UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY,

Petitioner,

-vs-

PAICE, LLC & ABELL FOUNDATION, INC.,

Patent Owner.

U.S. Patent Nos. 7,237,634 and 7,104,347

IPR Case Nos. IPR2015-00722; IPR2015-00784;

IPR2015-00787; IPR2015-00790; IPR2015-00791;

IPR2015-00794 and IPR2015-00795

Deposition of GREGORY DAVIS, PhD
Wednesday, January 13, 2016
Southfield, Michigan

Reported by:

Laura J. Steenbergh, CSR-3707, RPR, CRR, RMR

Job no: 15629



	Pag	re 2		Page 4
1	APPEARANCES:		1	Southfield, Michigan
2	MR. JOHN RONDINI, ESQ.		2	Wednesday, January 13, 2016
3	MR. ANDREW B. TURNER, ESQ.		3	About 9:20 a.m. 09:19:13AM
4	Brooks Kushman, P.C.		4	MR. LIVEDALEN: Good morning, Dr. Davis. 09:19:13AM
5	1000 Town Center, 22nd Floor		5	THE WITNESS: Good morning. 09:23:01AM
6	Southfield, Michigan 48075		6	GREGORY DAVIS, PhD, 09:23:01AM
7	(248) 358-4400		7	having first been duly sworn, was examined and testified 09:23:01AM
8	jrondini@brookskushman.com		8	on his oath as follows: 09:23:01AM
9	aturner@brookskushman.com		9	EXAMINATION BY MR. LIVEDALEN: 09:23:01AM
10	Appearing on behalf of the Petitioner.		10	Q. Could you please state your name for record? 09:23:01AM
11			11	A. Sure. It's Dr. Gregory W. Davis. 09:23:03AM
12	MR. BRIAN LIVEDALEN, ESQ.		12	Q. And you understand that you've taken an oath today? 09:23:06AM
13	Fish & Richardson, P.C.		13	A. Yes. 09:23:08AM
14	1425 K Street NW, 11th Floor		14	Q. And you intend to tell the truth? 09:23:09AM
15	Washington, DC 20005		15	A. Yes. 09:23:10AM
16	(202) 783-5050		16	Q. And so some administrative matters. Your counsel, or 09:23:10AM
17	livedalen@fr.com		17	John, and I spoke about dividing these up into basically 09:23:14AM
18	Appearing on behalf of the Patent Owner.		18	three tiers. So this first one's going to concern U.S. 09:23:18AM
19			19	Patent 7,237,634, so we'll call this the '634 patent. 09:23:25AM
20	ALSO PRESENT: Ms. Frances Keenan - Paice, L	LC	20	A. Okay. 09:23:29AM
21			21	Q. You're familiar with that, I believe? 09:23:29AM
22	* * * *		22	A. Yes. 09:23:31AM
23			23	Q. And we're going to divide these up further and just 09:23:31AM
24			24	address the declarations that you opined on with regard 09:23:35AM
25			25	to the Ibaraki reference. And that is, for the record, 09:23:38AM
	Pag	re 3		Page 5
1	TABLE OF CONTENTS		1	U.S. Patent Number 5,789,882. 09:23:45AM
2			2	A. Okay. 09:23:49AM
3	Witness Page		3	
				Q. And so the numbers are 2015-00722, 2015-00784, 09:23:50AM
4	GREGORY DAVIS, PhD		4	Q. And so the numbers are 2015-00722, 2015-00784, 09:23:50AM 2015-00787, 2015-00790, and 2015-00791. 09:24:03AM
4 5		4		
	GREGORY DAVIS, PhD	4	4	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM
5	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN:	4	4 5	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM
5 6	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS	4	4 5 6	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM
5 6 7 8 9	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN:	4	4 5 6 7 8 9	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM
5 6 7 8 9	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS	4	4 5 6 7 8 9	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM
5 6 7 8 9 10 11	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page		4 5 6 7 8 9 10	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM
5 6 7 8 9 10 11 12	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363	6	4 5 6 7 8 9 10 11 12	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM
5 6 7 8 9 10 11 12	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784	6 9	4 5 6 7 8 9 10 11 12 13	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM
5 6 7 8 9 10 11 12 13	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634	6 9 18	4 5 6 7 8 9 10 11 12 13	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM
