

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND
BALTIMORE DIVISION

PAICE LLC and
THE ABELL FOUNDATION, INC.,
Plaintiffs,

Case: 1:14cv00492-WDQ

vs.

FORD MOTOR COMPANY,
Defendant.

_____ /

DEPOSITION OF JEFFREY L. STEIN
Southfield, Michigan
January 12, 2015

Reported by:

Anne E. Vosburgh, CSR, RPR, CRR

Job no: 13175

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4 DEPOSITION OF JEFFREY L.STEIN, taken on January 12,
5 2015 by the Plaintiffs, at the Law Offices of
6 Brooks Kushman, 1000 Town Center, Southfield,
7 Michigan, before Anne E. Vosburgh, Certified
8 Shorthand Reporter, Registered Professional
9 Reporter, Certified Realtime Reporter, and Notary
10 Public in and for the State of Michigan, County of
11 Oakland.
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11 in Support of Petition for Inter
12 Partes Review; Appendix A, CV
13 and Appendix B, List of
14 Materials; Bates FMC 1002.
15 Exhibit 2 US Patent 5,343,970 Filed 154
16 September 6, 1994, Severinsky
17 Exhibit 3 SAE Paper 950493, The Effects of 174
18 APU Characteristics, by
19 Catherine Anderson and Erin
20 Pettit; Bates FMC 1006, 9 pages
21 Exhibit 4 US Patent 4,707,984, November 251
22 24, 1987 Katsuno; Bates FMC 1008
23
24 (Exhibits attached.)
25

PROCEEDINGS

Southfield, Michigan
January 12, 2015

9:25 a.m.

MR. CORDELL: Ruffin Cordell and
Pete Guarneri from Fish & Richardson on
behalf of Paice.

MR. ANGILERI: Frank Angileri,
Brooks Kushman, for Ford.

MS. SHAH: Sangeeta Shah for Ford.

MR. TURNER: Andrew Turner for
Ford.

MR. PEREZ-DAPLE: Aaron
Perez-Daple, Latham & Watkins, for Ford.

MR. ANGILERI: And just for the

record, Mr. Perez has not entered an
appearance but he is present, obviously.

09:26:16

JEFFREY STEIN,

Having taken an oath to testify
truthfully, was examined and
testified as follows.

JEFFREY STEIN

EXAMINATION 09:26:16

BY MR. CORDELL: 09:26:16

Q Good morning, Dr. Stein. 09:26:17

A Good morning. 09:26:19

Q Thank you for joining us on a chilly
morning. 09:26:24

Can you give us your full name and
address for the record. 09:26:26

A Certainly. Jeffrey L. Stein, 3055
Whisperwood Drive, Ann Arbor, Michigan 48105. 09:26:30

Q And you understand that you're under
oath? 09:26:36

A Yes. 09:26:42

Q And you're testifying as if you were
in a court of law? 09:26:43

A Yes. 09:26:45

Q Or before the patent office? 09:26:45

A Yes. 09:26:47

Q And have you been deposed before? 09:26:48

A Yes. 09:26:51

Q How many times? 09:26:53

A I don't know exactly, but several
times. 09:26:54

Q You understand the rules pretty well? 09:26:55

JEFFREY STEIN

A If you think it's wise to repeat
them, I'm certainly willing to listen. 09:26:58
09:27:00

Q Sure. 09:27:03

Let me give you a little bit of a
refresher. If I ask you a question and you
give me an answer, I'm going to assume you
understood my question. So if you don't,
please tell me. 09:27:03
09:27:06
09:27:08
09:27:11

If you need to take a break, wave
your hand, say something, talk to Mr. Angileri,
something. This is not an endurance test by
any stretch. 09:27:12
09:27:14
09:27:21
09:27:26

A Okay. Thank you. 09:27:26

MR. ANGILERI: Objection, form.
BY MR. CORDELL: 09:27:27
09:27:29

Q So with that understanding, is there
any reason today why you can't testify fully
and truthfully? 09:27:29
09:27:30
09:27:32

A None that I can think of. 09:27:33

Q You're a professor at the University
of Michigan, correct? 09:27:40
09:27:41

A Yes. 09:27:43

Q What do you teach? 09:27:44

A Mechanical engineering is the 09:27:46

JEFFREY STEIN

department in which I teach. 09:27:48

Q What kinds of courses do you teach? 09:27:49

A I teach courses in mechanical design,
mechatronics, systems and controls, dynamics,
machine control. 09:27:52
09:27:57
09:28:01

Q So dynamics sounds like an undergrad
class; is that correct? 09:28:10
09:28:12

A Well, we have both undergraduate and
graduate courses in almost all of those topics. 09:28:14
09:28:17

Q Tell me how many of your courses that
you're currently teaching are undergrad
classes? 09:28:19
09:28:20
09:28:23

A I teach approximately even numbers of
undergraduate and graduate classes. 09:28:24
09:28:26

Q So four? 09:28:30

A This past term I taught two
undergraduate classes and one graduate class. 09:28:31
09:28:34

Q And what are you teaching -- are you
between terms right now? 09:28:37
09:28:40

