Page 1 1 2 UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD 3 -----Х THE GILLETTE COMPANY, et al., 4 Patent No. 8,125,155 Petitioners, 5 IPR 2014-00477 IPR 2014-00479 -against-6 7 ZOND, LLC, Patent No. 7,808,184 IPR 2014-00799 IPR 2014-00803 8 PATENT OWNER. 9 -----X _____. 10 11 VIDEOTAPED DEPOSITION OF 12 JOHN BRAVMAN, Ph.D. 13 Lewisburg, Pennsylvania 14 Tuesday, April 21, 2015 15 16 17 18 19 20 21 Reported by: 22 Rebecca Schaumloffel, RPR, CLR Job No: 92739 23 24 25

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	Page 2		Page 3
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1 2		12	A P P E A R A N C E S:
3	April 21, 2015	3	
4	9:04 a.m.	4	WILMERHALE Attorneys for the Petitioner
5	9.0 4 a.m.	5	7 World Trade Center
6			250 Greenwich Street
7		6	New York, New York 10007
8	Videotaped deposition of JOHN	7	BY: COSMIN MAIER, ESQ. YUNG-HOON HA, ESQ.
9	BRAVMAN, Ph.D, held at the BEST WESTERN PLUS	8	
10	COUNTRY CUPBOARD INN, 7701 West Branch	9 10	
11	Highway, Lewisburg, Pennsylvania, before	11	CHAO HADIDI STARK & BARKER
12	Rebecca Schaumloffel, a Registered		Attorneys for the Patent Owner, Zond
13	Professional Reporter, Certified Livenote	12	176 East Main Street
14	Reporter and Notary Public of the States of	13	Westborough, Massachusetts 01581 BY: BRUCE BARKER, ESQ.
15	New York, New Jersey, and Pennsylvania.	14	DT: DROOD DIMALER, LSQ.
16		15	
17		16	ALSO PRESENT:
18		17	ALSO I KLSLAT.
19		18	Larry Moskowitz, Legal Videographer
20		19	David Tennant, Esq., White & Case (Telephonically)
21		20	(Telephonically)
22		21	
23		22 23	* * *
24		23	
25		25	
	Page 4		Page 5
1	J. BRAVMAN	1	J. BRAVMAN
2	THE VIDEOGRAPHER: Good morning.	2	JOHN BRAVMAN, called as a
3	We are now on the record. This is the	3	witness, having been first duly sworn by a
4	start of tape label one of the	4	Notary Public of the State of New York, was
5	videotaped deposition of John Bravman,	5	examined and testified as follows:
6	ph.D in the matter the Gillette	6	EXAMINATION BY
7	Company versus Zond, Inc. This	7	MR. BARKER:
8	deposition is being held at the Best	8	Q. Good morning, Mr. Bravman.
9	Western, 7701 West Branch Highway,	9	A. Good morning.
10	Lewisburg, Pennsylvania on April 21,	10	Q. As you heard, I am Bruce Barker
11	2015, at approximately 9:05 a.m.	11	representing Zond, and I will be asking you
12	My name is Larry Moskowitz from	12	some questions this morning about the
13 14	TSG Reporting Inc., and I am the legal	13 14	Declaration you submitted in this case.
14 15	video specialist. The reporter is Rebecca Schaumloffel, also in	15	But let me start by saying that I
15 16	association with TSG Reporting. Will	16	noticed from your resume that you have been deposed on many occasions before; is that
10	counsel please introduce themselves	17	correct?
18	for the record.	18	A. Yes.
$10 \\ 19$	MR. BARKER: Bruce Barker of	19	Q. So you are familiar with the
20	Chao, Hadidi, Stark & Barker for Zond.	20	procedure; I can assume that?
20 21	MR. MAIER: Cosmin Maier of	21	A. Yes.
22	Wilmer Hale for petitioner, the	22	Q. Okay. Then let's just start with
23	Gillette Company, and with me is my	23	some aspects of your background. I noticed
24	colleague Sam Ha.	24	in paragraph 3 of your Declaration that you
	0		
25		25	were once on the faculty at Stanford

2 (Pages 2 to 5)

