IN THE UNITED STATES DISTRICT COURT

IN AND FOR THE DISTRICT OF DELAWARE

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LG ELECTRONICS U.S.A., INC., and LG ELECTRONICS, INC.,	:	**Civil Action**
Plaintiffs,	:	
v.	:	
WHIRLPOOL CORPORATION,	:	
Defendant.	:	**08-234(GMS)**
WHIRLPOOL CORPORATION, WHIRLPOOL PATENTS COMPANY, WHIRLPOOL MANUFACTURING CORPORATION, and MAYTAG CORPORATION,	:	
Counterclaim Plaintiffs,	:	
v.	:	
LG ELECTRONICS U.S.A., INC., LG ELECTRONICS, INC., and LG ELECTRONICS MONTERREY MEXICO, S.A., DE, CV,	:	
Counterclaim Defendants.	:	

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Wilmington, Delaware
Monday, March 8, 2010
9:00 a.m.
Trial - Day Six

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BEFORE: HONORABLE GREGORY M. SLEET, Chief Judge, and a Jury

APPEARANCES:

RICHARD K. HERRMANN, ESQ.
Morris James
-and-
PATRICK J. COYNE, ESQ.,
ANAND K. SHARMA, ESQ.,
JEFFREY W. ABRAHAM, ESQ., and
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-and-
SCOTT F. PARTRIDGE, ESQ.,
PAUL R. MORICO, ESQ.,
AMANDA M. WOODALL, ESQ.,
GENE SPEARS, ESQ., and
ROBINSON VU, ESQ.
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(Houston, TX)

Counsel for Defendant and Counterclaim Plaintiffs

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THE COURT: Good morning. Please be seated. I understand there are some issues?

MR. PARTRIDGE: Yes, Your Honor. I think there are at least three.

The first one I regret that I even have to raise. Mr. Lee was on the stand when we finished on Friday. What we received over the weekend was a revision of the

exhibits that he is going to use. What has happened is that there are quite a number of exhibits that have been translated. Many of these exhibits have been used with other witnesses. What we now find ourselves facing is an effort to restructure the translations, enlarge some of the language. I think that the actual translation is still the same. We received their final CD this morning. But we have exhibits that have come in and been used with witnesses, and now they have taken those translations and reorganized them a bit to blow up some language, enlarge some language, do some different things to it. There are so many of them, there are about a dozen or so of them, Your Honor. I can't put them all up here.

I think, a witness is on the stand, the submission has been made as to what is going to be used with the witness. That ought to be it. There are three or four new exhibits that have been added to Dr. Lee's list of exhibits as well. Personally, I think that is improper. Those exhibits probable aren't that big a deal. But it just strikes me, Your Honor, as improper to start a witness, and then change the set of exhibits, change the translation structure in any way, especially when the exhibits have been previously used with other witnesses.

THE COURT: It seems that but for the happenstance of the passage of time, there wouldn't have

been an opportunity to do that.

MR. PARTRIDGE: Absolutely not, Your Honor. We had our set of exhibits ready to go on Friday. In fact, I was surprised we didn't finish Mr. Lee on Friday. I really thought that we would. Of course, we didn't.

THE COURT: Okay. Mr. Coyne?

MR. COYNE: Your Honor, I agree with Mr. Partridge. I looked at the protocol after we sent that designation over. And we are not trying to now add in any more exhibits. It was an error on my part, and I apologize to the Court and to Mr. Partridge for it. So those three or four other exhibits are not at issue. The issue is the translations.

As we were working off -- each party has translated the same documents. What happened with Whirlpool's translations, we tried to include the figures on the English language page so that you could see everything on one page and not have to go back and forth between the Korean original and the English translation.

In some instances Whirlpool didn't even put on the English translation, the English words that were on the Korean original. What I am faced with is -- we brought this up on Saturday. We asked them to please put the pictures back into the English translation so that the document was complete so the jury doesn't have to flip back and forth

between the two documents.

Mr. Partridge is not correct that any of the language has been changed. We have agreed upon the translations. And I have had people spending -- when they refused to correct them, we had people spending the entire weekend assuring that the language is the same as the agreed-upon translation.

So there is no issue on the language. It's merely, can we put the pictures in the English translations where they belong so the jury doesn't have a document that, quite frankly, Your Honor, looks like it is more heavily redacted than it is. That's my real concern. It misleads the jury into thinking that we are hiding information from them. We feel that is prejudicial. I would rather -- it will simplify the witness' testimony to have all the pictures in the same translation document so that we can go through the document. If they ask for it, they can go through the document, without having to flip back and forth and get confused.

THE COURT: Did you say pictures, Mr. Coyne?

MR. COYNE: Can we pull up 770, please, the old version and what we submitted over the weekend as 770 and display those side-by-side?

THE COURT: On the left is an original?

MR. COYNE: Yes, Your Honor, it is. The left is

the original document that we have been using, and the right is what we asked them to fix on Saturday and they declined and we fixed it. Up the top it says DX-770 -- I am sorry. Let me get a laser pointer. This portion right here indicates that it's the version that we are proposing right now.

This over here is the original that we have been using up to now through the trial.

THE COURT: That's the way it looked when first submitted?

MR. COYNE: Right. What is up there now. This is what the original looked like with Korean in each of these locations. We feel it is more appropriate and less misleading to the jury to have the pictures in the document next to the language that it's relating.

Otherwise, it's going to be very confusing to go back and forth. Again, my fear, Your Honor, quite practically, is that this looks like we have redacted a bunch of more stuff. They have thrown down the gauntlet. It is an issue that I do have to deal with.

THE COURT: Well, regardless of the appearance of redaction, it does, Mr. Partridge, seem to me that the left-hand configuration means that the jury would have to turn to another page and somehow in their minds assimilate two documents. The one on the right appears to have images

and on its left to have arrows pointing to a unit, a refrigeration unit. And locations of certain elements, I guess.

MR. PARTRIDGE: Yes, Your Honor. When we went through this exercise of agreeing on all the translations, which took weeks to do before the start of the trial, we agreed on every single one of these documents.

I do agree, Your Honor, had we done this at the very beginning and gone through this effort, it probably would have been easier.

On the translations, there isn't anything about redactions and the like. But the dilemma we now have is that these exhibits have been used with other witnesses. In fact, we have been going back and forth between the translations and the pictures.