5 6 7 8 9 10 11 12 13 14	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM
5 6 7 8 9 10 11 12 13 14 15 16	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634	6 9 18	4 5 6 7 8 9 10 11 12 13 14 15	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM think John would have told me if I got one wrong, so 09:24:32AM
5 6 7 8 9 10 11 12 13 14 15 16	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM think John would have told me if I got one wrong, so 09:24:32AM we'll proceed, if that's okay with you? 09:24:34AM
5 6 7 8 9 10 11 12 13 14 15 16 17	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16 17	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM think John would have told me if I got one wrong, so 09:24:32AM we'll proceed, if that's okay with you? 09:24:34AM A. Yeah, that's fine. 09:24:36AM
5 6 7 8 9 10 11 12 13 14 15 16 17 18	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:32AM we'll proceed, if that's okay with you? 09:24:34AM A. Yeah, that's fine. 09:24:36AM Q. Okay. Sure. 09:24:37AM
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:32AM we'll proceed, if that's okay with you? 09:24:34AM A. Yeah, that's fine. 09:24:37AM So, Dr. Davis, I'll represent to you that one 09:24:43AM
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM think John would have told me if I got one wrong, so 09:24:32AM We'll proceed, if that's okay with you? 09:24:34AM A. Yeah, that's fine. 09:24:37AM So, Dr. Davis, I'll represent to you that one 09:24:43AM or more of these matters also deals with a reference on 09:24:47AM
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM think John would have told me if I got one wrong, so 09:24:32AM we'll proceed, if that's okay with you? 09:24:34AM A. Yeah, that's fine. 09:24:36AM Q. Okay. Sure. 09:24:37AM So, Dr. Davis, I'll represent to you that one 09:24:43AM or more of these matters also deals with a reference on 09:24:47AM the Frank reference. Do you recall that one we talked 09:24:51AM
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM think John would have told me if I got one wrong, so 09:24:32AM we'll proceed, if that's okay with you? 09:24:34AM A. Yeah, that's fine. 09:24:36AM Q. Okay. Sure. 09:24:37AM So, Dr. Davis, I'll represent to you that one 09:24:43AM or more of these matters also deals with a reference on 09:24:47AM the Frank reference. Do you recall that one we talked 09:24:51AM about a few months ago? 09:24:56AM
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	GREGORY DAVIS, PhD EXAMINATION BY MR. LIVEDALEN: INDEX TO EXHIBITS (Exhibits attached to transcript) Exhibit Page DAVIS EXHIBIT 1 U.S. Patent Number 6,116,363 DAVIS EXHIBIT 2 Declaration in IPR 2015-00784 DAVIS EXHIBIT 3 U.S. Patent Number 7,237,634 DAVIS EXHIBIT 4 Declaration in IPR 2015-00790	6 9 18 41	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	2015-00787, 2015-00790, and 2015-00791. 09:24:03AM MR. RONDINI: And just for the record, I know 09:24:09AM we spoke off the record about this, I just wanted to put 09:24:11AM on the record that you are aware that you did not Notice 09:24:14AM the '722, even though that is one of '634. 09:24:18AM MR. LIVEDALEN: Well, I'll have to go confirm 09:24:21AM that, but I think we talked about it and it didn't seem 09:24:23AM like an issue. 09:24:26AM MR. RONDINI: No. 09:24:27AM MR. LIVEDALEN: Okay, great. 09:24:27AM BY MR. LIVEDALEN: 09:24:28AM Q. And so, Dr. Davis, I know that's a lot of numbers, and I 09:24:28AM think John would have told me if I got one wrong, so 09:24:32AM we'll proceed, if that's okay with you? 09:24:34AM A. Yeah, that's fine. 09:24:36AM Q. Okay. Sure. 09:24:37AM So, Dr. Davis, I'll represent to you that one 09:24:43AM or more of these matters also deals with a reference on 09:24:47AM the Frank reference. Do you recall that one we talked 09:24:51AM

2 (Pages 2 to 5)



