15 I know I'm not supposed to do that.

16 So I've been in fiber science programs since
17 1983, and so I would have known about it then, and I
18 probably knew about it before then.

19 Q. Okay. So...

20 MR. SCHATZ: Craig, I'm sorry to interrupt.
21 When you get a chance at a good breaking point,
22 hopefully relatively soon, if we could just take a short
23 break. I just need a restroom break. But by all means,
24 finish your line of questioning.

25 MR. DEUTSCH: Yeah, certainly. We can do

1 that --

2 MR. SCHATZ: I didn't mean to interrupt your
3 flow. By all means, finish your line of questions.

4 MR. DEUTSCH: No, no. No problem at all.

5 BY MR. DEUTSCH:

6 Q. So, Dr. Rust, I think it's safe to say that
7 the woven nylon was something that was known to a POSITA
8 prior to the '854 patent?

9 A. Oh, yes.

10 MR. DEUTSCH: Let's go ahead and take a break
11 now.

12 (Recess.)

13 BY MR. DEUTSCH:

14 Q. All right. Dr. Rust, when selecting materials
15 for a sliding application of the type described by the
16 '854 patent, is low friction the only parameter of what
17 a POSITA would consider?

18 A. I think it is the number one parameter.

19 Q. I think there was some -- something in the
20 background, but it sounds like it's resolved now.

21 MR. SCHATZ: Yeah, apologize, Craig.

22 MR. DEUTSCH: No problem.

23 MR. SCHATZ: The conference room we're in is a
24 little bit on the chilly side, and so we had opened the
25 door to try to warm up a little bit, but then there was

1 some discussion going on outside.

2 THE WITNESS: So chilly that I doffed my suit
3 coat and put on a winter coat.

4 MR. DEUTSCH: Understood. Understood.

5 BY MR. DEUTSCH:

6 Q. Okay. So the -- when selecting the coating of
7 a slide surface, is minimizing friction the only
8 consideration that a POSITA would take into account?

9 A. I haven't been asked to opine on the coating
10 on the slide surface.

11 Q. Okay. How about when considering the bottom
12 of a ride vehicle, would a POSITA select the material
13 for the ride vehicle bottom solely based on minimizing
14 friction?

15 A. That would be the number one criteria.

16 Q. Would a POSITA consider the durability of a
17 material when implementing a ride vehicle?

18 A. So a POSITA would look at the art and see the
19 Phillips patent and understand that low -- highly
20 durable low friction sheeting material would be
21 desirable, assuming you were asking about prior to '854
22 of the --

23 Q. Let's -- you mentioned Phillips. Let's take a
24 look at Phillips. I've already uploaded that, and
25 perhaps you have a paper copy as well.

1 In Column 4, particularly line 40 -- beginning
2 on line 45 is one example in Phillips where it talks
3 about low-friction high-durable material.

4 Do you see that?

5 A. For what?

6 Q. 45?

7 A. Yes.

8 Q. And actually the sentence begins on 43, I
9 believe. And there's a list of a handful of materials
10 Dr. Phillips recites.

11 Do you see that list?

12 A. Yeah.

13 Q. Do all of those materials have the same
14 coefficient of friction or would you expect coefficients
15 of friction to differ from one another under the same
16 test conditions?

17 A. I would not expect them to have the same
18 coefficients of friction.

19 Q. And so Phillips describes materials that can
20 be used even though the coefficient of friction between
21 those materials are different from one another such that
22 some would be higher or lower in some cases; is that
23 correct?

24 MR. SCHATZ: Object to form.

25 THE WITNESS: Yeah. Yes.

1 BY MR. DEUTSCH:

2 Q. And Phillips describes all of these as
3 low-friction materials?

4 A. He refers to that list as being low-friction,
5 high-durable material.

6 Q. And so would Phillips' discussion suggest to a
7 POSITA that there's reasons artificial turf, for
8 example, might be desirable in one implementation and
9 polyester might be desirable in another implementation?

10 A. I think you have to ask Phillips that. I
11 don't -- I don't know what Phillips's motivation was.
12 I'm sorry, am I speaking loud enough? No? So I said --
13 I said you'd have to ask Phillips that question.

14 Q. As another example, would a POSITA consider
15 using nylon in some implementations instead of Teflon?

16 MR. SCHATZ: Object to form.

17 THE WITNESS: Yes.

18 BY MR. DEUTSCH:

19 Q. Why is that?

20 A. Teflon, while having a very low coefficient of
21 friction is not a highly durable material.

22 Q. Do you disagree with Phillips's
23 characterization that it is durable some?

24 MR. SCHATZ: Object to form.

25 THE WITNESS: I disagree with Phillips stating

1 that Teflon is a durable material, if that was the
2 question.

3 BY MR. DEUTSCH:

4 Q. Would a POSITA consider cost considerations in
5 determining materials to use in a particular
6 implementation?

7 MR. SCHATZ: Objection to form.

8 THE WITNESS: Perhaps. Probably.

9 BY MR. DEUTSCH:

10 Q. Are there any other materials in Phillips's
11 list besides nylon that you would consider to be
12 durable?

13 A. I would consider sailcloth to be durable.

14 Q. Does sailcloth typically have a higher
15 coefficient of friction as compared to nylon?

16 MR. SCHATZ: Object to form.

17 THE WITNESS: I haven't analyzed that. I
18 haven't studied the coefficient of friction of
19 sailcloth.

20 BY MR. DEUTSCH:

21 Q. So you don't have any reason to disagree with
22 Phillips's characterization that that's a low
23 coefficient of friction?

24 A. I don't have any reason to agree or disagree
25 with his characterization of sailcloth.

1 Q. Was ice known to provide a low coefficient of
2 friction?

3 A. I'm sorry, I didn't understand that.

4 Q. Was ice known to provide a low coefficient of
5 friction?

6 A. Yes.

7 Q. In your opinion, would a POSITA consider using
8 ice on the slide surface or as a bottom surface of a
9 ride vehicle?

10 MR. SCHATZ: Objection. Outside the scope.

11 THE WITNESS: I wouldn't think so. I wouldn't
12 think that a POSITA would use ice as the bottom of the
13 slide vehicle. I don't have an opinion about the slide
14 surface.

15 BY MR. DEUTSCH:

16 Q. If the coefficient of friction is different
17 between two low-friction, high-durability materials on
18 Phillips's list, would a POSITA understand from Phillips
19 that it could be beneficial to pick the material having
20 a higher coefficient of friction?

21 A. I think I know what the question was, but
22 would you mind repeating it?

23 Q. Assuming that the coefficient of friction is
24 different between two low-friction, high-durability
25 materials on Phillips's list, would a POSITA understand

1 from Phillips that it could be justified to pick the
2 higher coefficient of friction material?

3 A. Considering other parameters such as
4 durability, yes.

5 Q. Let's turn a little earlier in Phillips back
6 to Column 1. I'm sorry, Column 3. And let's look at
7 the end of the paragraph that begins at line 9.

8 Do you see that paragraph?

9 A. I do.

10 Q. The very last sentence beginning at line 32
11 states that, "This membrane, in addition to being used
12 as a stand-alone flexible sheet, can also be employed in
13 small sections which are appended to the clothing of a
14 user such as the bottom of one's feet and the outer
15 surface of typically employed knee pads."

16 What does it mean to be appended to the
17 clothing?

18 MR. SCHATZ: Objection. Outside the scope.

19 THE WITNESS: Attached to. Hanging from. I
20 wasn't an English major.

21 BY MR. DEUTSCH:

22 Q. Does Phillips, in this paragraph, exclude
23 particular techniques for appending to the clothing of a
24 user?

25 MR. SCHATZ: Objection. Outside the scope.

1 THE WITNESS: I do not recall reading where he
2 excluded means of appending.

3 BY MR. DEUTSCH:

4 Q. Would a POSITA understand from Phillips's
5 discussion how to attach the membrane to the clothing of
6 the user?

7 MR. SCHATZ: Objection. Outside the scope.

8 THE WITNESS: Prior to the '854 patent, the
9 POSITA would understand from Phillips '779 patent that
10 adhesive was used.

11 BY MR. DEUTSCH:

12 Q. Is that the only technique that -- let me --
13 let me rephrase that.

14 The -- when Phillips uses the term "appended,"
15 do you understand that to be limited to adhesive
16 attachment?

17 A. In that sentence when he uses the word
18 "appended," I don't know what he was considering in that
19 sentence.

20 Q. Where -- was pressure-sensitive adhesive a
21 mechanism that was known to a POSITA prior to the '854
22 patent?

23 A. Yes.

24 Q. And was a POSITA aware of techniques for
25 attaching materials to a clothing that didn't involve

1 applying adhesive?

2 A. Yes. And Phillips clearly teaches to use an
3 adhesive.

4 Q. Yeah, an adhesive would be one way to connect
5 the membrane with the clothing of a user, correct?

6 MR. SCHATZ: Object to form.

7 THE WITNESS: It would be one way.

8 BY MR. DEUTSCH:

9 Q. And there's other ways that a POSITA was aware
10 of to append a membrane with clothing of a user; is that
11 correct?

12 MR. SCHATZ: Object to form. And objection.
13 Outside the scope.

14 THE WITNESS: Correct.

15 BY MR. DEUTSCH:

16 Q. Let's turn to paragraph 150 of your
17 declaration. I believe you provide some discussion
18 about adhesive.

19 A. Got it.

20 Q. And if we go to the bottom of paragraph 150,
21 there's a figure. It looks like there's three -- three
22 sections.

23 Do you see that?

24 A. I do.

25 Q. Did you draw this figure?

1 A. I did not.

2 Q. Is this from a -- an online resource or
3 publication, for example?

4 A. I'm not sure. It's a -- merely an
5 illustration to explain the -- the information that I've
6 provided in this regard.

7 Q. And I understand the blue -- the color blue is
8 labeled as adhesive; is that correct?

9 A. Yes.

10 Q. Does the -- what -- what -- I'm sorry. Let me
11 rephrase that.

12 In your opinion, what factors impact the
13 amount of wicking that occurs in this example?

14 A. Proximity of the individual structures,
15 threads, or the gold parts. The material, the adhesive
16 material, the material of the threads, the amount of
17 material. Yeah.