THE COURT: You are right. That has been the state of affairs. At times I will confess myself, it has been a little confusing to me, in trying to follow the documents, and at various times I have given up, actually.

MR. PARTRIDGE: That is my main concern. I didn't say, we didn't think they changed the translations. It looked as though they kept true.

THE COURT: You didn't accuse them of changing the translations?

MR. PARTRIDGE: Correct. I am just concerned

that now we have two sets of exhibits to come to the jury for the same document when the witnesses who testified previously did not have the advantage of seeing these pictures here.

THE COURT: What is the volume of exhibits we are talking about here?

MR. PARTRIDGE: A dozen or so.

THE COURT: May I see them, please?

MR. COYNE: There are a dozen. I truly genuinely care about two of them.

THE COURT: May I see them?

Mr. Herrmann, that was an excellent example of lawyers not listening. I appreciate what you just did, I really do.

Listening to the sound of your own voice rather than a judge trying to get your attention.

MR. PARTRIDGE: Your Honor, if we are down to two -- let me see if I can simplify this -- if we are down to two and he will tell me the two, I will accept this so we can move on.

MR. COYNE: They are DX-772 --

THE COURT: Please, talk to one another.

Mr. Herrmann, while we are doing that, do we have a verdict form? The latest update?

MR. HERRMANN: We e-filed a verdict form

yesterday, Your Honor. I don't know whether our paralegal also sent one to Ms. Walker.

THE COURT: We will get it off the e-system.

MR. PARTRIDGE: We sent one as well.

THE COURT: I should throw -- here it is. Thank you, Ms. Walker.

MR. PARTRIDGE: So I am clear as to what has been withdrawn, DX-174, DX-209, DX-210, PTX-381, and PTX-382. Those were the new ones that were added. Am I correct that those are withdrawn?

MR. COYNE: Yes, Your Honor. But 381 and 382 are the same as DX-772 and 770, which is the other problem. The jury has already been exposed --

THE COURT: Mr. Coyne, rather than cluttering the record, which you all are paying for, why don't you talk to one another off the record.

(Counsel confer.)

MR. PARTRIDGE: Your Honor, I think I have an understanding. Let me state for the record what I think the situation is.

As I understand Mr. Coyne's position, he wants to substitute or use PTX-381 as a sort of reformatted translation of DX-770, and PTX-382 as that reformatted translation of DX-772. And as to all the other exhibits, he is going to stick with what we had on Friday. If that is

the deal, I am fine with it.

THE COURT: Is that the deal, Mr. Coyne, as Mr. Partridge says?

MR. COYNE: Yes, Your Honor.

THE COURT: Then the Court accepts the deal.

MR. PARTRIDGE: There are other issues. Mr. Spears will address them.

MR. SPEARS: The next issue is a jury confusion issue. It is a jury-confusion issue that arises in the context of the '601 plaques patent.

Specifically, it concerns information about refrigerators other than refrigerators accused of infringement that will be placed in front of the jury, first during the testimony of Mr. Ching Ho Lee, and then during the testimony of LG's experts.

As the Court may recall, during his opening statement Mr. Coyne talked about a Gold Star refrigerator that was sold in 1988. And he said that this isn't a refrigerator that was sold in the United States. Well, if that is the case, that means it isn't prior art.

Mr. Lee will presumably talk about Gold Star development activity in Korea. And I am not sure whether LG is going to make a prior art argument based upon this information, but I do know that they are going to make an argument to the effect that whatever Gold Star was doing in

Korea in the 1980s LG ought to be free to do in the United States today.

As an initial matter, we don't entirely agree with the factual premise of this argument. We think there are big differences between those 1980 Gold Star refrigerators in Korea and the accused refrigerators in the United States.

But our bigger concern is one of law. The patent statute very narrowly defines what qualifies as prior art in foreign jurisdictions. It is publication, it's patenting. It doesn't matter what LG was selling in Korea in the 1980s or the 1970s or even the 1950s. This has been a feature of patent statutes going back to the first one enacted by the Republic of Venice. The original patent statutes had absolutely nothing to do with encouraging innovation in a home jurisdiction. The whole point of those statutes was to encourage skilled artisans to immigrate to other cities from the city that enacted the statute. So when LG stands up and says, look, what we were doing in Korea in the 1980s, we should be free to do today? I admit, that is a very appealing type of argument to the layperson. The jury may buy it. But it's counter to the law and it's counter to the way the patent statutes have been structured from the very beginning. The fact is, whatever they have done in Korea we are free to patent in the United States.

We are not trying to stop them from selling these refrigerators in Korea. What we are trying to stop them from doing is infringing a United States patent. That is kind of the first issue.

A related issue is going to arise when their experts begin to testify about allegedly prior art refrigerators. The problem is going to arise from their ability to lay a foundation that any of this information is prior art.

Their clear and convincing evidence burden includes a duty to provide clear and convincing evidence that whatever they say is prior art actually is prior art.

As we look at their witness list, we don't see people who can testify from firsthand knowledge about either of the identity of refrigerators that Dr. Mellinger is going to talk about, the chain of custody of refrigerators that were tested, or that refrigerators manufactured as of a certain date, and manufacturer is not prior art activity in the United States -- were sold in the United States, which is the actual prior art testimony.

If we were going over each of those objections individually, it would take a long time, time that I think would be wasted. But I think there is a better remedy here. The remedy we would propose is that before any of LG's witnesses publish to the jury any refrigerator that is not

an accused LG refrigerator, that we have an adequate foundation in the record that that refrigerator qualifies as prior art under U.S. law and that they provided clear and convincing evidence as to what that refrigerator is.

If we don't think that is a case, we will make a foundation objection and I think the Court will be able to rule on those quickly, without the need for any sidebar.

THE COURT: Mr. Spears, before you leave, when you say without the need for a sidebar, you must be suggesting I dismiss the jury?

MR. SPEARS: The way I see this happening is, they are about to publish an exhibit, say, with Mr. Lee, a document from Korea in 1988. We make a foundation objection. I think at that point the Court would probably be able to recognize what our problem is without a sidebar. And I think you would be able to rule on it without having to take the time to have a sidebar on that issue.

Of course, if you want one, we are perfectly happy to do it.