	Page 6		Page 8
1	recall that reference? Do you want me to give it to 09:25:07AM	1	168, where you can see a side-by-side comparison between 09:32:27AM
2	you? 09:25:15AM	2	the Figure 4 from Frank and Figure 11 from the Ibaraki 09:32:30AM
3	A. Let me just take a look. I think I brought a copy. 09:25:15AM	3	'882, and you can see the three general modes of 09:32:38AM
4	6,116,363, yes, I have. 09:25:18AM	4	operation. Again, the one highlighted in kind of an 09:32:41AM
5	Q. And do you recall, how does the Frank reference select 09:25:25AM	5	orange-ish pink color is the motor drive mode. In green 09:32:48AM
6	operating modes? 09:25:28AM	6	is engine drive mode, and in blue is the combination 09:32:52AM
7	MR. RONDINI: Objection to form. 09:25:30AM	7	engine-motor drive mode. And, again, if you look at 09:32:57AM
8	BY MR. LIVEDALEN: 09:25:34AM	8	Figure 11 from Ibaraki you can see that the 09:33:00AM
9	Q. Do you recall? 09:25:35AM	9	determination as to which mode to operate in is based on 09:33:05AM
10	A. Well, I've got a lot of material here. Perhaps it would 09:25:35AM	10	the instantaneous torque to propel the vehicle and the 09:33:07AM
11	go easier if you could direct me to a spot in one of 09:25:39AM	11	vehicle's speed, whereas in Frank he used a different 09:33:11AM
12	these pile of declarations here that I could take a look 09:25:45AM	12	control scheme in order to determine which mode he 09:33:14AM
13	at. 09:25:49AM	13	wanted to go into. In Frank he used the vehicle speed, 09:33:16AM
14	Q. Well, why don't we just mark Frank as an exhibit. 09:25:49AM	14	and the discharge of the battery, or the state of charge 09:33:21AM
15	DAVIS EXHIBIT 1 09:26:07AM	15	of the batteries to help make the decision. 09:33:25AM
16	U.S. Patent Number 6,116,363 09:26:07AM	16	MR. RONDINI: Just real quick, did we want to 09:33:28AM
17	WAS MARKED BY THE REPORTER 09:26:07AM	17	mark this as an exhibit? 09:33:31AM
18	FOR IDENTIFICATION 09:26:07AM	18	MR. LIVEDALEN: Yeah, why don't we go ahead an 09:33:32AM
19	BY MR. LIVEDALEN: 09:26:07AM	19	do that. Do you want to mark his personal copy, or 09:33:33AM
20	Q. So for the record, Exhibit 1 is U.S. Patent Number 09:26:09AM	20	MR. RONDINI: Do you want to 09:33:38AM
21	6,116,363, Exhibit 3 to Frank. Does that look right to 09:26:14AM	21	THE WITNESS: This is fine. I don't know that 09:33:39AM
22	you, Dr. Davis? 09:26:22AM	22	I have anything in here. 09:33:40AM
23	A. Yes. 09:26:24AM	23	MR. RONDINI: That's fine then. 09:33:42AM
24	Q. And if you look at Figure 4, does that refresh your 09:26:33AM recollection as far as what criteria Frank is using to 09:26:48AM	25	
	reconcetion as fail as what effectia I faile is using to 07.20.46AW	23	
	Page 7		Page 9
1	select operating modes? 09:26:51AM	1	DAVIS EXHIBIT 2 09:33:58AM
2	A. Yes, I think I did talk about that in my declarations. 09:26:53AM	2	Declaration in IPR 2015-00784 09:33:58AM