18 Q. When you say "the amount of material," are you
19 referring to the amount of the adhesive material?

20 A. Yes.

21 Q. Would the viscosity of the adhesive impact
22 wicking?

23 A. Yes.

24 Q. Would the viscosity of some adhesives change
25 as the adhesive cures?

1 A. Yes.

2 Q. Do POSITAs sometimes attach materials using a
3 partially cured adhesive?

4 MR. SCHATZ: Objection. Outside the scope.

5 THE WITNESS: I haven't studied that. I don't
6 know the answer.

7 BY MR. DEUTSCH:

8 Q. Would it have been uncommon for a POSITA to
9 select a volume of adhesive or select a flowability of
10 an adhesive based on the materials that are being
11 bonded?

12 MR. SCHATZ: Object to form. Objection.
13 Outside the scope.

14 THE WITNESS: Yes.

15 MR. DEUTSCH: Ms. Houston, could you reread
16 the question and answer? I just want to make sure we've
17 captured -- we've all heard everything and captured it.

18 (Record was read.)

19 BY MR. DEUTSCH:

20 Q. Is that your answer, Dr. Rust?

21 A. My answer is: I believe so, yes.

22 Q. So a POSITA wouldn't have considered --
23 wouldn't have selected an adhesive with any
24 consideration to any of the materials that were being
25 bonded?

1 A. One more time, please.

2 Q. Is it your opinion that a POSITA would not
3 consider the properties of the materials being bonded
4 when selecting an adhesive?

5 A. No.

6 Q. So a POSITA would consider the properties and
7 materials being bonded when selecting an adhesive,
8 correct?

9 A. Yes.

10 Q. And when implementing that bond, would a
11 POSITA consider the amount of adhesive being applied?

12 A. Yes.

13 Q. And one of the parameters that a POSITA would
14 consider would be the viscosity of the adhesive; is that
15 correct?

16 A. Yes, perhaps. Probably.

17 Q. Was the phenomenon of wicking known to a
18 POSITA prior to the '854 patent?

19 A. Yes.

20 Q. In paragraph 101, you give an example of what
21 I understand to be thread count. This is in paragraph
22 101, the last sentence.

23 Do you see that? Or I'm sorry, the second to
24 last sentence.

25 A. Yes.

1 Q. And those are the thread counts that are
2 recited in the definition above for industrial sheeting;
3 is that right?

4 A. They are.

5 Q. I'm just wanting to make sure I understand how
6 you're using the term "sheeting," Dr. Rust.

7 I think we were talking about Phillips a
8 moment ago and materials that it lists with respect to
9 sheeting material forming the bottom surface of the ride
10 vehicle. One example in that list was artificial turf.

11 And is that also something that you would
12 consider to be sheeting?

13 MR. SCHATZ: Objection to form.

14 BY MR. DEUTSCH:

15 Q. I can rephrase that.

16 Do you consider artificial turf to be
17 sheeting? And I can -- I can be even more specific,
18 Dr. Rust, if it's helpful.

19 Would you consider a small section of
20 artificial turf of the type that Phillips describes
21 being appended to clothing as being an example of
22 sheeting?

23 A. I would not.

24 Q. And is one reason you would not because the
25 thickness is relatively large compared to length and

1 width proportions?

2 MR. SCHATZ: Object to form.

3 THE WITNESS: The reason I do not is because I
4 would not consider it sheeting. Phillips says over and
5 over and over again it is a membrane or sheeting. The
6 fact that Phillips mentions artificial turf in one
7 instance doesn't, in any way, tell me that he -- that he
8 or she meant something other than sheeting or membrane.
9 I mean --

10 BY MR. DEUTSCH:

11 Q. And is synthetic carpet an example of
12 sheeting?

13 A. No.

14 Q. We can shift gears, Dr. Rust. I have a few
15 questions about -- around coefficient of friction, and
16 so just let me know if these are, you know, within --
17 within your analysis, and particularly around Teflon and
18 nylon interaction.

19 Would a POSITA -- let me rephrase that.

20 Would a POSITA expect interaction between
21 Teflon and nylon to have a kinetic coefficient of
22 friction of less than .2, if tested according to the
23 ASTM standards?

24 MR. SCHATZ: Object to form. Incomplete.

25 THE WITNESS: I don't know, and I haven't

1 studied that, and I haven't analyzed it, so I don't know
2 how to answer that.

3 BY MR. DEUTSCH:

4 Q. I can ask a different question.

5 Given the low friction properties of Teflon
6 and nylon, is it your opinion that a POSITA would be
7 able to select Teflon and nylon materials to achieve a
8 kinetic coefficient of friction of less than .2,
9 according to ASTM standards?

10 MR. SCHATZ: Object to form. Incomplete
11 hypothetical.

12 THE WITNESS: I'm not sure.

13 BY MR. DEUTSCH:

14 Q. Dr. Rust, I believe you provided testimony
15 that Teflon was known to be a low-friction material; is
16 that correct?

17 A. That is correct.

18 Q. And nylon was also known to a POSITA as being
19 low friction, albeit not as low as Teflon; is that
20 correct?

21 A. Yes.

22 Q. So what is it that makes you unsure that a
23 POSITA would be select Teflon and nylon materials to
24 achieve a kinetic coefficient of friction of less than
25 .2?

1 A. That's because I've never tested them, so I
2 don't know what the coefficient of friction would be.

3 Q. And so you're saying a POSITA would have to --
4 let me -- let me rephrase that.

5 Is it possible that a POSITA would select
6 Teflon and nylon materials to achieve a coefficient of
7 friction of less than .2 without performing any testing?

8 MR. SCHATZ: Object to form. Objection.
9 Outside the scope.

10 THE WITNESS: POSITA -- POSITA could choose
11 different materials, but they would test to know whether
12 they've made an appropriate selection.

13 BY MR. DEUTSCH:

14 Q. Is testing coefficient of friction an absolute
15 requirement in designing a product having parts moving
16 across each other?

17 MR. SCHATZ: Objection. Outside the scope.

18 THE WITNESS: I think I understand the
19 complete question.

20 Could you say it again, though, please?

21 BY MR. DEUTSCH:

22 Q. Is testing coefficient of friction an absolute
23 requirement in designing any product having parts that
24 move across each other?

25 MR. SCHATZ: Objection. Beyond the scope.

1 THE WITNESS: So testing the results of the
2 material choices is a requirement.

3 BY MR. DEUTSCH:

4 Q. And so -- I understand. And let me -- so --
5 let me start over.

6 Is it your opinion that a POSITA wouldn't have
7 an expectation of achieving a coefficient of friction of
8 less than .2 when using Teflon and nylon materials?

9 MR. SCHATZ: Object to form. Asked and
10 answered.

11 THE WITNESS: POSITA would -- if they chose
12 those two materials would test them one way or another,
13 and I have no idea about -- about the quantifying --
14 about quantifying the coefficient of friction. I
15 don't -- I don't understand why you're asking that. I'm
16 trying to do the best I can. I mean --

17 BY MR. DEUTSCH:

18 Q. Sure.

19 A. -- a POSITA could make -- make a prototype
20 with chosen materials, and does it go down the slide
21 faster than the other ones? To me that's testing. It's
22 not measuring coefficient of friction.

23 Q. Does Claim 1 require the value to be tested or
24 just require that the coefficient of friction fall
25 within the claimed range?

1 A. Haven't been asked to consider a document.

2 I -- I don't know what you're asking.

3 Q. I can ask -- I can ask a different question,
4 Dr. Rust.

5 The -- so I'm trying to understand a POSITA's
6 understanding around Teflon and nylon, which I think
7 you've testified are both low-friction materials, and so
8 I'm trying to understand what's -- what a POSITA would
9 be equipped to -- to do with that information.

10 And so that's where the question is, if given
11 what you've communicated about Teflon and nylon being
12 low-friction materials, could a POSITA implement a slide
13 system using those materials to achieve a kinetic
14 coefficient of friction of less than .2?

15 MR. SCHATZ: Object to form. And objection.
16 As answered and answered.

17 THE WITNESS: May not have answered it. I
18 haven't measured those two materials together. I don't
19 know the morphology. I don't know what the measure
20 value would be.

21 BY MR. DEUTSCH:

22 Q. And those are things a POSITA would consider
23 when selecting a Teflon material or selecting a nylon,
24 correct?

25 MR. SCHATZ: Object to form.

1 THE WITNESS: I don't know what you're asking
2 me for. I don't know what "those" is.

3 BY MR. DEUTSCH:

4 Q. I'm sorry?

5 A. I don't know what "those" is. Your
6 question -- I don't understand --

7 Q. I see. I was referring to your answer when
8 you mentioned morphology and the material
9 characteristics.

10 Dr. Rust, we -- we talked about going through
11 another segment and then breaking. We could -- we could
12 break now, if you'd like.

13 A. It's totally up to you. I mean, I'm here at
14 your disposal.

15 MR. DEUTSCH: Let's -- let's go ahead and do
16 that. I'm happy with a relatively quick -- quick lunch
17 break, and then we can conclude after that.

18 MR. SCHATZ: Okay. Yeah, Craig, why don't
19 we -- are you Eastern time?

20 MR. DEUTSCH: Central.

21 MR. SCHATZ: Central. Okay. So it's about
22 11:40 your time, 11:41?

23 MR. DEUTSCH: I'm sorry?

24 MR. SCHATZ: I'm sorry, I was just confirming
25 it's about 11:40?

1 MR. DEUTSCH: Yeah. Yeah.

2 MR. SCHATZ: Okay. A little early for you for
3 lunch but a little bit late for us for lunch.

4 MR. DEUTSCH: Right.

5 MR. SCHATZ: So if you want to try to
6 reconvene in about 30 to 35 minutes.

7 MR. DEUTSCH: Yeah, that's perfect.

8 MR. SCHATZ: Okay. So a quarter after the
9 hour we'll try to get back together.

10 MR. DEUTSCH: Sounds good.

11 (Recess.)

12 BY MR. DEUTSCH:

13 Q. Welcome back, Dr. Rust. We just had a lunch
14 break, and there were a couple -- a couple breaks
15 earlier.

16 Did you speak with anyone during those breaks?

17 A. Yes.

18 Q. And did you speak with anyone regarding the
19 substance of your testimony today?

20 A. No.

21 Q. All right. Let's turn to your declaration,
22 2027, paragraph 203.

23 And at the bottom of that paragraph, it
24 states: "This is because the addition is a lubricant
25 coating, thereby lowering the coefficient of friction."