THE COURT: It's not that I want them. It's that I am trying to make a correct ruling. Oddly enough, judges do benefit from the advocacy of good lawyers.

The point being that, where should that discussion, if needed, take place?

MR. SPEARS: Sidebar is perfect.

THE COURT: Mr. Coyne?

MR. COYNE: Thank you, Your Honor.

First off, Mr. Spears is mistaken. There are a number of references and a number of refrigerators and a number of printed publications.

We are relying on these not only under 102(b) as on sale. In fact, we are relying on them as 102(a), known or used in this country, even the Gold Star unit, which I will concede to Your Honor was not sold in this country. It was sold throughout the Middle East. It was sold throughout Asia. It was sold throughout Korea, for years. What brings it into this country is that we sought the Underwriters Laboratory's approval for that refrigerator to start making U.S. sales before the date that Mr. Williams testified he invented it. That brings it into this country under 102(a), the refrigerator; in other words, it was known by others; in other words, the people at UL, in the United States before the invention date, before the conception date. It is a 102(a) reference.

Specifically, we are relying on the brochure as a 102(b) reference. That is the exhibit PTX-403 that has been used throughout the proceeding. That is a printed publication. It doesn't matter where in the world it was available. It was a printed publication that was available under the statute.

With respect to the other refrigerators, we do have a witness who has personal knowledge. And that is Dr. Ching Ho Lee. He began at LG in 1986. He will testify about his personal knowledge about these units and where they were being used, where they were being sold, who they were known by, where these things were going in the world, including U.S. manufacturers.

Yes, we are relying on the dates of manufacture, but not as a 102(b) sale. As a 102(a), known or used by others in this country before the invention thereof by the patentee.

THE COURT: Okay. Mr. Spears?

MR. SPEARS: Mr. Coyne's argument illustrates my very concern. Let's take the Underwriter Laboratories issue, for example. There is no one on their witness list from Underwriters Laboratory who can testify about their practices, whether refrigerators they evaluate are done under a confidentiality obligation, which would remove them from the scope of what is known or used in the United States.

Likewise, we don't have anyone who is going to testify from firsthand knowledge based upon public access to a refrigerator that has been merely manufactured, supposedly, that would be a person, in the case of, for instance, a GE refrigerator who would take the stand and

explain to the jury that GE's factory was open to tours, that the general public go to the manufacturing floor and see the GE refrigerators there. But we aren't going to have a witness that is going to say that. That is why, instead of arguing the point right now, it needs to be policed as this evidence comes in during the course of the trial.

THE COURT: Do you concur with your colleague's view, Mr. Coyne, as to how the Court should handle this evidence?

MR. COYNE: Your Honor, the Court -- I am certainly happy to have the Court handle it during sidebars as they come up. But as I have explained, this is 102(a) evidence. We will present witnesses that will establish the basis for it. I don't know what else to say, sorry.

THE COURT: You make that assertion, I suspect that you are confident that you will be able to offer these witnesses within the parameters of the rules of evidence?

MR. COYNE: Yes, Your Honor. For two reasons. Dr. Mellinger was actually building these GE Hotpoint units at GE during the prior art period. He will testify. Ching Ho Lee was building the Gold Star units in Korea and he knows about their history and publication of the catalog, et cetera.

THE COURT: I will look forward to the conversation at sidebar.

MR. COYNE: Thank you, Your Honor.

MR. PARTRIDGE: Your Honor, given the hour, I am not sure whether we should deal with this, because I don't want to hold up the jury, but there is an issue with respect to Dr. Rao's testimony on damages. He will probably be on late this afternoon. We could deal with it over the lunch hour, if you would prefer.

THE COURT: Okay. Any other issues that we need to address before the jury comes in this morning?

MR. PARTRIDGE: The only other thing I would note, Your Honor, is we have made a lot of progress on the charge. There are a set of issues that I think have been sent in to you. I think what you have now is a set of instructions --

THE COURT: They have been e-filed as well?

MR. PARTRIDGE: Yes, Your Honor. I think they came in yesterday. If you wanted to have a conference at the end of the day, I think both sides would be prepared to do that.

There are some other outstanding issues that I hope to get resolved during the day, but we may have to discuss them at the end of the day with you as well.

THE COURT: Based upon our plan, we are going to expect to have the Court charge the jury tomorrow?

MR. PARTRIDGE: Correct, Your Honor. Our hope

was tomorrow, in looking at the hours, that we complete -- I know you would like to do it earlier in the afternoon. But as I look at the number of witnesses that are set, if we could get the case to the jury at 4:00 tomorrow --

THE COURT: Then dismiss them and let them come back and begin deliberations?

MR. PARTRIDGE: If they want to deliberate tomorrow night, fine. If they want to come back Wednesday, that is fine, too.

THE COURT: I usually leave that in their hands. But I may, depending upon the hour, at least offer them the opportunity to at least pick a foreperson and take care of some ministerial things, and begin deliberations the next day.

We will see.

MR. PARTRIDGE: Thank you, Your Honor.

THE COURT: Ms. Walker has just shared with me that one of our jurors has a second job that requires her presence at 8:30 in the evening. I don't think that is going to be a problem, and I think it's probably something that I would prefer the jurors work out among themselves as to how long they are going to go in any given evening. I don't like interfering with any part of the process.

MR. PARTRIDGE: Not an issue for us, Your Honor.

THE COURT: Okay. I am just going to step out

for a moment and we will come back and bring in the jury.

(Recess taken.)

THE COURT: Ms. Walker.

(Jury enters courtroom at 9:14 a.m.)

THE COURT: Ladies and gentlemen, happy Monday.

All right, counsel. Let's continue.

... Myung Ryul Lee, having been duly sworn as a witness, was examined and testified further through the interpreter as follows...

DIRECT EXAMINATION (continued)

BY MR. COYNE:

Q. Good morning, Dr. Lee.

A. Good morning.

Q. We were talking about Exhibit DX-332 when we broke off on Friday. If we can have Exhibit 332 back and go to page 16 of the document.

I would like to direct your attention to the box on the lower left-hand corner, this area that talks about "Ice pickup and transfer: Development of the unique method of LG."

What did you mean by that portion of the document?

A. This means that when we used -- that is a patent for our ice storage bin. Then the ice move horizontally from the storage into the crushed area.

So this is our own technology. So we have to develop the auger, bank, dispenser, crusher, and then the motor location and structure of the motor settings.