3	Let's see if I can find that. 09:27:38AM	3	WAS MARKED BY THE REPORTER 09:33:58AM
4	Q. Which declaration are you looking at? 09:30:45AM	4	FOR IDENTIFICATION 09:33:59AM
5	A. I'm looking at the IPR case number 2015-00784. 09:30:48AM	5	BY MR. LIVEDALEN: 09:33:59AM
6	Q. Okay. Maybe does paragraph 384 help at all? 09:30:58AM	6	Q. All right. So if I understand you correctly, you said 09:34:03AM
7	A. I actually just turned to that page. 09:31:03AM	7	that the Frank reference uses speed and battery 09:34:05AM
8	Q. All right. We're on the same page. 09:31:05AM	8	discharge to switch modes, is that right? 09:34:10AM
9	A. Can you give me the question again? 09:31:18AM	9	A. Yeah, or the battery state of charge or depth of 09:34:13AM
10	Q. If I can remember. 09:31:22AM	10	discharge. 09:34:17AM
11	Let me just ask you this, what criteria does 09:31:24AM	11	Q. And would one of skill in the art understand the Ibaraki 09:34:17AM
12	the Frank reference evaluate to determine which 09:31:27AM	12	'882 to also use speed switch modes? 09:34:21AM
13 14	operating mode to select? 09:31:30AM A. Well, what you can see is if you look on, you know, 09:31:33AM	13	A. No. The Ibaraki, as I just explained, and you can see 09:34:24AM it in the side-by-side comparison on page 168 of my 09:34:27AM
15	A. Well, what you can see is if you look on, you know, 09:31:33AM starting on page 165, continuing on for, I think, a 09:31:37AM	14 15	it in the side-by-side comparison on page 168 of my 09:34:27AM declaration, Ibaraki uses, if you look at the Y axis, 09:34:30AM
16	couple of pages, that you can see there's lots of 09:31:43AM	16	instead of seeing, in the Frank figure on the left, you 09:34:34AM
17	similarities between the hybrid electric vehicles 09:31:46AM	17	see speed on the Y axis. On the Y axis or the vertical 09:34:37AM
18	disclosed here, and that like the Ibaraki '882, the 09:31:53AM	18	axis of Ibaraki on the right, Figure 11, you see the 09:34:42AM
19	Frank has mode of operation of engine only mode, 09:31:58AM	19	vehicle drive torque. So Ibaraki is using the torque 09:34:45AM
20	electric motor only mode, and an engine-motor mode. But 09:32:00AM	20	and the vehicle speed to make the determination, whereas 09:34:52AM
21	unlike the control strategy used by the Ibaraki '882, 09:32:04AM	21	Frank was using the speed on the Y axis and the depth of 09:34:54AM
	which relies on the instantaneous torque to propel the 09:32:11AM	22	discharge on the X axis. 09:34:59AM
22	one of the contract of the con		
22	vehicle and the vehicle speed to make a determination 09:32:16AM	23	Q. So one of skill in the art would not conclude that 09:35:00AM
	• • •	23 24	Q. So one of skill in the art would not conclude that 09:35:00AM Ibaraki '882 is comparing vehicle speed to a speed 09:35:03AM