1 Do you see that?

2 A. Yes.

3 Q. What -- what do you mean by that?

4 A. That the resin -- composite, resin, thermal
5 conductor, hardener, also includes a lubricant
6 material -- pardon me -- within the resin, and,
7 therefore, that performs -- that helps to achieve very
8 low coefficient of friction values.

9 Q. Would adding a lubricant always lower the
10 coefficient of friction?

11 MR. SCHATZ: Objection. Outside the scope.

12 THE WITNESS: Yeah, I think that's very much
13 the definition of a lubricant.

14 BY MR. DEUTSCH:

15 Q. Earlier you indicated that you didn't perform
16 coefficient of friction testing as part of your
17 analysis; is that correct?

18 A. That's correct.

19 Q. And so you don't identify any test results
20 demonstrating a coefficient of friction of .03, for
21 example?

22 A. No, sir.

23 Q. Flipping to the next page -- or, actually, a
24 few pages, paragraph 213. Paragraph 213 states -- I'm
25 sorry, are you there?

1 A. Yes, thank you.

2 Q. Paragraph 213 states, "A POSITA would easily
3 understand the scope of this claim, and there is only
4 one reasonable meaning."

5 Am I reading that correctly?

6 A. Yes.

7 Q. What is the one reasonable meaning of Claim 5
8 that you're referring to?

9 A. That the dry lubricant coating includes a
10 thickness that's within range of between about 1 micron
11 to about 5 microns.

12 Q. So does Claim 5 require that the thickness be
13 substantially constant over the entire sliding surface?

14 A. May I refer to the patent?

15 Q. Yeah. Yeah. Certainly.

16 A. Thank you.

17 It does not.

18 Q. Does Claim 5 encompass an example in which the
19 thickness is substantially constant over the entire
20 sliding surface?

21 MR. SCHATZ: Objection. Beyond the scope.

22 THE WITNESS: Can you repeat -- repeat it,
23 please?

24 BY MR. DEUTSCH:

25 Q. Yeah. In your opinion, does Claim 5 encompass

1 a recreational slide system in which the thickness is
2 substantially constant over the entire sliding surface?

3 MR. SCHATZ: Objection. Beyond the scope.

4 THE WITNESS: It encom- -- it encompasses --
5 yes.

6 Q. And does Claim 5 cover a slide surface that
7 has a thickness between 1 micron and 5 microns over some
8 of the slide surface but that has portions that are
9 outside of that range?

10 MR. SCHATZ: Object to form. And objection.
11 Beyond the scope of Dr. Rust's analysis.

12 THE WITNESS: Claim 5 includes where in "the
13 dry lubricant coating includes a thickness that is
14 within a range of between about 1 micron to about 5
15 microns." I mean...

16 BY MR. DEUTSCH:

17 Q. All right. Dr. Rust, no further questions.

18 A. Okay.

19 MR. SCHATZ: Thank you, Craig. I'm going to
20 have some brief redirect. Is this a second volume? Do
21 you put cross for Deutsch?

22 EXAMINATION BY MR. SCHATZ:

23 Q. Dr. Rust, early this morning in the first
24 session, counsel for the Petitioner asked if you have
25 experienced a -- of a POSITA as to matters in your

1 declaration relating to the coefficient of friction.

2 Do you recall that?

3 A. Yes.

4 Q. Do you consider yourself a POSITA as defined
5 in your declaration with respect to matters involving
6 coefficient of friction?

7 A. Yes.

8 Q. And can you describe the experiences that
9 you've had in your career with respect to coefficient of
10 friction as it might apply to the subject matter of the
11 '854 patent and the challenge by the Petitioner?

12 A. Well, my undergraduate degree is in mechanical
13 engineering, and obviously coursework specifically
14 directed towards friction, coefficient of friction, and
15 measurement of coefficient of friction.

16 Subsequently, my master's was in fiber
17 science, my Ph.D. in fiber polymer science, where we
18 daily deal with the aspect of moving very flexible
19 materials; fibers, yarns, and fabrics. And every time
20 you do that, you have to take into account frictional
21 forces. So when you -- when you move a fiber through
22 the processing machine, you either have to --

23 (Court reporter requested clarification.)

24 THE WITNESS: Right. Through textile
25 processing, you have to either transport it by air or

1 you have to grip it, and -- and pull it that way. And
2 when you do that, it becomes very important to grip with
3 the correct amount of force so as to grip the fiber and
4 with enough force that it doesn't slip away but, at the
5 same time, not so much friction force that you'll break
6 the fiber.

7 So that's something that I've dealt with
8 for -- I mean, since -- for 30-some years. I teach it
9 in my classes.

10 Later on in my research I was involved with
11 Kawabata, that's K-A-W-A-B-A-T-A, Kawabata testing
12 equipment that measures many different characteristics
13 of fabrics. That includes friction, surface roughness,
14 bending, many other characteristics also, and using
15 complex algorithms equates all those parameters into
16 a -- a measure of the softness of -- of a fabric or the
17 comfort of a fabric.

18 So I was involved in using that equipment, and
19 as department head, that particular laboratory was under
20 my direction for eight years, and I had multiple
21 experiences using that equipment in that context.

22 Before being a department head, I designed,
23 built, and tested stylus instrumentation to measure the
24 surface roughness of tissue paper, toilet tissue, if you
25 can imagine.

1 Now that's not -- surface roughness isn't the
2 same as friction, but it is -- it is something that
3 affects friction. And so I -- yeah, I designed that,
4 built it, tested it, and at one point even worked on a
5 patent infringement case dealing with that stylus
6 equipment that we had built and tested.

7 Later I used that stylus equipment to measure
8 surface roughness of yarns, again, to characterize the
9 surface to understand better the friction that those
10 yarns had on the equipment that were processing them.

11 I've got a couple -- two or three papers in my
12 CV dealing with yarn ballooning. Yarn ballooning is
13 basically -- well, it will take too long to get into it.

14 MR. DEUTSCH: Object to the scope as
15 nonresponsive to the question.

16 BY MR. SCHATZ:

17 Q. Let me -- okay. I'll ask a couple questions
18 then.

19 A. Okay.

20 Q. Dr. Rust, you mentioned testing that you've
21 done with respect to coefficient of friction. So you
22 have tested for coefficient of friction?

23 A. Yes, with the Kawabata equipment, yes.

24 Q. And have you done that in the context of
25 fibers and yarns?

1 A. Fabrics.

2 Q. Okay. And have you -- have you ever had any
3 graduate students?

4 A. Yes, I've had quite a few.

5 Q. Have any of your graduate students ever
6 engaged in testing of coefficient of friction of
7 fabrics?

8 A. Yes. Yes. We have -- so two students,
9 Brian --

10 (Court reporter requested clarification.)

11 THE WITNESS: -- Allen and Tasha Keadle,
12 K-E-A-D-L-E.

13 So they were involved with me in building this
14 stylus equipment, and worked together, we did, on the
15 Kawabata instrumentation as well.

16 BY MR. SCHATZ:

17 Q. And explain a little bit about the
18 connection between the surface roughness, design, and
19 testing you did as it applies to the coefficient of
20 friction discussed in the '854 patent.

21 A. Okay. So --

22 MR. DEUTSCH: Objection to the scope. Outside
23 the scope of the earlier questioning.

24 BY MR. SCHATZ:

25 Q. You can continue.

1 A. So as surface roughness increases, so too does
2 friction forces and the coefficient of friction between
3 that surface and another surface that it would be tested
4 against.

5 Q. Is your opinion that your experience with
6 surface roughness is relevant to the coefficient of
7 friction issues discussed in the '854 patent?

8 A. Yes.

9 Q. In your opinion, is the experience that you
10 have with surface roughness relevant to the issues
11 raised by the petition challenging the '854 patent?

12 A. Yes.

13 Q. And do you have -- how many patents do you
14 have where you are a named inventor?

15 MR. DEUTSCH: Objection to scope.

16 THE WITNESS: I think 13.

17 BY MR. SCHATZ:

18 Q. And do any of those patents discuss or relate
19 to coefficient of friction issues?

20 A. Yes. I have a patent early on dealing with
21 rollers, rollers that are motivating fibers, pushing
22 fibers through a particular processing point, and the
23 friction between the fibers and those rollers is key --
24 was key to the success of that patent.

25 Q. And is your status as an inventor of patents

1 that discuss coefficient of friction relevant to the
2 issues surrounding coefficient of friction mentioned in
3 the '854 patent?

4 A. To the extent that --

5 MR. DEUTSCH: Objection. Scope.

6 THE WITNESS: To the extent that -- that --
7 that that is dealing with friction between textile
8 fibers and metal surfaces.

9 BY MR. SCHATZ:

10 Q. Dr. Rust, in your opinion do you personally
11 have at least five years of measurement and analysis
12 experience in the field of coefficient of friction?

13 A. Yes.

14 MR. SCHATZ: Thank you. No more redirect,
15 Craig.

16 MR. DEUTSCH: Nothing further from Petitioner.
17 Thank you, Dr. Rust.

18 THE WITNESS: Thank you, sir.

19 COURT REPORTER: Counsel, may I get transcript
20 requests on the record?

21 MR. SCHATZ: Thank you. For patent owner,
22 we'll -- we'll just take a final draft for review by the
23 witness. Nonexpedited, just the regular turnaround.
24 And -- yeah.

25 COURT REPORTER: And, Mr. Deutsch, you wanted

THE SULLIVAN GROUP OF COURT REPORTERS

1 a rough draft is my memo?

2 MR. DEUTSCH: That would be great. Yeah, that
3 would be great. Whatever the normal quick turnaround is
4 for rough. Doesn't need to be super expedited. And
5 then, yeah, the usual final. I think we had said by
6 11/13 is fine.

7 COURT REPORTER: Mr. Schatz, you don't want a
8 rough draft?

9 MR. SCHATZ: No, thank you.

10 (Whereupon the proceedings concluded at
11 1:43 p.m.)