This means the auger moves horizontally, the idea.

Q. **What did you mean by the last entry on that list, the "Identify idea through patent research"?**

A. **We find the idea from the others done, I mean, the Hitachi patent, because the right expired. So that's why.**

Q. **Can we go to the next page, please, Mr. Brooks?**

Dr. Lee, on the next page, I want to direct your attention to the lower portion on the bottom right here, when it is talking about the budgeting and the category.

How much was this project going to cost?

A. **It's about $6 million.**

Q. **Won or dollars?**

A. **$6 million.**

Q. **With respect to people, how much personnel were going to be needed to make this project work?**

A. **Our lab research, we input almost 60.5 -- five person included in that project.**

Q. **So five people for a year or one person's time for five years?**

A. **It's about, let me see, five persons per year.**

So our project appeared to start from the

October to the next year December, so totally, it might be more than four, between four and five persons involved in that project.

Q. **Can we go down, Mr. Brooks, to page 22 of the document, the schedule?**

Dr. Lee, what is it that we are looking at here?

A. **This is first the time schedule to develop our project.**

Q. **Okay. Why did it take so long?**

A. **It has so many technical issues.**

MR. COYNE: Your Honor, I would like to use the Elmo and talk to Dr. Lee about those technical issues and just write them on a piece of paper as he goes along.

THE COURT: Sure.

MR. PARTRIDGE: No objection.

BY MR. COYNE:

Q. **Dr. Lee, what were the technical issues, the technical challenges you were facing in this Bics project?**

A. **First thing is the -- one of the most important issues in this project is how we can put the ice maker into the door. So that means when the door opens and closes, and water is supplied to the ice maker, then it is not frozen yet, the customer opens the door or smashes it to close, then the water spills over. That is one of the most important technical issues to solve.**

Because of that technical issue, though, other company have done, that is one of the issues.

And the second one --

Q. **What other technical issues?**

A. **Second is, we have to reduce the size of the ice maker, to fit to the door.**

The other, we have to compact the ice storage bin, also have that fit into the door.

The conventional ice maker has three part, consists of three part. One is the auger, and helix, and the crusher. So the size was about 16 inches of depth totally. But we had to reduce it to six inches totally. So we need a more creative idea to do that. So we make an auger, and the helix, blade helix, we invented it.

Q. **Is that a separate item or is that part of this third item?**

A. **No. We make an auger, and helix is just the one piece, blade helix.**

Q. **What other technical challenges did you face on the Bics project?**

A. **The motor was another issue. The motor was about four inches thick, the motor, so we have to reduce it to one inch. So that is another challenge to us.**

Q. **What other challenges did you face?**

A. **And then, also, we have to put the water tank into the**

door. It is very difficult to control the temperature. It's the freezer door. So when you put the water tank on the door, it has to control the temperature. If we get the temperature not right, the water temperature freezes. So it doesn't work well, so we need to make it efficiently.

Q. What other challenges, if any, did you face on the Bics project?

A. And then we need to control on the door, also, because when we put the ice, whole ice system into the door, we need the microprocessor to control the whole ice and water and dispenser system.

So we separated the control circuit and the microprocessor for that.

Q. Were there any other challenges that you faced in the Bics project, technical challenges?

A. And then -- there were so many. That's the main challenges to develop the in-door-ice system.

Q. The list that we have here labeled "Technical Challenges (Bics)" is that an accurate summary of the challenges that you faced on the Bics project?

A. Yes.

Q. Thank you, sir.

I would like to go now to PTX-146. What did you do next in the project?

MR. COYNE: Your Honor, can I mark that exhibit

first before we move on?

MR. PARTRIDGE: Only as a demonstrative, Your Honor.

THE COURT: As a demonstrative, Mr. Coyne.

MR. COYNE: It would be PDX-171.

THE WITNESS: Yes.

BY MR. COYNE:

Q. **What did you do next? After this report was done, how did you proceed with the Bics project?**

A. **We make a horizontal-moving ice storage bin. It's basically the same meaning of bin. So we tested several storage bins that has the same concept, horizontal-moving, but there is a sizer and the direction, the movement of direction is different. This is the report of the tester of the ice storage bin.**

Q. **After you started working on that horizontal design idea from Hitachi, did you ever go back to a vertical design like Whirlpool had used in the '130 patent?**

A. **Not at all, because after we start our own project, we never considered any vertical system.**

Q. **Did you ever abandon the Hitachi approach?**

A. **Pardon me?**

Q. **Did you ever abandon, or give up, on the Hitachi approach?**

A. **No. We continuously focused on that idea, because we**

don't want to -- we did not want to have any small accomplishment with work. So we focused on that horizontal idea.

Q. **Mr. Brooks, can you go to page 5 of is this document, please?**

What are we looking at here, sir?

A. **The first picture is the original, conventional ice storage bin. The depth was 16 inches. But the second one is the horizontal-moving one, but it is horizontal and the front-loading ice storage bin. We installed the ice storage bin to the door, it's front-loading.**

The third one is the -- we call it the Bravo. It's the bank for the three-door bottom freezer. So it is the more compact size of the second one.

And the fourth picture is the horizontal, but it is stored in the side, from the side.

So that is the whole idea of the three, is based on the horizontal-moving ice storage bin.

Q. **We see multiple bins up here. Were you looking at alternative designs at that time?**

A. **Alternative. What do you mean, "alternative"?**

Q. **Were you studying multiple different designs of a horizontal bin?**

A. **Yes.**

Q. **Can we go, please, to DX-331?**

Sir, what is this report?

A. **This is the report -- this is the report of, actually, almost end of the project, but it's not final. Omitted from the report is our project.**

Q. **Can we go to page 25 of the exhibit, Mr. Brooks?**

I want to direct your attention, Dr. Lee, to the portions down here in the lower right-hand corner, with the two headings that read "Problem" and "Resolution."

What is that information in this report?

A. **This is a progress report. But there are so many technology issues. But we don't have enough time. So we -- it means we don't have enough time to finish up the project.**

Q. **Were you ever able to resolve this problem?**

A. **Our concept building was already done, but the fine tuning of optimization, we need more time.**

Q. **On the right-hand side, under "Resolution/Request," what does that information indicate?**

A. **We need to communicate earlier in the project to the Changwon factory. That means a very good concept, and we did some prototype tests. But we really want to make a commercial product. So the Changwon manufacturing or design member should have involved their project earlier. It means that.**

Q. **Dr. Lee, this table in here, in the middle, this one right here, "Effective shelf space," what is that**

information indicating?