3 (Pages 6 to 9)



	Page 10		Page 12
1	MR. RONDINI: Objection to form, vague. 09:35:08AM	1	to a speed threshold? 09:38:16AM
2	THE WITNESS: I'm not sure I understand your 09:35:09AM	2	MR. RONDINI: Objection, asked and answered. 09:38:18AM
3	question. 09:35:14AM	3	THE WITNESS: Again, it's making the 09:38:20AM
4	BY MR. LIVEDALEN: 09:35:17AM	4	determination, it set up the boundaries, if you will, 09:38:24AM
5	Q. What don't you understand about it? 09:35:18AM	5	between the different modes based on the vehicle speed 09:38:27AM
6	A. I guess I just I'm not sure I understand what you're 09:35:19AM	6	and the depth of discharge. 09:38:30AM
7	asking there. 09:35:25AM	7	BY MR. LIVEDALEN: 09:38:33AM
8	Q. So in Frank you agree with me, right, that Figure 4 of 09:35:26AM	8	Q. Okay. Now, looking at Ibaraki '882, does Ibaraki '882 09:38:38AM
9	Frank discloses evaluating the vehicle speed to a speed 09:35:32AM	9	compare vehicle speed to a speed threshold? 09:38:43AM
10		10	A. Again, Ibaraki is probably clearest if you look at the 09:38:45AM
11	threshold to select an operating mode? 09:35:38AM	11	figures that I have annotated on page 168 of my report, 09:38:50AM
12	MR. RONDINI: Objection, misstates testimony, 09:35:41AM	12	
	vague. 09:35:43AM		you can see that the Ibaraki uses the vehicle drive 09:38:54AM
13	THE WITNESS: I'm not again, I think maybe 09:35:46AM	13	torque and the vehicle speed, and it's to help lay out 09:38:59AM
14	it's clearer if we look at my text and maybe that would 09:35:51AM	14	the boundaries between the modes. 09:39:08AM
15	clear it up a little bit. If you look at let's see, 09:35:57AM	15	Q. So it does make a comparison between vehicle speed and 09:39:09AM
16	probably the description I have 09:36:04AM	16	the speed threshold? 09:39:13AM
17	BY MR. LIVEDALEN: 09:36:07AM	17	A. So it's looking at the torque at a given speed, and 09:39:14AM
18	Q. It's really a simple question. Does Frank 09:36:07AM	18	perhaps I think I have some other annotated figure at 09:39:19AM
19	A. Sorry, I just don't understand. 09:36:11AM	19	Figure 11. 09:39:24AM
20	Q. Okay. So you've seen Figure 4, right? 09:36:13AM	20	Well, perhaps a better figure to look at that 09:40:22AM
21	A. Yes. 09:36:14AM	21	might help clear up any issue here is if we look at 09:40:25AM
22	Q. The Y axis is what? 09:36:15AM	22	page 87 of my declaration, or one example of an 09:40:27AM
23	A. It's the vehicle speed. 09:36:18AM	23	annotated Figure 11, and you can see I've tried to lay 09:40:32AM
24	Q. All right and at below 113 kilometers per hour, what 09:36:22AM	24	out some of the conditions here, and you can see 09:40:36AM
25	mode is being used? 09:36:28AM	25	looks like you're still turning and so you can see 09:40:48AM
	Page 11		Page 13
1	A. It depends. 09:36:29AM	1	the basic strategy that Ibaraki is employing here is 09:40:50AM
2	Q. Well, between 0 and 50 percent battery depth of 09:36:35AM	2	it's determining the vehicle speed and the required 09:40:54AM
3	discharge what mode is being used in under 13 kilometers 09:36:42AM	3	torque to propel the vehicle, which I've annotated here, 09:40:58AM
4	per hour? 09:36:45AM	4	I called that TL on the diagram. And then in order to 09:41:03AM
5	A. Again, it still depends. 09:36:46AM	5	make the mode determination it's comparing that value 09:41:06AM
6	Q. Okay. So looking at Figure 4, you cannot tell me 09:36:48AM	6	with the setpoint, which on this curve that I'm showing 09:41:11AM
7	whether or not Frank uses strike that. 09:36:52AM	7	is a setpoint to transition to engine drive mode only, 09:41:15AM
8	Looking at Figure 4, you cannot tell me 09:36:55AM	8	and so it's making comparison that TL is greater than 09:41:20AM
9	whether or not Frank compares vehicle speed to a speed 09:36:57AM	9	that setpoint. And the different setpoints, they vary 09:41:24AM
10	threshold or to select operating modes? 09:37:00AM	10	as a function of speed in Ibaraki, and they're kind of 09:41:28AM
11	MR. RONDINI: Objection, vague. 09:37:02AM	11	shown as that line B, that curved line B would be the 09:41:34AM
12	THE WITNESS: Again, it uses both vehicle 09:37:09AM	12	kind of boundary value or values in which you would 09:41:39AM
13	speed, as I described before, and the battery depth of 09:37:11AM	13	switch to engine mode, engine drive mode. 09:41:44AM
14	discharge in order to determine the locations where it's 09:37:14AM	14	Q. So at a point along speed V1 is it your opinion that 09:41:48AM
15	going to switch modes. 09:37:21AM	15	there's a comparison between a demand torque and a 09:41:55AM
16	BY MR. LIVEDALEN: 09:37:23AM	16	torque threshold? 09:42:01AM
17	Q. Does it ever compare vehicle speed to a speed threshold 09:37:23AM	17	MR. RONDINI: Objection, vague, misstates 09:42:03AM
18	to select an operating mode? 09:37:28AM	18	testimony. 09:42:07AM
19	A. Well, it defines its boundaries between modes based on 09:37:30AM	19	THE WITNESS: I think what I said is that 09:42:15AM
20	the vehicle speed and the depth of discharge. So, 09:37:55AM	20	there is the the curve is set up using the torque, 09:42:18AM
21	again, the comparison that's being made is looking at 09:37:58AM	21	the vehicle drive torque or the instantaneous torque to 09:42:25AM
22	the vehicle speed at a particular depth of discharge or 09:38:03AM	22	propel the vehicle and vehicle speed so that there are 09:42:29AM
23	condition of the battery in order to decide which mode 09:38:06AM	23	multiple setpoints. The setpoints vary as a function of 09:42:36AM
		1	
24	of operation is desired. 09:38:08AM	24	vehicle speed. But in the example I'm showing here on 09:42:40AM
	of operation is desired. 09:38:08AM Q. And does that ever require a comparison of vehicle speed 09:38:10AM		vehicle speed. But in the example I'm showing here on 09:42:40AM page 87, at one particular vehicle speed the controller 09:42:43AM