12

13

14

15

16

17

18

19

20

21

22

23

24

25

THE SULLIVAN GROUP OF COURT REPORTERS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

ERRATA SHEET

NAME OF CASE: UATP IP, LLC v. SLICK SLIDE LLC

DATE OF DEPOSITION: OCTOBER 22, 2025

NAME OF WITNESS: DR. JON RUST

Reason Codes:

1: To clarify the record.

2: To conform to the facts.

3: To correct transcription error.

Page _____ Line _____ Reason _____

From _____ to _____

Page _____ Line _____ Reason _____

From _____ to _____

Page _____ Line _____ Reason _____

From _____ to _____

Page _____ Line _____ Reason _____

From _____ to _____

Page _____ Line _____ Reason _____

From _____ to _____

Page _____ Line _____ Reason _____

From _____ to _____

Page _____ Line _____ Reason _____

From _____ to _____

Page _____ Line _____ Reason _____

From _____ to _____

Deponent's Signature _____

Date _____

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

DECLARATION UNDER PENALTY OF PERJURY

I, Dr. Jon Rust, do hereby certify under penalty of perjury that I have read the foregoing transcript of my deposition taken on October 22, 2025; that I have made such corrections as appear noted on the Deposition Errata Page(s), attached hereto, signed by me; that my testimony as contained herein, as corrected, is true and correct.

This Declaration is executed this _____ day of _____, 20____, at _____, California.

DR. JON RUST

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25

**I, Tamara Houston, RPR, CCRR, CSR No. 7244, a
Certified Shorthand Reporter in the State of California,
duly empowered to administer oaths, do hereby certify:**

That said deposition was taken down by me in shorthand at the time and place therein named, and thereafter reduced to typewriting by computer-aided transcription under my direction;

I further certify that I am not interested in the event of the action.

Dated: 3rd of November, 2025.

TAMARA L. HOUSTON
CSR 7244, RPR, CCRR 140

THE SULLIVAN GROUP OF COURT REPORTERS

(	11/13 91:6	10 16:1,8,16 17:1,4,7,9, 18 24:6 33:5 39:24 40:5 81:22	64:8
(1) 21:3	11:40 80:22,25	203 81:22	45 48:13 49:15 50:14,19 51:6 52:2,9,14,24 64:2, 6
(2) 21:4	11:41 80:22	213 82:24 83:2	46 47:21,25
-	13 89:16	22 6:1 19:5,23 20:1 48:9, 12,18 49:10,16 50:9,23 52:2,23 59:8,17 60:10	49 24:5,7,17 25:5
---o0o---	141 29:3 34:11,12,15 35:2, 10,20	23 9:14	5
6:5,10	147 30:12	24 10:25	5 47:12,15,19 48:7 57:1,5 83:7,11,12,18,25 84:6, 7,12,14
0	148 27:18,19 28:4 30:14,15 33:14 34:4,7,9	27 21:10,22	50 53:18,25
0.2 50:1	150 70:16,20	28 21:11,22	6
0.4 50:1	17 21:10,22 47:11	3	6 50:4,10,15,20
0.6 49:25	1983 61:17	3 68:6	61 49:22
03 82:20	1999 10:2	30 81:6	64 47:19
1	1:43 91:11	30-some 86:8	65 49:22
1 21:10,21 43:23 48:18 50:15,19 54:19 55:8,10 56:4,17,22 68:6 78:23 83:10 84:7,14	2 75:22 76:8,25 77:7 78:8 79:14	30th 9:7,10	7
1(a) 43:23	20 8:8 20:20	32 68:10	7244 6:4
1-over-1 40:14,16	2005 42:17,20,22 43:9,12,17	33 20:21,22	779 69:9
10 47:10 48:6 49:22 53:12, 14 54:5,9,14 56:1,5,18	2012 39:6,19	34 21:9	8
100 40:13	2020 9:10,21,23	35 53:18,24 81:6	854 10:14,18 12:21 20:25 21:11 47:8 49:23 53:7, 22 56:25 59:7 60:8 61:7 62:8,16 63:21 69:8,21 73:18 85:11 88:20 89:7, 11 90:3
1001 10:15 47:7	2023 9:7	4 40:7 47:20 64:1	8:48 6:1
101 73:20,22	2025 6:1 10:25	40 11:25 64:1	
11 48:4,6,9	2027 12:25 13:13 14:8 15:1,	43	
11,998,854 10:16			

THE SULLIVAN GROUP OF COURT REPORTERS

9 9 68:7 A a.m. 6:1 absolute 77:14,22 accommodate 7:9 account 63:8 85:20 accurate 6:16 60:4 achieve 76:7,24 77:6 79:13 82:7 achieving 78:7 activity 12:20 adding 82:9 addition 68:11 81:24 addressing 23:8 adhesive 69:10,15,20 70:1,3,4,18 71:8,15,19,21,25 72:3, 9,10,23 73:4,7,11,14 adhesives 71:24 admonishment 47:17 affects 87:3 agree 44:10 66:24 agreeing 11:9 ahead 19:4 27:5 32:18 45:5	62:10 80:15 aids 60:15 air 85:25 airtight 44:12,15 albeit 76:19 algorithms 86:15 aligned 50:4 allegations 16:3 Allen 88:11 alternatively 19:8 amount 71:13,16,18,19 73:11 86:3 analysis 21:12 22:8,22 24:25 25:3 26:5,13 27:1,11,23 29:15 30:1,8,9 32:23 33:13,14 34:18,20 48:15 75:17 82:17 84:11 90:11 analyze 39:3 analyzed 38:19 66:17 76:1 analyzing 11:21 15:19 answers 7:3 60:4 apologize 60:18 62:21 Appeal 8:16,20 appears 17:1,4 append 70:10	appended 68:13,16 69:14,18 74:21 appending 68:23 69:2 application 62:15 applied 20:1 73:11 applies 88:19 apply 85:10 applying 70:1 approach 19:17 approximately 48:9 area 53:12,17 54:5,8,14,19 55:8,10,18 57:23 58:1, 3,6 areas 41:19,25 arithmetic 49:19 51:2 52:9 art 20:19 21:2 63:18 artificial 65:7 74:10,16,20 75:6 aspect 85:18 aspects 22:2 23:8 26:12 48:4 assist 18:8 assistant 18:7 associate 10:3 assume 6:23 assumed 29:1	assuming 63:21 67:23 ASTM 75:23 76:9 attach 69:5 72:2 Attached 68:19 attaching 69:25 attachment 69:16 attendant 34:15 attorney-client 32:9,17 attorneys 18:12 aware 10:18 23:21 69:24 70:9 B Bachelor's 21:3 back 10:2,11 30:11 42:5 49:21 56:25 60:21 68:5 81:9,13 background 13:15 62:20 ballooning 87:12 ballpark 8:8 based 20:24 29:10 33:15 49:16 56:9,12 63:13 72:10 basically 87:13 basis 32:14 33:12,13 bedsheet 45:7,10 46:19
--	--	---	--

THE SULLIVAN GROUP OF COURT REPORTERS

bedsheets 43:25 44:4,6,9,12,20,24 45:12	11:7 Brian 88:9	52:3 Central 80:20,21	clarification 18:19 37:12 60:14 85:23 88:10
begin 13:20 20:22 25:10	briefly 9:23,25 11:16 19:23 34:14	Certified 6:4	clarify 6:21,22 23:5 31:21 43:11
beginning 10:24 48:5 64:1 68:10	Bron 12:15	challenge 85:11	clarifying 43:14,16
begins 20:20 47:11 64:8 68:7	brought 13:17 15:19 27:25 28:14,17 55:23	challenging 89:11	classes 86:9
behalf 10:23 11:9 12:8	building 88:13	chance 61:21	clear 14:22 56:11
belabor 23:24	built 86:23 87:4,6	change 17:17 46:14 71:24	cloth 43:24
Benabdallah 28:1,15 29:6	burlap 36:22,25 37:4,6,15,20, 24 38:3,8,13,19 40:13 55:23 58:7	characteristics 25:16 39:4 47:20 80:9 86:12,14	clothing 68:13,17,23 69:5,25 70:5,10 74:21
bending 86:14	C		coat 63:3
beneficial 67:19			coating 63:6,9 81:25 83:9 84:13
bit 53:11 62:24,25 81:3 88:17	California 6:4	characterization 65:23 66:22,25	coefficient 21:13,23 22:2,4,22 23:8 24:20 25:3,23 26:6,18, 23 27:12,15 28:2,10 33:2 34:16 64:14,20 65:20 66:15,18,23 67:1, 4,16,20,23 68:2 75:15, 21 76:8,24 77:2,6,14,22 78:7,14,22,24 79:14 81:25 82:8,10,16,20 85:1,6,9,14,15 87:21,22 88:6,19 89:2,6,19 90:1, 2,12
blue 71:7	called 6:7	characterize 87:8	coefficients 64:14,18
Board 8:16,20	captured 72:17	characterized 55:15,22,25 56:1,6,19, 22,23 57:2,13,22 58:1, 5,7 59:2,9,21 60:11	colleague 11:7
bond 73:10	career 85:9	chat 39:7	College 10:4
bonded 72:11,25 73:3,7	carefully 25:12	chilly 62:24 63:2	color 71:7
bottom 20:20 49:22 63:11,13 67:8,12 68:14 70:20 74:9 81:23	Carolina 7:14 9:9,24	choices 78:2	Column 47:10 48:4,6 49:22 53:12,14 64:1 68:6
break 7:6,8 10:12 14:3 35:9 36:16 61:23 62:10 80:12,17 81:14 86:5	carpet 75:11	choose 77:10	comfort 86:17
breaking 61:21 80:11	case 38:20 42:10 87:5	chose 78:11	
breaks 7:7 81:14,16	cases 7:20,21 8:1,3,6 46:6 64:22	chosen 78:20	
breathability 46:20 47:4	centimeter 48:10,13,18 49:10 50:11,24 52:24 59:9,17 60:10	Cincinnati 7:10	
Brett's	centimeters	claim 28:10 78:23 83:3,7,12, 18,25 84:6,12	
		claimed 78:25	
		claims 21:10,21 22:2	