A. **This is the usable space that you can give to the customer. Inside the cabinet is the conventional ice and water system. The customer used only 75 percent of the freezer compartment, it means. The other in-door system, in the case of Whirlpool, can use 91 percent of the space, can be used by the customer. And then the last one is our in-door-ice-making system can keep 100 percent of the usable space to the customer.**

So it means our technology gives a perfect solution to the customer. It means that.

Q. **Could we go to the next page, Mr. Brooks?**

Dr. Lee, I would like to direct your attention down here. What is being shown on this page, in the lower portion?

A. **This is the kind of ice maker history. That means, the 1960s, there are two -- two different ice maker shaped introduced. A rounded ice shape and a crescent ice shape.**

In the 1960s, flexible ice maker introduced by the Japanese company. We call that twisting ice maker. It's made by the plastic. So when we want to deicing, it is just twisting, then the ice would come out from the ice maker.

Q. **Let me back up for a second and just go to the right-hand cell in this table. In particular, over here,**

under "LG," there is an entry, "1998 Twisting," it looks like it says "DIOS." What is that entry?

A. **Yes. We have two different types of ice maker. One is the heating type we call it, heating type. It's made with the oven meter. So when we want to detach ice from the ice maker, we have to heat up the bottom, between the ice maker to the ice, and that area slightly melts it, and we eject the ice from the ice maker.**

That is the one type. The other type is the twisting type made by plastic. So it is easily twisting, then the ice come out from the ice maker.

We end up with that twisting type in 1998, for our side-by-side refrigerator. The brand name is DIOS in Korea.

Q. **Sir, do you know Yong Shik Kim at LG?**

A. **I don't know who he is. But he was an engineer of our refrigeration business unit, factory engineer.**

Q. **Instead of knowing him personally, do you know of him? Is he a name you have heard before?**

A. **Yes, I heard that.**

Q. **Could you bring up DX-380, please? Can we go to the first page -- I am sorry, PTX-380.**

MR. PARTRIDGE: Objection, Your Honor. Personal knowledge, relevant time, possible delay, opinion testimony.

MR. COYNE: Simply trying to identify the ice

maker style that we just looked at the Bics project chart, Your Honor.

MR. PARTRIDGE: I object. May we have a sidebar?

(The following took place at sidebar.)

THE COURT: Okay, counsel.

MR. PARTRIDGE: There are two publications, which I think Mr. Coyne is going to try to get in. They are Korean publications by the fellow that he doesn't know. He knows of him. This is sort of an end-around way to try to get it in, to talk about, well, gee, we were using the same ice maker and the objective is to talk about ice being on the door as which I think they have him here to offer an opinion about it, when in fact there isn't one single document in all of the Bics documents that refers to these two patent publications.

The question is whether he has personal knowledge at the relevant period of time and whether or not he is going to try to get him to offer opinion testimony with respect to the document. We have no expert report.

MR. COYNE: I am not going to ask him for opinion testimony whatsoever. We just looked at the Bics project, the twisting style LG ice maker.

THE COURT: To what?

MR. COYNE: The twisting style LG ice maker,

that was the entry we just looked at in the chart. This is a Bics document, which is a Bics project document. It refers to a twist style document. I am simply going to get him to identify, if I may, Mr. Kim's patent, the picture, and say is that the style of ice maker we are talking about here. I am not going to go any further than the document.

MR. PARTRIDGE: It is irrelevant, Your Honor.

THE COURT: Sustained.

(End of sidebar conference.)

BY MR. COYNE:

Q. **Mr. Brooks, could you bring up either 381 other 770?**

Mr. Lee, the last date we looked at was October. What happened after that October date?

A. **Would you repeat the question, please?**

Q. **Yes. The last report we were looking at was October of 2003. What happened after that October 2003 date with respect to the Bics project after that?**

A. **We have to complete the whole research task. So we tried to finish up the whole test research. And we had to make a final. That was the Bics project.**

Q. **Were there drafts of this document?**

A. **Yes. We prepared the final report about -- I cannot remember how long, but about one month.**

Q. **How many drafts did it go through before arriving at this final project report?**

A. **Many, many drafts. We revised them most every day. So it has many.**

Q. **Who was in charge of preparing this report?**

A. **Mostly, it's my responsibility, but me and our members prepared that.**

MR. COYNE: Your Honor, I would like to publish this to the jury, but we will collect it after Dr. Lee's testimony is finished and it won't go into their jury books. Would that be acceptable?

MR. PARTRIDGE: Your Honor, we haven't been publishing other documents to the jury. This is one of many, many exhibits we have been displaying to the jury. I am not sure this is a good place to start doing that.

THE COURT: I agree.

MR. COYNE: We will work off of the screen.

BY MR. COYNE:

Q. **With respect to page 2, Mr. Brooks, if you would go to page 2, Dr. Lee, what is the information that is being displayed here on page 2?**

A. **This is a brief report for our project.**

Q. **Can we go to the upper right-hand box? Under "Key Development Technology," what is that section indicating?**

A. **This is what I mentioned, this is the main technology development all through this project.**

Q. **Under one of those items is the front-loading ice**

bank. What design is that based on?

A. **This is based on the horizontal, the Hitachi original ice storage bin. We have two different horizontal types. One is the side-loading and the other one is the front-loading. Those are all horizontal-moving. So it's one of the horizontal-moving ice makers.**

Q. **Can we back up, Mr. Brooks?**

Under this section over here, Doctor, there is a setting for patent applications. Do you see that?

A. **Yes.**

Q. **What does that information indicate?**

A. **Originally, our plan for the patent application was to, in Korea, 10, but we applied 75 patent for the Korea, and actually 13 patent for overseas.**

Q. **Does that include through the U.S.?**

A. **Yes, definitely.**

Q. **Can we back out again? And under the investment section, if we look at the annual R&D investment, what is this investment indicating?**

[redacted]

[redacted]

A. **Yes.**

Q. **With respect to the number of people that are needed, how many people were needed for this project?**

A. **Actually, you have to add those 10 months, so it was 45, 47, and 4, plus 4, and 51 members, 4 people involved with this project.**

Q. **Can we back out to page 4 of the document?**

Under the heading "Key research details," it's page 5 of 20. Sir, under the "Research Background" section, what is this portion of the document indicating?