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	Page 6	5		Page 7
1	J. BRAVMAN		1	J. BRAVMAN
2	University; is that correct?		2	used or designed and built. We built much
3	A. Yes. Yes, that's right. I was		3	specialized equipment for materials analysis
4	at Stanford on the faculty there.		4	which which included control systems of a
5	Q. I assume you gave class lectures		5	variety of types, but I don't think I taught
6	or taught courses as a faculty member?		б	courses on that specifically.
7	A. Yes.		7	Q. Okay. So to make sure I
8	Q. Just describe generally some of		8	understand, in connection with those courses,
9	the subject matter of those courses?		9	you and your students designed certain
10	A. Yes. I taught undergraduates and	1	10	systems; that what I heard you say?
11	graduate students from introductory to		11	A. No, in my research group, we
12	advanced level. I taught courses involving		12	designed and built specialized test equipment
13	basic material science. I taught courses on		13	of a variety of types. I was speaking to
14	structure of matter, the analysis of matter,	1	14	your question about actual formal course
15	and the fabrication of integrated circuits.		15	work.
16	That probably covers generally what I taught.		16	Q. Okay. So those systems that you
17	Q. Did you teach any courses in		17	designed, I assume they included electronic
18	control system theory?		18	controllers; is that correct?
19	A. Not a course I recall control		19	A. Yes.
20	system, no.		20	Q. Did you purchase those
21	Q. Did the topic of control systems		21	controllers off the shelf, or did you design
22	ever come up in any of the courses that you		22	them yourself?
23	did teach?		23	A. We purchased components, and we
24	A. I probably, in certain contexts,		24	purchased systems as well. So depending on
25	described control of systems that we either		25	what we were designing and building, we did
		+	-	
	Page 8	3		Page 9
1	Page 8	3	1	Page 9
1	J. BRAVMAN	3	1	J. BRAVMAN
2	J. BRAVMAN both.	3	2	J. BRAVMAN timeframe. But it's been awhile.
2 3	J. BRAVMAN both. Q. Can you generally describe for me	3	2 3	J. BRAVMAN timeframe. But it's been awhile. Q. Okay. But do you remember the
2 3 4	J. BRAVMAN both. Q. Can you generally describe for me some of the parameters that were controlled	3	2 3 4	J. BRAVMAN timeframe. But it's been awhile. Q. Okay. But do you remember the feedback control systems that you mentioned
2 3 4 5	J. BRAVMAN both. Q. Can you generally describe for me some of the parameters that were controlled by those control systems?	3	2 3 4 5	J. BRAVMAN timeframe. But it's been awhile. Q. Okay. But do you remember the feedback control systems that you mentioned earlier?
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	Idge IV		i dge ii
1	J. BRAVMAN	1	J. BRAVMAN
2	day programmed in Fortran and had computer	2	supply design?
3	controllers. I lived through the period of	3	A. We had power supplies in much of
4	personal computers becoming available, and we	4	our equipment of a variety of types because
5	started programming personal computers with	5	of what we were doing. So, yes.
б	pre-packaged software that made it a lot	6	Q. Again, did you purchase those
7	easier than writing our own code. So by	7	power supplies off the shelf, or did you
8	working through the 80s, 90s and 2000	8	custom design your own?
9	timeframe, I lived through that transition	9	A. In some of our equipment, we just
10	from coding ourselves to being able to use	10	designed our own and used and bought basic
11	code that was written for us. National	11	components, transformers, capacitors,
12	Instruments was a big supplier of said code.	12	resistors, switches inductors, other systems
13	This made programming easier. So we were	13	as the requirements grew more stringent, and
14	involved in a spectrum of those activities.	14	depending on the availability of research
15	Q. So the code you referred to, this	15	dollars, I know that we bought power
16	was code for a control system; is that	16	suppliers as well.
17	correct?	17	Q. Now, for the power supplies that
18	A. It was it could be often	18	you designed yourself, did they include a
19	adopted for many purposes. But it was for	19	control system?
20	control and measurement. Feedback, it was	20	A. Yes. I mean, the power supply
21	for data collection, data analysis. I mean,	21	for anything but the simplest application
22	we built over the decades more and more	22	needs to have some measure of control
23	sophisticated systems.	23	starting with on/off switch and getting more
24	Q. Now, in the equipment you	24	sophisticated depending on what was required.
25	referred to, did any of it involve power	25	Q. What would you call the component
	Page 12		D 10
	Page 12		Page 13
1		1	
1	J. BRAVMAN	1	J. BRAVMAN
2	J. BRAVMAN that provides that control; can we use a	2	J. BRAVMAN Q. How about in the past, have you
2 3	J. BRAVMAN that provides that control; can we use a reference, would you call it controller?	2 3	J. BRAVMAN Q. How about in the past, have you previously taught courses at Bucknell?
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	J. BRAVMAN that provides that control; can we use a reference, would you call it controller? MR. MAIER: Objection to form. A. I have been using component to more narrow a definition typically, a component such as a transformer or capacitor and assembly of components often would be called a controller. Q. Okay. Now, how about did you offer any courses, this is in the Stanford timeframe now, any course in plasma physics? A. I offered courses that had lectures on plasma physics but never a course with that in the title. Q. Now, I noticed in your Declaration that you are currently, among other things, a professor of electrical engineering at Bucknell; is that correct? A. Yes. Q. Now, are you teaching courses there? A. I only give guest lectures. I	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	J. BRAVMAN Q. How about in the past, have you previously taught courses at Bucknell? A. No, I moved here in 2010 to become president of the University and was simultaneously appointed professor of electrical engineering. Q. What were some of the topics of the guest lectures you gave? A. I taught about crystal structure, materials analysis, history of the Internet, Moore's Law, the acceleration of microelectronic technology. I have also talked about cardiac stents because I have patents in those areas. Q. Did you ever give any lectures on control systems or control theory? A. Here at Bucknell? Q. Yes. A. No. Q. Now, at the end of your resume, I noticed that sometime in 2013, you began representing you worked as a testifying