THE SULLIVAN GROUP OF COURT REPORTERS

comfortable 19:13	conference 62:23	conversation 6:14 31:4	cover 84:6
commentary 32:20	confirm 60:22	copy 19:9,14 39:13 42:19 63:25	Craig 19:6,16 31:16,20 39:9 61:20 62:21 80:18 84:19 90:15
common 44:9	confirming 80:24	corner 42:25	criteria 63:15
communicate 18:24 30:19 33:4	confusing 51:19	correct 7:11,12 21:7 22:23 24:9,22 26:2 27:13 29:23,24 30:20 31:12 32:24 33:5 36:11 45:10, 19 46:8,18,25 48:19 50:6,15,24 52:4 53:9 54:17 56:20,21 64:23 70:5,11,14 71:8 73:8,15 76:16,17,20 79:24 82:17,18 86:3	critical 21:2
communicated 18:13 30:23,25 31:11 79:11	connect 70:4	correctly 21:19 24:15 56:10 59:4 83:5	cross 84:21
communicating 30:4	connection 21:17 22:1 88:18		cured 72:3
communication 16:14 17:16 18:12 19:2 23:7 35:17	consequences 24:13		cures 71:25
communications 13:12 14:15,23,24 29:14 32:9	consideration 63:8 72:24		CV 87:12
compare 39:5	considerations 66:4		D
compared 66:15 74:25	considered 11:16 72:22	cost 66:4	daily 85:18
complete 77:19	constant 83:13,19 84:2	cotton 43:24	date 21:2 42:24 43:1,3
complex 24:18 25:6,21 86:15	constructed 44:20 45:12	counsel 13:22 14:15,23 16:15 17:16 18:4 20:3,8,10 23:7,23 28:25 29:22 30:2,9 31:19 32:2,7,18 34:10,22 35:17 84:24 90:19	deal 85:18
composite 82:4	constructing 37:4		dealing 87:5,12 89:20 90:7
comprises 48:1	construction 37:15,17,21,24 38:3,9, 14,25 40:24 44:3,9,23	count 73:21	dealt 86:7
concepts 11:23	constructions 47:3	counted 8:7	Dean 10:3
concise 60:3	consulting 7:17	counts 74:1	declaration 12:24,25 13:13 14:8,16, 25 15:14 18:9,25 19:3,5 22:12,13,25 23:3,12,16 24:6 27:3,6,17,19 29:7 30:5 32:15 33:5 34:19, 25 35:9 36:10 39:24 40:5 70:17 81:21 85:1,5
conclude 80:17	contacted 10:22 11:3	couple 12:11 81:14 87:11,17	deferring 26:17
concluded 55:3 91:10	content 14:23 16:23 31:14 32:1 35:6	courses 11:25	defined 85:4
conditions 64:16	context 19:18 86:21 87:24	coursework 85:13	definition 74:2 82:13
conductor 82:5	continue 88:25	court 6:3,14 8:10 18:19 37:12 47:17 85:23 88:10 90:19,25 91:7	
confer 22:24	continues 47:24 48:3		

THE SULLIVAN GROUP OF COURT REPORTERS

definitions 39:5	39:4	director 10:3	driving 38:3
deformable 40:24 42:6,7,12	determining 38:24 66:5	disagree 32:10 65:22,25 66:21, 24	dry 83:9 84:13
degree 21:3 85:12	Deutsch 6:11 9:2,20 11:13 12:6 13:6,10 14:2,13,21 15:8,22 16:13,21 17:14, 23 18:3,5,17,22 19:11, 12,20,22 22:10,17 23:20 26:16,21 28:6 29:13,21 30:13 31:9,18, 22 32:7,14,21 33:10,19 34:6 35:16,18 36:1,8, 13,15,21 37:18 38:1,7, 12,17 39:6,11,15,18 41:1,6,17,24 42:4,13, 14,18 44:18 45:4,17,24 46:5,11,24 47:5,18 48:16,23 49:14 50:2,12, 21 51:4,12,20 52:11,20 53:4,21 54:3,13,18 55:1 56:8,16 57:8,17 58:16 59:5,14 60:5,19 61:25 62:4,5,10,13,22 63:4,5 65:1,18 66:3,9,20 67:15 68:21 69:3,11 70:8,15 72:7,15,19 74:14 75:10 76:3,13 77:13,21 78:3, 17 79:21 80:3,15,20,23 81:1,4,7,10,12 82:14 83:24 84:16,21 87:14 88:22 89:15 90:5,16,25 91:2	durability 63:16 68:4	
demonstrates 34:24 35:1,4		disclosed 59:7 60:8	durable 63:20 65:21,23 66:1,12, 13
demonstrating 82:20		discuss 29:25 89:18 90:1	
density 48:7		discussed 31:3 88:20 89:7	E
department 11:23 86:19,22		discusses 53:12	earlier 10:8 53:11 55:23 61:1 68:5 81:15 82:15 88:23
depending 46:16		discussing 52:22	early 81:2 84:23 89:20
depends 46:4 56:6,19		discussion 25:3 63:1 65:6 69:5 70:17	easier 6:15
deposed 8:3,6,12		discussions 31:15 32:1 48:3	easily 40:24 42:6,7,11 83:2
depositions 8:9,23		disposal 80:14	Eastern 80:19
descend 24:13		distinguishes 55:20	easy 42:8
describe 40:23 85:8		district 8:9	embodiment 48:8
describes 40:15,18 64:19 65:2 74:20	diameter 48:11,17 49:8,9,16 50:10,18,22 51:7,8,15 52:1,9,14,23 57:11 59:8,16 60:10	dividing 56:11	emeritus 9:8
describing 20:22 44:16 45:20		document 15:2 16:5 28:9 79:1	employed 68:12,15
Description 40:8		documents 20:13,16 25:8	employee 9:9
design 21:5 45:9 88:18	diameters 50:3	doffed 63:2	encom- 84:4
designed 86:22 87:3	differ 64:15	door 62:25	encompass 83:18,25
designing 77:15,23	difficult 19:18	draft 14:7,16 15:10,17,20,23 16:1,4,7,8,15,16,23 17:4,7,17 90:22 91:1,8	encompasses 84:4
desirable 63:21 65:8,9	directed 31:15 85:14	drafts 17:8	end 10:25 42:16 68:7
detail 48:4	direction 86:20	draw 70:25	engaged 10:19 12:18,19 88:6
determine	directly 30:24 31:11		engagement 7:18 12:9,13,16

THE SULLIVAN GROUP OF COURT REPORTERS

engineering 9:24 10:1 21:3,5 85:13	12:2 20:24 21:5,12 24:19 25:22,25 26:1,4, 5,23 28:11 89:5,9 90:12	faster 78:21	Flipping 82:23
English 68:20	experienced 84:25	feel 11:18	flow 62:3
enlarged 47:16	experiences 85:8 86:21	feet 68:14	flowability 72:9
entire 83:13,19 84:2	expert 13:20 22:6,7,9,21 26:15 27:4,14 28:4,8,10 33:1 34:17 35:5 61:11	felt 11:15 15:20 16:3	fly 48:25
entirety 17:3	expertise 11:16,19 22:14 23:6	fiber 11:24 21:5 61:16 85:16, 17,21 86:3,6	follow-up 29:4 61:13
equates 86:15	explain 13:12 71:5 88:17	fibers 11:21 40:13 48:2 50:10 85:19 87:25 89:21,22, 23 90:8	force 86:3,4,5
equipment 86:12,18,21 87:6,7,10, 23 88:14	extension 11:23	fibrous 40:12	forces 85:21 89:2
equipped 79:9	extent 15:12 36:5 90:4,6	field 20:25 21:4,13 26:5 90:12	form 8:25 9:17 11:11 12:4 13:1,24 15:11 16:5 18:15 22:5,15 26:14,19 27:24 30:10 33:6,16 34:3 36:12 37:16,22 38:4,10,15 39:1 41:21 46:23 47:1 48:14 49:11 50:7,16 51:16 52:6,17 54:11 55:12 56:13 57:14 58:13 64:24 65:16,24 66:7,16 70:6, 12 72:12 74:13 75:2,24 76:10 77:8 78:9 79:15, 25 84:10
escapes 11:6	F	figure 47:12,15,20 48:7 57:1,5 70:21,25	formed 48:1
EXAMINATION 6:11 84:22	fabric 38:11,22 39:3,4 40:23 42:11 46:13 50:11 55:25 56:6,19,21,22,23 57:6 58:7 86:16,17	filament 50:18	forming 24:11 25:11,13,14 74:9
examples 51:13	fabrics 11:20,21 38:19 44:17 85:19 86:13 88:1,7	filaments 59:1	formulating 13:20 14:6
exclude 68:22	facilitate 6:15	file 21:1	forward 15:19 20:18
excluded 69:2	fact 34:24 41:15 42:11 75:6	filed 22:25 23:3	found 29:1
excuse 21:10	factors 24:21 25:24 71:12	final 16:8,16 90:22 91:5	friction 21:13,24 22:2,4,7,8,22 23:8 24:20 25:3,23 26:6,15,18,23 27:12,15 28:2,10,11 33:2 34:16, 17 62:16 63:7,14,20 64:14,15,18,20 65:21 66:15,18,23 67:2,5,16, 20,23 68:2 75:15,22 76:5,8,19,24 77:2,7,14,
exhibit 10:15 12:25 13:13 14:8 15:1,10 16:1,8,16 17:1, 4,7,9,18 19:7 24:6 33:5 39:6,9,19,21,23 40:4 42:14,20,22 43:9,16 47:7	failed 34:23	fine 11:2 19:11,15 36:17 61:3,4 91:6	
expand 34:22	fair 6:24 7:4 22:11 32:16 44:14 48:11 49:20	finish 61:24 62:3	
expect 64:14,17 75:20	fall 78:24	finished 16:5 55:4	
expectation 78:7	familiar 36:22 37:3 39:21 40:1, 15 42:22 44:3 61:6	fit 48:18 49:10 50:9,23 52:2	
expedited 91:4		flexible 68:12 85:18	
experience			