A. **This indicates that background of the project. So first -- the first paragraph, the first thing is we want to give the customer more usable space. So our conventional side-by-side refrigerator cannot give the whole freezer compartment. They cannot use a portion of the space.**

So it's kind of their complaints. So we want to

give them perfect space.

Q. **Can we go to page 6 of 20, Mr. Brooks?**

Doctor, what are we seeing on this chart?

A. **This is our major project. There is separate two areas, the ice bank and the ice maker.**

For the ice bank we want to make for our own ice bank structure.

Q. **What is this indication here "redacted"?**

A. **I don't know.**

Q. **Why was information taken out?**

A. **I don't know.**

Q. **With respect to the next page, then, could we go to page 7 of 20, what are we seeing here, sir?**

A. **This is the ice bank structure. Those two side-loading and front-loading, those two are based on the horizontal-moving ice storage bin.**

So we tested those two, and we built the benefit, or the merit and demerit in this chart.

Q. **How do these designs relate to the Hitachi structure that you testified about earlier?**

A. **It's the same concept with Hitachi patent, because the ice is moving horizontally. So it's based on the Hitachi patent. The same concept.**

Q. **Can we go down to page 18 of 20?**

Sir, you see over here an indication on the

right-hand side of Bravo-V. What is that?

A. Bravo-V is -- it's not Brave-5, it's Bravo-V. It's the same project as Bravo-2.

Initially, I called the project Bravo-2, but our Changwon factory want to put the name Bravo-V.

So this is another application of the in-door-ice maker. But this is a totally different project, because we put the ice maker into the fresh-food compartment door, fresh-food compartment door.

The fresh-food compartment is above the freezing temperature, so we cannot make ice there. So we made a small compartment, ice-making room, and we take some cold air from the freezer and we make ice there. So it is totally different project with side-by-side.

Q. How does that relate to the exhibit we have over here, DPX-22, this room that I am indicating with the laser where the ice-making room is?

A. It is that project.

Q. Can we please go, Mr. Brooks, to page 20 of 20?

Doctor, you see at the top there is an indication in the first paragraph of a patent application. What is that information?

A. This is our patent application. We filed, applied 75 patent for Korea and 13 patent applied to overseas.

Q. And two sections down it says "Self-Evaluation and

Thoughts." Did you have any input into this paragraph?

A. **Yes, I wrote that.**

Q. **Does this reflect your thinking or somebody else's?**

A. **This is my own thinking.**

Q. **What do you mean by the first paragraph, "Patented layer was formed on the door water overflowing preventive structure"?**

A. **It means we made the new idea, innovative idea. And then we solved the water spillover problem in the ice maker. It's the first time in the world. Nobody had done this before.**

We think we made a very good technology better.

Q. **The next paragraph, "We were successful in avoiding the existing Whirlpool's patent layer in bank area." What does that mean?**

A. **This is the -- we made the ice storage bin to escape -- to avoid the Whirlpool patent map. And then we make another patent map, then we successfully make a patent, and technology.**

Q. **The next paragraph, "At first, we thought Whirlpool's patented layer seemed too solid and strong," what do you mean by that paragraph?**

A. **At the beginning of the project, we think that Whirlpool has so strong for the patent map, but after we finish up this project, we were very happy, and we made**

historical masterpiece of the new technology.

Q. Can we go, Mr. Brooks, to DX-772? It's PTX-3A2. Can we go to page 13 of 20 of this document? I believe it's 35 in the document.

Sir, looking at this language on the right-hand side, you had indicated earlier this was a draft. Right?

A. Yes.

Q. And the statement, "a dispute is expected," we didn't see that in the final project report, did we?

A. Yes.

Q. Why not?

A. We put these words because Whirlpool is obviously a very aggressive company --

MR. PARTRIDGE: Your Honor, I think we need a sidebar.

(The following took place at sidebar.)

MR. PARTRIDGE: So the situation we are facing is they have heavily redacted the document, so we don't know whether there is an opinion of counsel in there. I let that question go because the witness fortunately just gave a short answer and we didn't have a problem with it. Now we are getting into an explanation of why he wrote the language that they expected a dispute. And we're getting into, we are aggressive, it was because of his perception of Whirlpool aggressiveness, while at the same time they are

withholding as privileged information from this pair of documents.

It may well be Mr. Coyne didn't anticipate this would be the response of the witness. But we are now going into an area that is going to open a can of worms if we go down that path.

MR. COYNE: Your Honor, I'm trying to establish his state of mind of what the dispute is that is expected.

THE COURT: That may be the state of mind that you are trying to establish. I think Mr. Partridge is concerned about the reason, and you don't know what he is going to say, because I imagine you weren't expecting him to use the word "aggressive."

You can rephrase. I might let you lead a little bit so you can avoid this problem.

(End of sidebar conference.)

BY MR. COYNE:

Q. Dr. Lee, even after this language was taken out of the draft, did you still expect a dispute with Whirlpool?

A. (After consulting with interpreter) Yes.

Q. Did you expect a dispute because you thought you were infringing the '130 patent or for some other reason?

A. No. Because Whirlpool --

THE COURT: Could you rephrase that? It invites --

MR. COYNE: Okay.

BY MR. COYNE:

Q. **Did you expect a dispute with Whirlpool because you felt as an engineer that you had developed a technology that infringed Whirlpool's patent?**

(Witness consults with interpreter.)

THE COURT: Mr. Kim, will you join us at sidebar, please?

(The following took place at sidebar.)

THE COURT: Let's get the interpretation on the record.

THE INTERPRETER: Not at all. The patent, the technology that we created was something that targeted innovation, so to say. And we felt rather confident that we had pulled off quite some feat.

And in terms of the bank, the technology of placing on or in the door the ice bank, why, that was something that had been achieved by not only LG but GE, Toshiba, Hitachi, lots of companies out there. And this business of putting on or in the door the ice bank, as such, the way we looked at it, this wasn't really patentable. Instead, the ice storage bank, in terms of the structure thereof, whereas Whirlpool's was vertical, ours, a la Hitachi, was vertical in a different way. And therefore, as far as we were concerned, the way we looked at this problem,

Whirlpool, being a rather aggressive company, we figured that no matter, they were going to cause a dispute, is what we figured.