A Our new term just started last week. 09:28:41

Q And what are you teaching this
semester, or term? 09:28:45
09:28:48

A I don't have any formal classroom
teaching this term. 09:28:50
09:28:51

1 JEFFREY STEIN

2 Q Are you supervising any grad 09:28:55
3 students? 09:28:57

4 A Yes. 09:29:00

5 Q Generally, how many grad students do 09:29:01
6 you supervise in any particular term? 09:29:03

7 A Well, that number does fluctuate. 09:29:20
8 Approximately six at the moment. Maybe as high 09:29:21
9 as a dozen. 09:29:25

10 Q Can you describe the process for your 09:29:28
11 supervision of a grad student attending the 09:29:31
12 University of Michigan? What generally do you 09:29:34
13 do? 09:29:37

14 A Could you repeat the question, 09:29:44
15 please? 09:29:45

16 Q What does it mean to supervise a grad 09:29:45
17 student? 09:29:47

18 A There are different roles as a mentor 09:29:50
19 for different types of graduate students. So 09:29:56
20 that's why I'm hesitating a bit on your 09:29:59
21 question. I'm not sure which graduate student 09:30:00
22 in which role are you -- 09:30:03

23 Q Well, a graduate student that's 09:30:05
24 pursuing a master's, what kinds of things do 09:30:07
25 you do with that person? 09:30:10

1 JEFFREY STEIN

2 A So that person would tend to require 09:30:16
3 some counseling about course choices, some 09:30:18
4 discussion about research options that they 09:30:28
5 might consider, some options -- or discussion 09:30:30
6 about companies they might work with in 09:30:37
7 different kinds of industries, different kinds 09:30:39
8 of areas that -- the courses that they're doing 09:30:41
9 work in might lead to. 09:30:45

10 And there are also those master's 09:30:54
11 students who I actually specifically end up 09:30:58
12 engaged in a research project with, which -- 09:31:00
13 and then, of course, there's considerable 09:31:03
14 discussion about the content of the research 09:31:06
15 that we're doing together. 09:31:09

16 Q Do you write papers with your 09:31:14
17 students? 09:31:15

18 A Yes. 09:31:16

19 Q How often? 09:31:18

20 A Well, we have my CV. There's 09:31:19
21 hundreds of publications there. So divide the 09:31:21
22 number of years by the number of publications, 09:31:24
23 vice versa, you'll get a number. 09:31:28

24 Q Somewhere around eight to ten a year, 09:31:30
25 if my math is right? 09:31:33

1 JEFFREY STEIN

2 A Some number like that. 09:31:34

3 MR. CORDELL: Let me go ahead and 09:31:36
4 mark as Exhibit 1 your declaration in 09:31:37
5 this case. 09:31:39

6 The declaration that I have in 09:31:48
7 front of me for United States Patent 09:31:48
8 88,214,097, IPR Case No. IPR2014-00570. 09:31:49
9 In this case it's marked as FMC-1002. 09:31:56
10 (Marked Deposition Exhibit 1; 09:32:13
11 Declaration of Dr. Jeffrey L. Stein 09:32:13
12 in Support of Petition for Inter 09:32:13
13 Partes Review; Appendix A, CV; and 09:32:13
14 Appendix B, List of Materials 09:32:13
15 Considered. Bates FMC 1002.) 09:32:13

16 BY MR. CORDELL: 09:32:15

17 Q Mr. Stein, let me hand you your, and 09:32:15
18 attached to the back is your CV, correct? 09:32:17

19 A Yes. I found it. 09:32:51

20 Q And you have hundreds of papers 09:32:53
21 listed here, right? 09:32:58

22 A Yes. 09:33:01

23 Q I actually counted them up in your 09:33:19
24 declaration. In paragraph 10, you said you've 09:33:23
25 authored over 65 journal articles, 13 of which 09:33:27

1 JEFFREY STEIN

2 are related to hybrid electric vehicles; is 09:33:31
3 that right? 09:33:39

4 A Yes. I see that paragraph. 09:33:59

5 Q Is that accurate? 09:34:00

6 A I've authored 65 journal articles -- 09:34:02
7 over 65 journal articles, including at least 13 09:34:03
8 articles that are related to hybrid electric 09:34:08
9 vehicles. 09:34:12

10 And I've also contributed over 115 09:34:13
11 referee conference papers, including at least 09:34:14
12 18 papers that are related to hybrid electric 09:34:16
13 vehicles. 09:34:20

14 Q So not quite 200, but almost; is that 09:34:21
15 right? 09:34:24

16 A That would be fair. In the CV that's 09:34:35
17 attached, there are a few more that are not 09:34:38
18 included. 09:34:41

19 Q Let's go back to the CV and Appendix 09:34:41
20 A. And just picking the first few, you have 09:34:44
21 articles directed to things like "Influence of 09:34:48
22 Fifth Wheel Location on Truck Ride Quality," 09:34:52
23 and "Stance Phase Control of Above-Knee 09:34:54
24 Prosthesis: Knee Control Versus SACH Foot 09:34:58
25 Design," and "Evaluation of DC Servo Machine 09:34:58