THE SULLIVAN GROUP OF COURT REPORTERS

22 78:7,14,22,24 79:14 81:25 82:8,10,16,20 85:1,6,10,14,15 86:5,13 87:2,3,9,21,22 88:6,20 89:2,7,19,23 90:1,2,7, 12 frictional 85:20 front 19:9 42:20 full 47:11 fully 9:7,14 function 41:2 G game 32:16 gaps 50:5 Gary 12:12 gave 9:13 gears 75:14 generally 61:9 give 73:20 giving 53:8 gold 71:15 good 61:21 81:10 gosh 11:25 graduate 88:3,5 great 19:21 36:18 42:22 91:2, 3	greater 48:17 grip 86:1,2,3 guess 11:25 12:11 29:1,4 34:21 57:25 H half-time 9:12,13 handful 64:9 handle 19:6 Hanging 68:19 happen 45:11 happened 60:18 happy 80:16 hardener 82:5 head 86:19,22 heading 19:24 40:7 hear 61:3 heard 54:22 72:17 hearing 60:15 helped 18:8 helpful 27:7 74:18 helps 82:7 high-durability 67:17,24 high-durable	64:3 65:5 higher 64:22 66:14 67:20 68:2 highly 63:19 65:21 history 20:13 21:1 holes 41:15,18 hour 81:9 Houston 6:3 72:15 hypoallergenic 40:13 hypothetical 76:11 I ice 67:1,4,8,12 idea 78:13 identified 39:23 40:4 identify 18:11 21:21 82:19 illustrating 47:20 illustration 71:5 imagine 45:9 86:25 impact 46:12 71:12,21 impacted 24:20 25:23 implement 79:12 implementation 65:8,9 66:6 implementations 65:15	implementing 63:17 73:10 implicated 13:3 important 6:16 7:1 86:2 include 32:13 includes 82:5 83:9 84:12,13 86:13 Incomplete 75:24 76:10 Incorrect 20:10 increase 34:17 increases 89:1 individual 71:14 individuals 15:14 industrial 10:4 74:2 influence 24:12 inform 34:16 information 13:15 16:2 25:5 32:12 35:5 71:5 79:9 informed 34:9 infringement 87:5 insert 34:17,20 instance 75:7 instances 26:20,25 instruct 13:2 14:9,17 15:4,12 16:9,17 17:10,19 29:9,
---	--	---	---

THE SULLIVAN GROUP OF COURT REPORTERS

17 31:5 32:3 35:12,22 36:4	jute 40:13	23 54:5,15,20 55:11,15 57:13	65:12
instructed 13:4 14:11,19 15:6,15 16:11,19 17:12,21 29:11,19 31:7 32:5 35:14,24	K	layperson 61:11	low 62:16 63:19,20 65:20 66:22 67:1,4 76:5,19 82:8
instructing 32:7,11	K-A-W-A-B-A-T-A 86:11	learned 61:9	low-friction 64:3 65:3,4 67:17,24 76:15 79:7,12
instruction 18:1	K-E-A-D-L-E 88:12	led 29:15	lower 64:22 82:9
instrumentation 86:23 88:15	Kawabata 86:11 87:23 88:15	left 42:24	lowering 81:25
interaction 75:18,20	Keadle 88:11	legal 13:18 19:24 20:2,7,15	lubricant 25:17 81:24 82:5,9,13 83:9 84:13
internet 43:4	key 89:23,24	length 74:25	lunch 80:16 81:3,13
interrupt 45:3 55:2 61:20 62:2	kind 24:1	lengthy 39:9	M
interstices 46:13,15,16,20	kinetic 75:21 76:8,24 79:13	level 20:23 22:3	machine 85:22
inventor 89:14,25	knee 68:15	life 11:21	machinery 7:23
involve 12:2 32:2,8 69:25	knew 61:18	limited 69:15	made 11:18 32:11 77:12
involved 7:20,22,23 86:10,18 88:13	knowledge 20:24	lines 49:22	major 68:20
involving 85:5	L	list 64:9,11 65:4 66:11 67:18,25 74:10	make 6:15 15:25 17:5 29:4 42:1 56:24 72:16 74:5 78:19
issues 23:8 24:18 25:6,21 89:7,10,19 90:2	labeled 40:8 71:8	listed 49:23	makes 59:12 76:22
J	laboratory 86:19	listing 58:3	manner 24:19 25:22 45:13 60:3
job 6:15	large 41:19 45:7,18 46:7 49:9 74:25	lists 55:24 74:8	manufacturing 11:22
JON 6:6	larger 46:15,19,21 53:24 55:20	long 10:2 87:13	master's 85:16
jump 23:25	largest 49:23	longer 54:4 57:2	material 36:23,25 37:20 38:9 42:6 44:25 47:21,25 48:5,10 54:15 55:11,15 57:2,21 58:4,5,11,17, 18,19,20,22,25 59:21 60:11 61:10 63:12,17,
June 9:7,10	late 81:3	loose 40:14,16,19,23	
justified 68:1	Launsby 12:15	lot 28:11	
	layer 47:19 52:15,25 53:8,17,	Lou 11:6,7	
		loud	

THE SULLIVAN GROUP OF COURT REPORTERS

20 64:3 65:5,21 66:1 67:19 68:2 71:15,16,17, 18,19 74:9 76:15 78:2 79:23 80:8 82:6	membrane 68:11 69:5 70:5,10 75:5,8	30:14 36:9 39:7 42:5,15 59:15 74:8	62:18 63:15
materials 11:15 13:16 14:6 21:4 24:11 25:11,13,15 28:2 38:13 61:6 62:14 64:9, 13,19,21 65:3 66:5,10 67:17,25 69:25 72:2,10, 24 73:3,7 74:8 76:7,23 77:6,11 78:8,12,20 79:7,12,13,18 85:19	memo 91:1	monofilament 48:1 50:9	numerous 33:8
math 48:24 51:6	mention 25:14,15,16,17 29:22	morning 84:23	nylon 61:6,10 62:7 65:15 66:11,15 75:18,21 76:6, 7,18,23 77:6 78:8 79:6, 11,23
matter 7:21 12:13,16 27:12 36:6 85:10	mentioned 9:22 28:3 63:23 80:8 87:20 90:2	morphology 25:15 79:19 80:8	
matters 84:25 85:5	mentions 75:6	motivating 89:21	O
maximum 48:11 49:6,8,15 52:23 59:8,16 60:9	merits 11:17	motivation 65:11	object 36:12 40:20 46:23 47:1 48:14 50:7,16 51:16 52:6 57:14 58:13,14,23 64:24 65:16,24 66:16 70:6,12 72:12 75:2,24 76:10 77:8 78:9 79:15, 25 84:10 87:14
meaning 83:4,7	mesh 34:15 47:19,20,25 48:5, 10 52:15,25 53:8,16,23 54:5,9,15,20 55:11,14, 21 56:3,5,18,24 57:23, 24 58:2,7,8 59:3,10,22 60:12	move 42:8 77:24 85:21	objection 8:25 9:17 11:11 12:4 13:1,24 15:11 18:15 22:5,15 23:17 26:14,19 27:24 30:10 33:6,16 34:3 37:16,22 38:4,10, 15 39:1 41:4,13,21 42:2,9 44:13 45:1,14,22 46:3,9 47:1 48:20 49:11,24 50:7,16,25 51:10,16 52:6,16,17 53:1,19 54:1,10,11,16, 21 55:12 56:13 57:4,14 59:11,23,24 60:13 66:7 67:10 68:18,25 69:7 70:12 72:4,12 74:13 77:8,17,25 79:15 82:11 83:21 84:3,10 88:22 89:15 90:5
means 9:12 55:15,16 57:19,20, 21 61:23 62:3 69:2	metal 90:8	moving 77:15 85:18	
meant 40:2 75:8	micron 83:10 84:7,14	multiple 17:8 86:20	
measure 79:19 86:16,23 87:7	microns 83:11 84:7,15	multiply 49:16	
measured 79:18	middle 53:13		
measurement 21:12 22:8,22 26:5 85:15 90:11	millimeters 48:13 49:15,25 50:4,10, 14,19,20 52:2,24	N	
measures 86:12	mind 67:22	named 89:14	
measuring 78:22	minimizing 63:7,13	nasal 7:23	
mechanical 85:12	minutes 81:6	necessarily 45:23 54:24	
mechanism 69:21	missed 35:7 61:2	needed 34:22	
meet 41:8	misspoke 20:11	nodding 7:2	
	molecule 45:8,19	Nonexpedited 90:23	
	moment 7:19 9:4 16:24 28:13	nonresponsive 87:15	
		nonverbal 7:2	
		normal 91:3	
		North 7:14 9:9,24	
		number 6:4 49:6 51:15 52:10	
			obviousness 13:18
			occurs 71:13
			OCTOBER 6:1
			offering 13:21
			office 8:17,21,24
			Ohio 7:11

