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

APPLE, INC.,

Petitioner,

vs.

COREPHOTONICS, LTD.,

Patent Owner.

VIDEOTAPED VIDEOCONFERENCE DEPOSITION OF

EXPERT WITNESS

JOHN C. HART, Ph.D.

April 29, 2021 9:02 a.m. (CST)

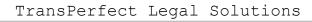
Reported By:
Mayleen Ahmed, RMR, CRR, CRC, CSR
Job No.: 1961

TransPerfect Legal Solutions



Page 2	Page 3
1 REMOTE APPEARANCES 2 On behalf of the Petitioner: 3 STEPHANIE SIVINSKI, ESQ. 4 HAYNES & BOONE LLP 5 2323 Victory Avenue - Suite 700 6 Dallas, Texas 75219 7 214.651.5078 8 stephanie.sivinski@haynesboone.com 9 -and- 10 MICHAEL PARSONS, ESQ. 11 BETHANY LOVE, ESQ. 12 HAYNES & BOONE LLP 13 6000 Headquarters Drive - Suite 200 14 Plano, Texas 75024 15 972.739.8611 16 michael.parsons@haynesboone.com 17 bethany.love@haynesboone.com 18 19 20 PRIYA VISWANATH, ESQ. 21 COOLEY LLP 22 3175 Hanover Street 23 Palo Alto, California 94304-1130 24 650.849.7023 25 pviswanath@cooley.com	REMOTE APPEARANCES (cont'd) REMOTE APPEARANCES (cont'd) REMOTE APPEARANCES (cont'd) REMOTE APPEARANCES (cont'd) Note of the Patent Owner: JONATHAN LINK, ESQ. RUSS AUGUST & KABAT 12424 Wilshire Boulevard - 12th floor Los Angeles, California 90025 310.826.7474 jlink@raklaw.com ALSO PRESENT: VALERIE BELTRAN, Videographer, TransPerfect, ALSO PRESENT: 12 VALERIE BELTRAN, Videographer, TransPerfect, 13 14 15 16 17 18 19 20 21 22 23 24 25
INDEX OF EXAMINATION WITNESS: JOHN C. HART, Ph.D. EXAMINATION PAGE BY MS. SIVINSKI	DEPOSITION OF JOHN C. HART, Ph.D April 29, 2021 THE VIDEOGRAPHER: We are on the record on April 29, 2021, at approximately 9:02 a.m. Central time for the remote video deposition of Dr. John Hart in the matter of Apple, Inc. versus Corephotonics Ltd., IPR No. 2020-00905 and 2020-00906. My name is Valerie Beltran, and I am the videographer. Will counsel please introduce themselves for the record, beginning with the party noticing this proceeding. MS. SIVINSKI: Good morning. My name is Stephanie Sivinski, with Haynes and Boone, for Apple. And I'm joined today by my colleagues Mike Parsons and Bethany Love, also with Haynes and Boone, and then Priya Viswanath from Cooley LLP. MR. LINK: My name is Jonathan Link with the law firm of Russ, August & Kabat, on behalf of the Patent Owner, Corephotonics. THE VIDEOGRAPHER: Thank you. Will the court reporter please swear in the witness. THE REPORTER: I'm going to ask that you

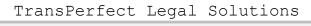
2 (Pages 2 to 5)



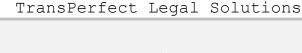


	Page 6		Page 7
1	please raise your right hand.	1	A. Yes, I am.
2	Do you solemnly swear under penalty of	2	Q. Where are you testifying from today?
3	perjury that you are Dr. John Hart, and the	3	A. My daughter's bedroom in Champaign,
4	testimony you are about to give in the matter now	4	Illinois. This is where I conduct the business,
5	pending shall be the truth, the whole truth, and	5	including expert services. I mean, not from my
6	nothing but the truth?	6	daughter's bedroom but from Champaign, Illinois.
7	THE WITNESS: I do.	7	Q. Yeah. Understood. We're all very, very
8	THE REPORTER: Thank you.	8	fancy these days with our with our office digs.
9		9	Okay. Good.
10	JOHN C. HART, Ph.D.	10	Is there anyone else in the room with
11	having been duly sworn, testified as follows:	11	you?
12		12	A. No, there's not.
13	EXAMINATION	13	Q. Okay. And will you agree not to
14	BY MS. SIVINSKI:	14	communicate with others, including Corephotonics'
15	Q. All right. Good morning, Dr. Hart.	15	attorneys, while questions are pending?
16	How are you?	16	A. Understood and agreed.
17	A. Good morning. I'm fine.	17	Q. Great.
18	How are you?	18	Do you have any access to notes from
19	Q. I'm good. Thanks.	19	where you're sitting today?
20	Okay. Have you given testimony in a	20	A. No, I do not. I mean, there are notes
21	remote deposition before?	21	on my computer, but I am not accessing those notes.
22	A. Yes, I have.	22	I will not access those notes.
23	Q. Okay. So you're familiar with Zoom and	23	Q. All right. Thank you.
24	the chat function for downloading exhibits and those	24	Is there any reason that you cannot give
25	sorts of things?	25	truthful and accurate testimony today?
	Page 8		Page 9
-1			
1	A. No.	1	A. Yes, it does.
2	Q. All right. So I know that you sat for	2	A. Yes, it does.Q. As you sit here today, is there anything
	Q. All right. So I know that you sat for depositions before, but just so we can all be on the		
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3 (Pages 6 to 9)