4 (Pages 10 to 13)



	Page 14		Page 16
1	will determine the value, TL, the torque, at that speed 09:42:49AM	1	vehicle, which is indicated by TL if we go back to that 09:45:47AM
2	and make a comparison as to whether that is greater than 09:42:56AM	2	Figure 11 I have annotated on page 87 and you're 09:45:51AM
3	the setpoint or not greater than the setpoint. And in 09:43:00AM	3	comparing to see if it's greater than that setpoint at 09:45:55AM
4	this case it's greater than the setpoints which are 09:43:05AM	4	the same vehicle speed. And if it is, then you're going 09:45:58AM
5	•	5	
6	defined by curve B, and it's less than the setpoint that 09:43:10AM	6	to consider engine drive mode only. You're also going 09:46:03AM
7	would be defined on the curve of multiple setpoints of 09:43:16AM curve C. So it's looking at the setpoint, SP, that I 09:43:23AM	7	to look then to see if it's less than the setpoint which 09:46:08AM
8		8	is laid out on I called it C1, and if it's between 09:46:13AM those two values you're going to go into engine drive 09:46:18AM
9	have labeled, and the value I called C1, and it's making 09:43:27AM a determination in that case that it should be in engine 09:43:31AM	9	, , , , , ,
			mode. So it's clearly looking at the torque required to 09:46:21AM
10	drive mode. 09:43:35AM	10	propel the vehicle and comparing it to the setpoint. 09:46:27AM
11	BY MR. LIVEDALEN: 09:43:35AM	11	BY MR. LIVEDALEN: 09:46:30AM
12	Q. So is there or isn't there a comparison between a demand 09:43:36AM	12	Q. So you're telling me there is a comparison? 09:46:30AM
13	torque and a torque threshold? 09:43:40AM	13	A. I think I have been telling you that, that it's a 09:46:33AM
14	MR. RONDINI: Objection, compound. 09:43:42AM	14	comparison between those values. 09:46:37AM
15	THE WITNESS: I think I've already answered 09:43:51AM	15	Q. Okay. I'm not trying to trick you, I'm just trying to 09:46:38AM
16	that question a couple of times now. 09:44:00AM	16	get trying to make sure I understand your opinion. 09:46:41AM
17	BY MR. LIVEDALEN: 09:44:03AM	17	So you would agree with me then or strike 09:46:45AM
18	Q. My answer calls for a yes or no answer, so is it yes or 09:44:04AM	18	that. 09:46:45AM
19	no? 09:44:07AM	19	So is it your opinion that Ibaraki '882 09:46:51AM
20	MR. RONDINI: Objection, vague, misstates 09:44:09AM	20	compares a torque demand to a torque threshold? 09:46:53AM
22	testimony. 09:44:13AM	21	MR. RONDINI: Objection, asked and answered. 09:46:56AM BY MR. LIVEDALEN: 09:46:59AM
23	THE WITNESS: Perhaps I don't understand your 09:44:19AM question. 09:44:20AM	23	
	•		Q. I think your answer's yes. I don't know why 09:47:01AM
24 25	BY MR. LIVEDALEN: 09:44:21AM O. Sitting here today, can you tell me whether or not 09:44:21AM	24 25	A. Perhaps I'm just I didn't use the exact terms that 09:47:03AM
		23	you're using in your question, so perhaps maybe that's 09:47:05AM
	Page 15		Page 17
1	Ibaraki '882 compares a torque demand to a torque 09:44:23AM	1	where there's some miscommunication. It definitely 09:47:11AM
2	threshold? If you can't answer, if you don't know, 09:44:29AM	2	compares its controller determination of the 09:47:17AM