1 JEFFREY STEIN
 2 Tool Feed Drives as Force Sensors." 09:35:01
 3 How do you select topics for these 09:35:07
 4 papers? 09:35:10
 5 A That's an interesting question, a 09:35:32
 6 complicated question, I think. 09:35:36
 7 But just generally speaking, papers 09:35:37
 8 are generated as a result of -- of results you 09:35:39
 9 get from your research work. You decide where 09:35:43
 10 the new contributions are and you write a paper 09:35:47
 11 on the contribution. 09:35:50
 12 Q So maybe my question should be 09:35:52
 13 different then. 09:35:54
 14 How do you decide the direction or 09:35:55
 15 focus of your research work? 09:35:58
 16 A That's also an interesting question, 09:36:09
 17 a complicated question. It's a question that 09:36:11
 18 all faculty members have to think long and hard 09:36:14
 19 about. 09:36:20
 20 But you -- it's a combination of a 09:36:27
 21 number of factors, things that you have some 09:36:32
 22 inherent interest in; things that are important 09:36:37
 23 to local industry and the country and the 09:36:40
 24 world, in terms of problems that need to be 09:36:44
 25 solved. 09:36:48

1 JEFFREY STEIN
 2 There are also issues that are 09:36:49
 3 related to what the national funding agencies 09:37:00
 4 are thinking are important topics. They 09:37:04
 5 release call for proposals in particular areas, 09:37:07
 6 so that also drives it. 09:37:12
 7 There are many, many things that 09:37:16
 8 drive the different kinds of decisions that are 09:37:18
 9 made by faculty members to work in different 09:37:20
 10 areas and different topics. 09:37:26
 11 Q So sometimes do your students suggest 09:37:29
 12 areas of interests that you then pursue as a 09:37:31
 13 topic of research? 09:37:35
 14 A Certainly all students bring to the 09:37:47
 15 table their own personal interests, both 09:37:49
 16 intellectually and in terms of industry that 09:37:52
 17 they're interested in working in, and 09:37:54
 18 applications they're interested in working on. 09:37:56
 19 That ends up blending in with the 09:37:59
 20 needs of the research lab, my lab in this case; 09:38:03
 21 or if I'm working with other faculty members, 09:38:06
 22 then these might be group efforts that 09:38:10
 23 represent a confluence of interest in a 09:38:16
 24 confluence of funding agencies. 09:38:20
 25 Q When it comes time to write a paper, 09:38:23

1 JEFFREY STEIN
 2 do you generally try to write up the new 09:38:26
 3 developments as a particular traunch of 09:38:31
 4 research? 09:38:35
 5 A Can you rephrase that question? 09:38:36
 6 Q I'll try again. 09:38:39
 7 So you mentioned a few minutes ago 09:38:39
 8 that when you write a paper, you try to present 09:38:42
 9 whatever new developments you've come up with. 09:38:44
 10 And I would like you to try to describe that 09:38:48
 11 for me a little bit. 09:38:50
 12 MR. ANGILERI: Objection, 09:38:52
 13 foundation. 09:38:53
 14 BY MR. CORDELL: 09:38:54
 15 Q Let me try it this way, Dr. Stein: 09:38:54
 16 Why do you write a paper? 09:38:56
 17 A As part of the scientific process, 09:39:11
 18 the idea is to inform the rest of your 09:39:13
 19 colleagues in particular, but the world more 09:39:17
 20 generally, of new discoveries that you have 09:39:20
 21 made so that everybody can benefit from the 09:39:25
 22 knowledge. 09:39:27
 23 It helps inform other researchers. 09:39:27
 24 It helps industry be able to, you know, utilize 09:39:30
 25 in discoveries in what they are doing. 09:39:34

1 JEFFREY STEIN
 2 It is to everybody's benefit to take 09:39:41
 3 the research results, the new results that you 09:39:47
 4 have, and to explain it and provide it in a 09:39:49
 5 form that's available to everybody. 09:39:55
 6 Q And when you say "to take the new 09:39:57
 7 research results that you have," I take it the 09:40:00
 8 point of the paper is not to repeat what you've 09:40:01
 9 said before? 09:40:04
 10 MR. ANGILERI: Objection, form. 09:40:06
 11 THE WITNESS: So I guess I would 09:40:15
 12 ask you to rephrase that question, 09:40:15
 13 please. 09:40:20
 14 BY MR. CORDELL: 09:40:21
 15 Q Why? 09:40:21
 16 A Because it's unclear to me. 09:40:22
 17 Q What's unclear? 09:40:23
 18 A Well, if I had a clear understanding 09:40:24
 19 of what was confusing me, I wouldn't have to 09:40:26
 20 ask you. 09:40:28
 21 Q Well, unfortunately, though, that's 09:40:28
 22 the only way I know how to clean it up is -- 09:40:30
 23 A Well, just take a random stab at it 09:40:33
 24 and I'll tell you the next time it comes back. 09:40:36
 25 Q I don't know. Maybe with this we can 09:40:39

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