THE COURT: Here is my view, and I will hear from the parties. I am prepared to strike the last portion of the answer.

Do you feel up until that point, the part about Mr. Lee's statement or repeat of the use of the word "aggressive" as referencing Whirlpool, the other parts of the answer, were they responsive to your question?

MR. COYNE: Yes, Your Honor, directly.

THE COURT: So you are not going to ask another question to try to get him to answer a different way, as patent lawyers like to do? Any problem up to that point?

MR. PARTRIDGE: The first couple of sentences I thought were fine, because he said not all --

THE COURT: He goes through, again, his view that he has testified about what was known in the art and that kind of thing. From my point of view, Mr. Partridge, I can understand why you might not want that repeated. But the jury has already heard it and it's appropriate testimony for this witness to have given. So I don't have a problem with it.

MR. PARTRIDGE: Normally I would say absolutely right, Your Honor. It's the claim of privilege that is in

that document that concerns me. I think he goes so far as to open that door with respect to the privilege that is being claimed.

There is obviously like 13, 14 pages in there that have been redacted.

THE COURT: When you say "that document," you mean the Bics?

MR. PARTRIDGE: No. The final report that is the focus of all of this testimony.

THE COURT: I didn't hear him reference the final report again.

MR. PARTRIDGE: We are talking about the document that says that he expected a dispute. And now he is explaining why that language wasn't in the final report.

THE COURT: No. That wasn't the question.

MR. PARTRIDGE: Okay.

THE COURT: The question was what his expectation was, not why the language wasn't in the final report. That is a different objection.

I am prepared to accept the answer up to the point, Mr. Kim, the last portion about the word "aggressive."

THE INTERPRETER: Interpreter we have two ways to do this. Personally, I would like to have the reporter reread that.

(Discussion among Court, Interpreter, and court reporter.)

THE COURT: Let's do that. If he has gone further, Mr. Kim, give him the hi sign to cut it off.

THE INTERPRETER: Procedurally, I envision we may have a few more of these moments. Technically the interpreter would observe essentially that if he were to testify in English, the jury would have heard the whole thing.

THE COURT: No. You don't need to be worried about that. I don't think we are going to have a few more of these moments.

(End of sidebar conference.)

THE COURT: Ladies and gentlemen, our court reporter is going to read back the last answer.

(Record read as follows:

"Answer: Not at all. The patent, the technology that we created was something that targeted innovation, so to say. And we felt rather confident that we had pulled off quite some feat.

"And in terms of the bank, the technology of placing on or in the door the ice bank, why, that was something that had been achieved by not only LG but GE, Toshiba, Hitachi, lots of companies out there. And this business of putting on or in the door the ice bank, as such,

the way we looked at it, this wasn't really patentable. Instead, the ice storage bank, in terms of the structure thereof, whereas Whirlpool's was vertical, ours, a la Hitachi, was vertical in a different way."

BY MR. COYNE:

Q. **Mr. Brooks, can we go to 336 and jump to page 14?**

Before I do that, Dr. Lee, what is this?

A. **This is the presentation material in the LG R&D award.**

Q. **Would you go to page 14?**

This line, "Countless meetings for ideas were held every morning to avoid the Whirlpool storage bank patent," what does that mean?

A. **We have every day countless meeting for a better idea, and we avoid the Whirlpool patent, and we think that we cooperate work with engineers, and that is great.**

So we successfully designed around it, the Whirlpool patents.

Q. **A few minutes ago you were testifying about the problems and the resolution. Did you ever get together with folks, engineers at the Changwon plant to move forward on commercialization?**

THE COURT: Rather than using a colloquial term like "get together," which doesn't translate, probably, you can use more precise English.

MR. COYNE: Yes, Your Honor.

BY MR. COYNE:

Q. **You mentioned before the problems and resolution of working with the engineers at Changwon. Did you do that?**

A. **We communicate with them. So sometimes we talk with them during our project.**

Q. **Did you do any further projects with them?**

A. **Yes, after we completed the first Bics project, then we start the next project to support the making of this technology commercialization, and also, though, we planned to reduce the cost of this technology.**

So we did the second project of the Bics.

Q. **Were you successful in reducing the cost of the technology?**

A. **From the second Bics?**

Q. **Yes, sir.**

A. **Yes, we did.**

Q. **Can we go to DX-211, please, Mr. Brooks?**

Dr. Lee, what is this document?

A. **This is the project completion report of the second Bics project.**

Q. **How much did that project cost, the second Bics project?**

A. **I have to see the patent of this project.**

Q. **Mr. Brooks, can you go to the second page, in the lower right-hand corner?**

A. **It reads .5 -- $500,000 for that.**

Q. **Sir, can you go to page 63 of the document?**

Dr. Lee, did you consider other different styles of ice banks as a part of this project?

A. **No. We focused consistently on the horizontal ice bank, ice storage bin.**

Q. **Did you consider different variations of the horizontal ice bin?**

A. **(After consulting with interpreter.)**

THE INTERPRETER: Alternatives?

MR. COYNE: Or variations of the horizontal ice bank, still being horizontal.

I will withdraw it.

BY MR. COYNE:

Q. **Did you consider any variations of a horizontal ice bank, still keeping the auger horizontal?**

A. **Yes. We made some new ideas for the horizontal to be more compact and cost-effective.**

Q. **Mr. Brooks, will you bring up the original Korean page next to this?**

THE COURT: Mr. Coyne, could you remove that from the Elmo, please?

MR. COYNE: I am sorry, yes.

BY MR. COYNE:

Q. **I believe it's page 27 of the Korean version and 63 of**

the English.

Were these some of the variations that you considered?

A. **Yes.**

Q. **Did you consider any of them, in your view as an engineer, to infringe the '130 patent?**

A. **There is no -- there is no branding infringe the Whirlpool patent.**

Q. **What time frame were these variations being considered?**

A. **It is between the Bics 2 project, between.**

Q. **What dates?**

A. **From the first of the -- January 2004 to December 2004.**

Q. **Could you look at the one in the middle, sir? How much would this design have cost to implement?**

A. **Cost?**

Q. **Yes. How much would it have cost you to go with this design rather than the one that you went with?**

A. **You mean the whole cost or --**

Q. **The development cost.**

A. **I cannot say how much, but it takes about several months to develop it.**

MR. COYNE: Your Honor, I have no further questions for the witness at this time.