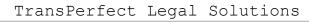


Page 10 Page 11 1 go over some of the summaries of your opinions 1 A. Yes, I did. 2 2 Q. Other than your lawyers -- and I don't 3 3 want to know any conversations between you and Do you see on page 2 and extending through page 4 of your Declaration, a bullet-pointed 4 Corephotonics' lawyers -- did you talk to anyone in 4 5 list of materials? 5 preparing for your deposition today? A. No, I did not. 6 A. Yes, I do. 6 7 Q. Are these the materials that you 7 Q. And other than Corephotonics' lawyers, 8 considered in drafting your Declaration? 8 did you talk to anyone in preparing this 9 A. Yes. 9 Declaration? 10 10 A. I'm not sure I understand the difference Q. Did you read all of these materials? A. Yes. There's also item C on page 5 that 11 11 between that question and the question you asked 12 I also considered. It's not materials. It's just 12 before it. 13 13 the level and skill of a person having ordinary Q. Sure. So it might be the same answer, 14 skill in the art. 14 but with one, I was talking specifically about the 15 Q. Understood. Thank you for that 15 preparation for your deposition. And with this 16 addition. 16 second question, I'm asking more broadly about your 17 17 work in this case and your preparation of your Is all of the analysis you performed for 18 these IPRs reflected in your Declaration? 18 Declaration. 19 A. The opinions based on that analysis are 19 A. Oh. So I've not spoken to anybody else 20 20 -- are reported in my opinion -- in this in the preparation for both. 21 Declaration. 21 Q. So are you aware that Dr. Moore has also submitted a declaration for the 905 and 906 IPRs? 22 Q. How many hours did you spend on your 22 work for this Declaration? 23 23 A. Yes, I am. 24 A. Somewhere between 50 and 60 hours. 24 Q. Okay. And would you agree with me that 25 Q. And did you write your Declaration? 25 Dr. Moore's declaration is related to the lens Page 12 Page 13 design aspects of the 905 and 906 IPRs? 1 1 training in optics and understand, you know, the 2 2 A. I don't have an opinion that I'm aware physics of lenses, the characteristics of lenses. of at the moment that characterized Dr. Moore's 3 I have not, you know, physically built 3 4 deposition in that particular ways. 4 any lenses. My work on lenses has been more 5 Is -- is there a statement in my 5 theoretical. I'm certainly an expert in ray 6 Declaration stating that? 6 tracing, and ray tracing is an element of lens 7 Q. Well, I -- I am planning on asking you 7 design. 8 questions today that are slightly broader than your 8 So I don't believe I have an opinion in 9 9 the report that claims to -- where I'm an expert in Declaration. 10 So my question is whether you would 10 lens design, but I did understand lens design and 11 agree with me that that's the case, whether or not 11 was able to understand Dr. Moore's report. 12 you stated it in your Declaration. 12 Q. Okay. Would you -- do you think Dr. Moore is an expert in lens design? 13 Would you agree with me that Dr. Moore's 13 declaration is directed towards the lens design 14 14 A. Yes, I do. 15 elements of the 905 and 906 IPRs? 15 Q. Okay. And I'm not intending to limit 16 A. I'm not going to pigeonhole Dr. Moore's 16 the scope of his declaration. I'm just trying to 17 declaration in any way. I did refer to Dr. Moore's 17 get a general understanding that Dr. Moore has 18 declaration in, for example, patents describing lens 18 submitted opinions about lens design in these cases. 19 Would you agree with that? 19 20 Q. Okay. Well, let me ask this question. 20 Yes, I would. Α. 21 Do you consider yourself a lens design 21 Q. And that your Declaration is focused 22 more on the image processing aspects of the '479 expert? 22 23 A. I wasn't asked to declare myself as a 23 patent? 24 24 lens design expert in the -- in preparing these A. I think the opinions I offer have --25 opinions. I have experience in lens design. I have 25 have included both, but, certainly, I believe