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	Page 14		Page 15
1	J. BRAVMAN	1	J. BRAVMAN
2	A. Yes, I was retained for that	2	MR. MAIER: Same objection.
3	position, yes.	3	A. To the best of my memory, I have
4	Q. So I assume that was Intel that	4	not increased my rates. My rates have been
5	retained you?	5	flat for many years.
6	A. Correct.	6	Q. Now, directly beneath that, I see
7	Q. And you say here 2013. Do you	7	you have also been retained by Gillette in
8	know can you recall the month in which	8	this IPR; is that correct?
9	that began?	9	A. That's correct.
10	A. No.	10	
11			Q. And do you recall what month that
12	Q. Now, did you sign a Retainer	11	you were retained by Gillette?
12	Agreement with Intel?	12	A. It was this year. It was I
	MR. MAIER: Objection;	13	think it was January but I don't recall.
14	relevance.	14	Q. Okay. So it may be let me
15	A. I am sure I did.	15	give you your CV. I think there may be a
16	Q. Do you recall what the your	16	mistake on that.
17	rate was for that engagement?	17	Mr. Bravman, I am going to hand
18	MR. MAIER: Objection;	18	you a copy of your Declaration marked
19	relevance.	19	Gillette 1026 and IPR 2014-00477.
20	A. My standard rate is \$450 an hour.	20	MR. MAIER: I will correct for
21	Q. You are speaking in the present	21	the record, it is Dr. Bravman. I
22	tense. I am referring back to the time in	22	think you have been calling him Mr.
23	2013 when you were retained.	23	MR. BARKER: I will try to
24	Are you saying it was the same	24	correct that.
25	rate then?	25	Q. But you respond to Mr. Bravman as
	Page 16		Page 17
1	J. BRAVMAN	1	J. BRAVMAN
2	well, assume?	2	pointed out.
3	A. Yes, sir. People call me all	3	Q. Any others?
4	sorts of things.	4	A. I know there are quite a few. I
5	Q. I will do my best. I am inviting	5	believe I signed on with TSMC, and before I
б	your attention to page 11 of your resume	6	did any work whatsoever, that that case, to
7	attached to the back of this Declaration.	7	my memory, was, I don't know if settled is
8	A. I see it.	8	the right phrase, but I knew I would not have
9	Q. It says here this time span	9	any ongoing engagement so there was no
10	specified for your representation of Gillette	10	billing in that case. And that was sometime
11	is 2013 to present; is that correct?	11	in this calendar year as well, I believe.
12	A. I see that there. That's	12	Q. Did you actually get to the point
13	definitely a typo. I would have to look at	13	where you signed an engagement letter with
14	my I cut and pasted probably from the	14	them?
15	Intel case above.	15	A. I think I did. I think I recall
16	Q. Okay. So do you do you recall	16	writing to somebody, well, that's the
17	roughly when you did first begin representing	17	shortest engagement I have had. Because,
18	Gillette in this matter?	18	literally, within a day or three, from
19	A. As I indicated, I believe it was	19	memory, it was a very short period of time, I
20	in this year, calendar year 2015. But I	20	was told that my involvement, at least, was
21	would have to check when I signed the	21	over.
22	Declaration.	22	Q. Other than Intel, Gillette, and
23	Q. Now, have you been retained by	23	TSMC, have you been retained by any other
24		-	
	any of the other petitioners in these IPRs?	24	petitioners in the IPRs against Zond?
25	any of the other petitioners in these IPRs? A. Well, I was with Intel, as you	24 25	petitioners in the IPRs against Zond? A. You know, there is an issue with

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