THE SULLIVAN GROUP OF COURT REPORTERS

one's 68:14 online 71:2 open 19:7 34:15 37:15,21 38:2,9,14,25 39:7 41:19,25 46:21 50:23 51:8,14 52:3 53:12,17 54:5,8,14,19 55:8,10, 18,22 57:13 58:3,6,11, 18,21 59:9,21 60:11 opened 62:24 opening 39:14 55:18 56:7,20 openings 53:24 55:16 56:2,12,23, 24 57:3,6 58:6 opine 63:9 opinion 13:20 22:21 24:2,3,8 25:4 29:16 30:7 33:15, 25 34:1 45:25 53:16,23 54:8,12 56:12 57:1 58:10,15 59:6,20 60:11 67:7,13 71:12 73:2 76:6 78:6 83:25 89:5,9 90:10 opinions 13:21 14:6 15:18 17:16 21:17 22:1 23:2,9,11, 19,22 26:17 27:20 28:1, 5,9 29:5,8,23 30:2,15, 18,20 32:15 33:12,18, 21,23 34:5,9,10,11,23 opportunity 6:18 order 50:23 52:2 53:16 ordinary 20:19,23 21:1 ounces 56:1 outer 68:14 outline 28:3	outlined 25:9 owner 90:21 owner's 43:11,16 P p.m. 91:11 packaged 60:1 pads 68:15 pages 39:17 82:24 paper 19:8,14 39:13 42:19 63:25 86:24 papers 87:11 paragraph 19:5,23 20:1,21,22 21:9 24:5,7,17 25:5 27:18,19 28:3 29:3 30:11 33:14 34:4,7,9,11,12,14 35:2, 10,20 47:11 49:21 68:7, 8,22 70:16,20 73:20,21 81:22,23 82:24 83:2 paragraphs 20:2 23:25 36:3 parameter 58:4 62:16,18 parameters 68:3 73:13 86:15 pardon 82:6 part 11:22 18:13 22:16,18 27:21 28:7 32:23,25 82:16 partially 72:3 participated 8:19	participation 15:13 parts 27:22,23 71:15 77:15, 23 pass 44:24 45:6,8,13,15,19 46:7,21 passes 45:25 past 20:18 patent 8:16,17,20,21,24 10:14, 16,18 12:21,22 13:19 20:25 21:11 43:11,16 47:6,8 49:23 53:8,12,22 56:25 59:7 60:8 61:7 62:8,16 63:19 69:8,9,22 73:18 83:14 85:11 87:5 88:20 89:7,11,20,24 90:3,21 patents 15:19 89:13,18,25 pause 6:18 39:7 percent 40:13 53:18,24,25 54:5, 9,14,19 55:8,10,18 56:4,5,17,18,22 57:23 58:1 percentage 58:6 perfect 81:7 perform 12:7 82:15 performing 77:7 performs 82:7 period 9:5 permeable 44:21 person 18:12 20:19 21:1	personally 90:10 petition 20:14,16 89:11 Petitioner 13:16,17 15:19 20:4,10 84:24 85:11 90:16 Petitioner's 43:8,15 Petitioners 25:9 Ph.d. 85:17 phase 9:11 phenomenon 73:17 Phillips 12:21 63:19,23,24 64:2, 10,19 65:2,10,13,25 67:18 68:1,5,22 69:9,14 70:2 74:7,20 75:4,6 Phillips' 65:6 Phillips's 65:11,22 66:10,22 67:18,25 69:4 phone 51:2 phrase 38:2 physics 24:14 pick 67:19 68:1 place 35:6 plain 37:8,9,20,23 38:3,8,13 40:14,16 plain-woven 43:24 planned 34:20 play
--	---	--	--

THE SULLIVAN GROUP OF COURT REPORTERS

25:19 point 7:1 15:9 27:3,6 49:9 57:1 60:25 61:21 87:4 89:22 pointing 60:20 points 13:17 polyester 65:9 polymer 11:24 85:17 polymers 11:22 portion 34:19 47:16,19 portions 13:3 35:8 84:8 POSITA 21:2,11 26:1,9 34:16 62:7,17 63:8,12,16,18 65:7,14 66:4 67:7,12, 18,25 69:4,9,21,24 70:9 72:8,22 73:2,6,11,13,18 75:19,20 76:6,18,23 77:3,5,10 78:6,11,19 79:8,12,22 83:2 84:25 85:4 POSITA's 20:23 26:22 79:5 POSITAS 72:2 possess 26:2 possibly 31:1 post-grant 8:15 precise 52:19 60:4 preclude 54:15,19,24 55:8,10 preparation 15:13 18:8	prepare 14:7,15 prepared 15:2 preparing 18:25 39:24 40:4 presented 29:6,7 32:15 pressure-sensitive 69:20 prevented 32:17 previous 31:10 previously 8:6 12:7 30:16 43:20 primarily 46:1 prime 55:24 principles 19:24 20:2,7,15 24:14 prior 9:10,15,18,21,23 10:18 12:8,12,15 30:5 33:4 40:2 61:7 62:8 63:21 69:8,21 73:18 privilege 14:10,18 15:5 16:10,18 17:11,20 18:2 29:10,18 31:6 32:4,17 35:13,23 36:5 privileged 13:11 14:14 16:14 17:15 18:4,11 29:14 32:9,12 problem 39:15 62:4,22 proceeding 8:12,16,24 10:20,23 11:10 12:9 13:14 18:14 proceedings 8:20 91:10 process 12:23 13:12,23 14:5 15:9 17:6	processing 7:23 85:22,25 87:10 89:22 product 32:13 77:15,23 professional 10:8 15:18 professor 9:8,23 10:1 programs 61:16 projects 10:5 promote 46:20 properties 73:3,6 76:5 proportions 75:1 prototype 78:19 provide 6:18 7:1 35:5 67:1,4 70:17 provided 7:25 15:3 20:3,7,13 23:23 28:19,20,21,23, 25 29:23 30:2,9 43:7,20 71:6 76:14 Proximity 71:14 PTAB 8:13 publication 71:3 pull 86:1 pulled 20:16 43:1 pushing 89:21 put 63:3 84:21	Q qualified 26:22 quantifying 78:13,14 quarter 81:8 question 6:17,22,23 8:14 10:10 13:3,5,7 14:1,12,20 15:7,16 16:12,20 17:13, 22,25 18:6 27:9 29:4, 12,20 31:8,18,21,24 32:6 35:15,25 36:5 38:5,16,18,21,22 48:22 49:4 51:18 52:19 53:3 57:7 59:4,12 60:1,17, 21,23 61:1,13 65:13 66:2 67:21 72:16 76:4 77:19 79:3,10 80:6 87:15 questioning 61:24 88:23 questions 6:20 12:11 15:18 32:8 60:16 61:14 62:3 75:15 84:17 87:17 quick 80:16 91:3 R raised 89:11 Raleigh 7:14 range 49:23 50:15,19 51:13 53:12,17 78:25 83:10 84:9,14 ranges 53:7 read 20:24 21:19 24:8,15 25:12 40:11 60:21 72:18 reading
---	---	---	--

THE SULLIVAN GROUP OF COURT REPORTERS

69:1 83:5 realm 11:16,19 reason 66:21,24 74:24 75:3 reasonable 49:18 83:4,7 reasons 65:7 recall 8:23 9:5 11:3 16:22 23:14,15,21 28:22 30:4, 6,22 31:3,14 35:8,10,19 36:2 59:18 69:1 85:2 recalls 31:17 Recess 36:20 62:12 81:11 recited 74:2 recites 43:24 64:10 recognize 6:13 12:17 recollection 19:1 20:17 23:1 reconvene 81:6 record 6:16 72:18 90:20 recreational 10:6 84:1 redirect 84:20 90:14 refer 83:14 reference 28:1,14,17,18,19 29:6, 16 43:2,4,5,8,11,15,20 referenced 16:23 referred 25:25 referring 12:24 25:7 26:1 42:11	47:12,15 71:19 80:7 83:8 refers 41:15 65:4 reflected 30:1 reflects 33:12 regard 26:10 27:20 33:21 47:25 71:6 regular 7:7 90:23 relate 89:18 related 12:11 21:4,23 27:12 relating 15:18 85:1 relayed 34:10 relevant 89:6,10 90:1 relied 23:5,9 rely 26:12 27:21,22,23 28:4, 7 relying 21:16,25 22:9,14,20 24:25 25:2 26:8,25 27:3,10,14 32:23,25 remember 23:18 33:24 34:2 43:6 remind 7:13 repeat 31:23 38:5 48:21 49:4 60:2 83:22 repeating 67:22 rephrase 6:21 12:18 13:7 17:5 27:17 34:8 36:14 37:2 43:2 44:8,19 45:11 49:7 51:22,25 52:21 53:5	54:7 55:9 56:10 57:9 60:7 69:13 71:11 74:15 75:19 77:4 reporter 6:3,4,14 18:19 37:12 47:17 60:21 85:23 88:10 90:19,25 91:7 requested 18:19 37:12 85:23 88:10 requests 90:20 require 21:11 26:4 78:23,24 83:12 requirement 77:15,23 78:2 requires 15:13 requisite 22:3 reread 72:15 research 86:10 reside 7:13 resin 82:4,6 resolved 62:20 resource 71:2 respect 13:2 21:10 22:3 26:23 74:8 85:5,9 87:21 respond 6:19 56:4,17 responded 16:3 response 43:19 responses 7:2 restate	6:21 restroom 61:23 results 78:1 82:19 retained 11:9 retired 7:16 9:3,6,7,11,14 retirement 9:11 10:2 reveal 32:12 revealing 13:11 14:14 15:13 16:14 17:15 18:11 29:14 review 8:15 13:15,16 15:10,21 20:25 23:2 38:22 90:22 reviewed 11:15 23:10,19 27:20 30:18 33:21,23 34:1,2 reviewing 13:8 14:5,14 ride 12:3 63:12,13,17 67:9 74:9 rider 24:11 rider/sliding 24:12 role 10:5 35:5 rollers 89:21,23 room 39:13 62:23 rough 91:1,4,8 roughness 86:13,24 87:1,8 88:18 89:1,6,10 run 37:11
---	---	---	--