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1	I've I've offered perhaps more opinions on on	1	model was provided to demonstrate the effectiveness
2	the other aspects than lens design.	2	of an invention to somebody seeking to eventually
3	Q. Are you familiar with the software	3	utilize that invention without revealing the details
4	that's used in connection with lens design, for	4	of of the specific implementation.
5	example, Zemax?	5	Q. And this is perhaps an obvious question,
6	A. Yes, I'm aware of it.	6	but why would someone want to use a Zemax black box
7	Q. Have you ever used it?	7	model in your experience?
8	A. No.	8	A. If they would like to understand how
9	Q. Did you review any Zemax files in	9	something works, but are not yet at a stage to need
10	connection with your work for the 905 and 906 IPRs?	10	to understand the details of of how something was
11	A. Only by name and in in their	11	built or how something was implemented, just the
12	reference in Dr. Moore's reports and the other	12	effects without understanding the process.
13	documents in my materials that I considered.	13	Q. Would someone be able to copy a lens
14	Q. Do you know what a Zemax black box model	14	design after reviewing just a Zemax black box model?
15	is?	15	MR. LINK: Objection. Outside the scope
16	A. Yes.	16	of his declaration.
17	Q. Can you describe what a Zemax black	17	A. I think it's certainly possible. You
18	model is black box model is for me?	18	know, another example of a black box might be the
19	A. Yes. It describes the design of the	19	machine code that when somebody is writing a
20	of the lens of a lens system in such a way that	20	program, for example, Microsoft Word, that that
21	you can see the effects of the lens system without	21	machine code can be decompiled and
22	revealing the details of the lens system design.	22	reverse-engineered.
23	Q. And what is your understanding of what	23	Reverse-engineering is a broad field
24	Zemax black box models are used for?	24	that that works in in a variety of cases and a
25	A. I think in this case, a Zemax black box	25	variety of implementations.
23	A. I tillik ili tilis case, a Zelliax black box	25	variety of implementations.
	Page 16		Page 17
1	So I I don't have an opinion that	1	technologies, which Petitioner also appears
2	says it's impossible.	2	to have copied) is strongly implied by the
3	Q. Okay. Well, specifically with respect	3	course of conduct between the parties and the
4	to the Zemax black box models that you talk about in	4	timing of petitioner's announcement of their
5	your Declaration, would it be possible to copy a	5	dual-aperture camera in their iPhone 7
6	lens design from those Zemax black box models?	6	series"
7	A. I don't believe I have an opinion	7	Do you see that portion of your
8	stating that.	8	Declaration?
9	Q. Okay. Well, I'm asking you for your	9	A. Yes, I see that.
10	understanding whether that would be possible, as you	10	Q. Okay. Is your conclusion that Apple
11	sit here today.	11	copied the invention of the '479 patent based on the
12	A. I don't I don't believe I was asked	12	evidence you discuss about Zemax black box models?
13	to consider that. I I did not give an opinion	13	A. I believe that sentence is saying that
14	that said that that was not possible, and that's the	14	Petitioner's actions strongly implied that they
15	extent of my opinion.	15	created what appeared to be technology that copied
16	Q. Can you turn with me to paragraph 133 of	16	the technology provided to them by Core
17	your Declaration.	17	Corephotonics. I don't believe this sentence speaks
18	Are you there? Sorry.	18	to any, any one piece that that allowed me to
19	Are you there?	19	form form that opinion over any other piece.
20	A. Yes.	20	But the black box technology was one of
21	Q. Okay. Perfect.	21	the pieces that was provided by Corephotonics to
22	In paragraph 133, you conclude that,	22	Petitioner.
23	quote that:	23	Q. So I'm not sure I understand your
24	"Petitioner copied the invention of the	24	answer.
25	'479 patent (among other Corephotonics	25	Does the fact that Corephotonics
_			5 (Pages 14 to 17)
			0 (1 agc3 1 4 c0 1 /)

5 (Pages 14 to 17)





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