3	that's fine. 09:44:38AM	3	instantaneous drive torque to propel the vehicle to the 09:47:18AM
4	A. I guess I don't understand your question. 09:44:38AM	4	setpoints. 09:47:22AM
5	Q. Okay. So sitting here today you can't tell me whether 09:44:40AM	5	Q. So you said that in your opinion there's a setpoint at 09:47:22AM
6 7	Ibaraki '882 compares a torque demand to a torque 09:44:44AM	6 7	B, along curve B at B1, right, that's where you're 09:47:27AM
	threshold, is that right? 09:44:47AM A. Again, I don't understand your question. Because I 09:44:48AM	_	identifying your setpoint? 09:47:35AM A. Yes, that's one particular setpoint. That's an example 09:47:36AM
8		8	
9	think I've already answered it a couple of times, but 09:44:51AM apparently I haven't. So perhaps we're not 09:44:55AM	10	at that particular vehicle speed. 09:47:39AM Q. And at that precise point does Ibaraki compare the 09:47:40AM
11	communicating effectively here. 09:45:01AM	11	vehicle speed to a speed threshold? 09:47:44AM
12	Q. So you can't answer my question? 09:45:02AM	12	A. You know, it's looking at that particular point in order 09:47:49AM
13	A. No. I think I already have actually, that I kind of 09:45:03AM	13	to determine what the setpoint torque value would be. 09:47:52AM
14	tried to explain how Ibaraki works here. 09:45:07AM	14	Q. There's no comparison 09:47:56AM
15	Q. I appreciate your long explanations, but I just want an 09:45:13AM	15	A. And then it's making a comparison. 09:47:58AM
16	answer to my question. And if the answer is I don't 09:45:17AM	16	Q. There's no comparison of a speed, of a vehicle speed to 09:48:00AM
17	know, then that's perfectly fine. So again, I'll repeat 09:45:20AM	17	a speed threshold? 09:48:04AM
18	the question. 09:45:23AM	18	A. I don't believe so, there is a speed threshold there. I 09:48:05AM
19	Sitting here today can you tell me whether or 09:45:23AM	19	think later on, you know, obviously over the full 09:48:09AM
		20	operating range of the vehicle, speed is a concern. 09:48:12AM
2.0	HOLIDATAKI 662 COMDATES A TOTOBE DEMAND TO A TOTOBE 11974 YEARS	_ ~	Training range of the contests, speed to a contests.
20 21	not Ibaraki '882 compares a torque demand to a torque 09:45:26AM threshold? 09:45:29AM	2.1	O Okay But you would not consider Ibaraki '882 to 09:48:17 AM
21	threshold? 09:45:29AM	21	Q. Okay. But you would not consider Ibaraki '882 to 09:48:17AM disclose a comparison of vehicle speed to a speed 09:48:21AM
21 22	threshold? 09:45:29AM MR. RONDINI: Objection, asked and answered. 09:45:30AM	22	disclose a comparison of vehicle speed to a speed 09:48:21AM
21	threshold? 09:45:29AM MR. RONDINI: Objection, asked and answered. 09:45:30AM THE WITNESS: Again, I think I did say that, 09:45:31AM	22 23	disclose a comparison of vehicle speed to a speed 09:48:21AM threshold, are you? 09:48:24AM
21 22 23	threshold? 09:45:29AM MR. RONDINI: Objection, asked and answered. 09:45:30AM	22	disclose a comparison of vehicle speed to a speed 09:48:21AM

5 (Pages 14 to 17)



DOCKET

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