THE SULLIVAN GROUP OF COURT REPORTERS

Rust 6:6,12 7:10 9:3 13:8,11 15:1,9 16:22 17:16,24 18:6 19:14 21:21 23:5 27:17 28:13 29:5,22 31:10,23 32:22 33:11 35:16 36:2,9,14,22 37:19 38:18 39:19 45:5 47:22 52:1 53:6 56:11 57:25 58:10 59:6 61:7, 13 62:6,14 72:20 74:6, 18 75:14 76:14 79:4 80:10 81:13 84:17,23 87:20 90:10,17 Rust's 32:14 84:11 S safe 62:6 sailcloth 66:13,14,19,25 save 43:5 saved 43:3 Schatz 8:25 9:17 11:11 12:4 13:1,9,24 14:9,17 15:4, 11 16:9,17 17:10,19 18:1,15 19:6,16,21 22:5,15 23:17 26:14,19 27:24 29:9,17 30:10 31:5,16,20 32:3,10,19 33:6,16 34:3 35:12,21 36:4,12,18 37:16,22 38:4,10,15 39:1,9,12 40:20 41:4,13,21 42:2,9 44:13 45:1,14,22 46:3, 9,23 47:1 48:14,20 49:11,24 50:7,16,25 51:10,16 52:6,16 53:1, 19 54:1,10,16,21 55:12 56:13 57:4,14 58:13,23 59:11,23 60:13 61:20 62:2,21,23 64:24 65:16, 24 66:7,16 67:10 68:18, 25 69:7 70:6,12 72:4,12 74:13 75:2,24 76:10 77:8,17,25 78:9 79:15, 25 80:18,21,24 81:2,5,8	82:11 83:21 84:3,10,19, 22 87:16 88:16,24 89:17 90:9,14,21 91:7,9 Schmit 12:12 science 11:24 21:4,6 61:16 85:17 scope 39:2 40:21 41:4,13,22 42:2,9 44:13 45:1,14,22 46:3,9 47:2 48:20 49:12,24 50:8,17,25 51:10,17 52:7,16 53:1, 19 54:1,10,16,21 55:13 56:14 57:4,15 58:14,24 59:11,23 60:13 67:10 68:18,25 69:7 70:13 72:4,13 77:9,17,25 82:11 83:3,21 84:3,11 87:14 88:22,23 89:15 90:5 screen 19:8,19 screens 39:16 scrolling 19:19 section 20:18,19 74:19 sections 68:13 70:22 see-through 41:8,12,14 segment 80:11 select 63:12 72:9 76:7,23 77:5 selected 57:12 72:23 selecting 62:14 63:6 73:4,7 79:23 selection 77:12 sense 59:12	sentence 21:16 24:7,17 25:7,20 26:1 27:19 30:17 33:20 34:14 35:2 40:11 41:7 47:24 64:8 68:10 69:17, 19 73:22,24 sentences 35:10 services 10:4 12:8 session 84:24 share 19:8 39:16 sheer 42:12 sheet 58:3 68:12 sheeting 55:21 63:20 74:2,6,9, 12,17,22 75:4,5,8,12 shift 75:14 short 61:22 Shorthand 6:4 shown 47:20 shows 57:5 sic 24:9 side 50:4,5,23 51:8 62:24 similar 40:23 51:7 Similarly 56:4 simple 24:13 simpler 17:5 simplest 37:10	sir 82:22 90:18 sitting 20:8 size 46:12 55:17 56:2,7,12, 20 57:23 58:1,5 sizes 55:20 skill 20:19,23 21:1 22:3 skip 20:18 Slick 10:19,23 11:10 12:8,19 slide 10:19,23 11:10 12:2,8, 19 24:10,11,13 25:11, 13 63:7,10 67:8,13 78:20 79:12 84:1,6,8 slides 10:6 sliding 24:11 25:14 62:15 83:13,20 84:2 slightly 41:7,11,14 42:1 slip 86:4 slope 24:10 small 42:15 68:13 74:19 smaller 46:16 53:24 54:14 55:7, 19 softness 86:16 solely 63:13 sounds 49:18 62:20 81:10 Sourced 40:12 spaces
--	--	---	--

THE SULLIVAN GROUP OF COURT REPORTERS

34:15 46:21 50:23 51:9, 14 52:3 55:22 57:13,20, 22 58:12,18,21 59:2,3, 9,22 60:12 speak 26:22 27:11 81:16,18 speaking 26:9 65:12 specific 13:25 14:4 17:8 23:25 27:3,7 35:6 37:19 74:17 specifically 21:22 23:7,14 52:8 85:13 specification 55:17 58:3 speed 24:12 Spiegelberg 18:24 19:2 22:6,24 26:8 27:14,21,22,25 28:14, 17,20,23 29:1 30:1,5,9, 18,19,23,25 31:4,12 32:2 33:1,4,15,22 34:1 Spiegelberg's 21:17 22:1,12,21 23:2, 9,11,22 24:2,25 25:2,4 26:13 27:1,11 29:7,16, 23 30:8 32:23 33:13 34:10,20 spot 34:22 stand-alone 68:12 standards 75:23 76:9 start 6:13 9:21 10:13 78:5 started 51:2 state 9:9,24 33:20 stated 28:14 statement 31:11 32:11	states 27:20 34:15 47:15 68:11 81:24 82:24 83:2 stating 33:13 65:25 status 89:25 step 10:11 55:7 strange 54:25 strike 15:23 structure 41:16 58:2 structures 71:14 students 88:3,5,8 studied 66:18 72:5 76:1 study 12:21 13:19 38:23 39:4 sturdy 43:24 style 40:14,16 stylus 86:23 87:5,7 88:14 subject 7:21 27:11 36:6 85:10 submitted 12:25 13:13,16 15:1 16:8,16 17:7,9,17 19:3 20:16 25:9 29:1 30:24 submitting 23:11,16 30:5 33:4 Subsequently 85:16 substance 81:19 substantially 83:13,19 84:2 substantive 23:25	success 89:24 suggest 65:6 suggests 24:9 suit 63:2 super 91:4 supposed 61:15 surface 25:16 63:7,10 67:8,14 68:15 74:9 83:13,20 84:2,6,8 86:13,24 87:1, 8,9 88:18 89:1,3,6,10 surfaces 90:8 surrounding 90:2 survive 16:7,15 sustainable 40:12 swabs 7:24 sworn 6:7 synthetic 48:2 75:11 system 12:3 79:13 84:1	talks 25:13 64:2 Tamara 6:3 18:20 Tasha 88:11 teach 86:8 teaches 70:2 teaching 11:23 technical 44:16 55:16 technically 9:8 technique 69:12 techniques 68:23 69:24 Teflon 65:15,20 66:1 75:17,21 76:5,7,15,19,23 77:6 78:8 79:6,11,23 ten 25:9 tenure 9:13 term 44:16 69:14 74:6 terminology 13:19 terms 13:18 40:24 42:12 57:23 58:1 test 64:16 77:11 78:12 82:19 tested 75:22 77:1 78:23 86:23 87:4,6,22 89:3 testified 32:22 33:3 79:7 testimony 7:25 32:15 76:14 81:19
T			
	tab 51:14 talk 6:17 12:23 55:19 talked 45:18 57:9 59:15 80:10 talking 10:15 30:14 52:14 53:8 58:2,3 74:7		

THE SULLIVAN GROUP OF COURT REPORTERS

testing 11:21 28:11 77:7,14,22 78:1,21 82:16 86:11 87:20 88:6,19	times 8:5,8 33:9	typically 44:8,12,20 66:14 68:15	usual 13:23 91:5
text 16:7,15 17:1 22:11 24:8 27:16 35:20	tissue 86:24	U	V
textile 7:22 9:24 10:1 11:20,24 21:5 44:16 85:24 90:7	today 6:12,24 32:16 81:19	U.S. 8:21,24 10:16	values 82:8
textiles 10:4 40:22	toilet 86:24	unannotated 19:9	vapor 44:21,24 45:6,13,15,25 46:7,21
texts 36:2	top 42:24 48:4 49:21	unclear 6:20	vehicle 12:3 24:12,13 25:14 63:12,13,17 67:9,13 74:10
therewith 21:18	topic 33:2	uncommon 72:8	verbal 7:2
thermal 82:4	totally 80:13	undergraduate 85:12	view 47:16
thick 40:12	touching 57:12,19,20 58:11,17, 19,21 59:1	understand 8:14,15 10:10,15 22:7 24:1,24 26:9 33:11 35:21 38:18 43:13,19 53:2 57:7 59:3 60:17 61:2 63:19 67:3,18,25 69:4,9,15 71:7 73:21 74:5 77:18 78:4,15 79:5,8 80:6 83:3 87:9	viscosity 71:21,24 73:14
thickness 74:25 83:10,12,19 84:1, 7,13	transcribed 6:14	understanding 27:8,10 29:5 56:10 79:6	visibly 41:20
thing 7:18	transcript 90:19	understood 6:23 11:8 15:25 19:20 24:18 25:21 28:13 31:10 32:20 51:5 52:12 60:23 61:5 63:4	voids 45:7,18,20 46:1,6
things 25:18 60:16 79:22	transport 85:25	unit 10:4	volumes 72:9 84:20
thinking 55:3	Trial 8:16,20	University 9:9,25	W
thought 34:22	trouble 39:13	unmarked 19:9	W-E-F-T 37:13
thread 51:7,14 52:1,14 57:11 73:21 74:1	true 46:10	unpaid 9:9	wait 17:24
threads 42:8 45:21 46:2,8 48:1, 7,10,12,18 49:9,10,17, 23 50:4,5,22,24 52:2,4, 23 57:12 58:11,17,19, 20 59:1,7,8,16,17 60:9, 10 71:15,16	truth 6:8,9	unsure 76:22	Wang 25:9
time 7:6 9:5,16,19 30:22 31:1 38:22 42:25 43:1,3 60:23 73:1 80:19,22 85:19 86:5	turf 65:7 74:10,16,20 75:6	uploaded 39:6 63:24	wanted 90:25
	turn 19:4,23 24:5 27:18 29:3 40:7 43:23 47:6 48:6 53:11 68:5 70:16 81:21	uploading 42:14	wanting 74:5
	turnaround 90:23 91:3	user 68:14,24 69:6 70:5,10	warm 62:25
	turned 51:2		warp 37:11,13 45:20 46:2,8 48:12 49:8,16,23 50:4 52:23 58:20,25 59:7,16 60:9
	type 7:22 46:12 62:15 74:20		
	types 37:3,6		

THE SULLIVAN GROUP OF COURT REPORTERS

water 44:21,24 45:6,8,13,15, 19,25 46:7,21 ways 24:10 70:9 weave 37:8,9,10,20,24 38:3,8, 13 40:14,16,18 46:6,12, 19 48:1 52:13 weaved 46:17 weaves 37:3,6 46:15 WEDNESDAY 6:1 weft 37:10,13 45:20 46:2,8 weight 24:10 55:25 58:8 wicking 71:13,22 73:17 width 75:1 winter 63:3 Wong 24:9 word 60:16 61:2 69:17 worded 61:3 words 16:2,6 work 7:15 10:9,23 11:22 12:7,12,15 18:13 32:13 40:2 48:7 worked 9:12,13 17:9 87:4 88:14 working 7:19 11:20 woven 36:25 37:17,24 38:11 40:13 41:3,8 44:6,9,23 47:3,25 58:10,17,19,20, 25 61:6,10 62:7	write 35:6 36:7 writing 12:23 13:12,21 15:20, 23 35:19 wrote 15:17,21 16:1,2,3,6 34:25 35:1,9,11 36:3,6, 10 Y yarn 87:12 yarns 37:13 41:8 42:1,8 46:1 59:1 85:19 87:8,10,25 year 10:25 years 9:12,13 10:1 11:25 21:12 26:5 86:8,20 90:11 Z ZTE 10:3 11:23	
--	---	--