THE COURT: Mr. Partridge, you may cross-examine.

MR. PARTRIDGE: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. PARTRIDGE:

Q. **Good morning, Dr. Lee.**

A. **Good morning.**

Q. **Dr. Lee, I want to begin with sort of where you left off. You talked about infringement and whether or not you had a view -- you were asked a question about whether you had a view about infringement. Do you remember that question?**

A. **Yes.**

Q. **It is true you have a number of U.S. patents of your own. Correct?**

A. **Yes.**

Q. **And it's true that you understand, when one looks at the question of infringement, one looks at the claims of the patent. Correct?**

A. **I cannot -- I cannot understand the claims or such a thing. But as an engineer, I have my own opinion for that, this technology is the same with another one or not.**

So this is my engineer opinion, not the claims or not.

Q. **That wasn't really my question. My question was, you**

understand that the issue of infringement is decided based on the claims. I am not asking you to go into the claims. I am just asking you if you understand that the question of infringement is determined by the claims.

A. I am saying that I understand the point of the technology. So when I look at the one technology, then I understand what kind of technology it is. And then I am saying the infringing one or not is in point of the technology as an engineer. So it is somewhat different with legal infringement or not.

Q. So if I understand your answer to the question about infringement that you just gave, it's based on being an engineer and it may have nothing whatsoever to do with whether or not there is actual infringement under the law. Am I correct in understanding that?

A. (Through the interpreter) Not that I profess to know the law in any way. I would believe that I am an engineer with quite some experience in this respective area. And as such, I have a modicum of understanding myself.

Q. Then I have to go back to the previous question I asked you, which is a very simple one: Do you understand that the question of infringement is determined by the claims as opposed to anything else in the patent?

A. (Through the interpreter) I understand where you are coming from, but what I am trying to tell you, sir, is I, as

an engineer, have a sufficient amount of knowledge in terms of the engineering of it, and have made certain determinations on my own, which is what I have told you about. If you would understand that part, as an engineer.

Q. **Let's see if we can get more specific here. Let's go to Defendants' Exhibit 8, Claim 1. This is the '130 patent. You will be able to see it on your screen. Let's blow up Claim 1. Let's go down to the auger limitation. "An auger disposed"...**

This is Claim 1 of the '130 patent which is asserted in this case, Dr. Lee. As I read this particular limitation, and I will read it to you, it says, "an auger disposed within the ice storage bin and drivingly connected to the motor."

Would you agree with me that the word "vertical" is not in the claim?

A. **(Through the interpreter) Lacking any legal knowledge so as to render an interpretation as to this one particular claim here, sir, I, by looking at this one particular passage here, don't know that I am in any position to say yea or nay as to whether this constitutes Whirlpool's patent or not.**

Q. **Would you agree with me, sir, that there is nothing in this limitation in the claim that says excluding a horizontal auger? Am I correct?**

A. **(Through the interpreter) Given that I am not an expert in patents, I don't believe that I am going to be able to answer any of your questions concerning these claims, given that I am not a legal professional.**

Q. **Fair enough. Let's turn to something else you testified about.**

We can take that down, Mr. Roberts.

You said that you didn't believe that LG copied Whirlpool. Do you recall giving that testimony?

A. **(Through the interpreter) Yes, definitely right.**

Q. **When you gave that testimony, did you understand that the question of copying concerns the subject matter of the claims, not what is described in the specification?**

A. **(Through the interpreter) Well, see, as I mentioned to you earlier, I am an engineer with a lot of years of experience in this particular field. When comparing one technology to another, and when I say that it's either the same or not, and this is my opinion that I am trying to tell you about, again, based upon my many years as an engineer.**

I do want to fully emphasize the fact that this is but my personal opinion on the matter.

Q. **Understood. Fair enough.**

Let's turn to something perhaps a little simpler. Let me see if I understand the facts correctly. I am going to ask you some questions about the Bics project.

MR. PARTRIDGE: (Addressing the interpreter) Would you explain that to the witness?

THE WITNESS: Yes.

BY MR. PARTRIDGE:

Q. **And the first Bics project concerned LG's building of a side-by-side refrigerator. Correct?**

A. **Yes.**

Q. **And during the course of that project you were aware of the '130 patent, you were aware of Whirlpool's commercial refrigerator, and you had in your laboratory the Whirlpool commercial refrigerator to evaluate. Am I correct on all those points?**

A. **Yes.**

Q. **You mentioned that you had looked at patents or that there had been a search done and that you had a collection of patents as part of the Bics project. Do you recall that testimony?**

A. **(Through the interpreter) What are you saying, that we made as a result of conducting a patent search during the Bics project?**

Q. **You met with Dr. Il Shin Kim in December of 2002 to discuss with him his idea for a refrigerator with an ice system on the door. Correct?**

A. **Yes.**

Q. **And during that meeting, Mr. Kim illustrated to you**

what he had in mind. Correct?

A. **Yes.**

Q. **And he told you that he had undertaken some patent searches in connection with his work. Correct?**

A. **(Through the interpreter) Well, it wasn't something that I said, right.**

Q. **With respect to his patent searches, he told you that sometime in the fall of 2002 he had found the Whirlpool '130 patent. Correct?**

A. **(Through the interpreter) Are you asking if I am aware of what Mr. Kim had told me?**

Q. **Yes. In other words, just the general subject of having done patent searches, as part of his work.**

A. **(Through the interpreter) Do I know about that? I am not sure that I quite understand the question itself.**

Q. **Let's go to DX-158. We will put it up on the screen for you. If you would like a copy, I will give it to you.**

Would you agree with me that the drawing on the bottom of DX-158 is an illustration of what Mr. Kim described to you at your meeting in September of 2002?

A. **(Through the interpreter) Yes, the left figure would be correct, yeah.**

Q. **And in the upper right-hand corner of the document, there is a description -- just the upper right-hand corner -- of the Whirlpool ice and water system, which was**

Whirlpool's side-by-side refrigerator. Correct?

A. **(Through the interpreter) I cannot quite make out the shape of these figures. I understand that it says "Whirlpool" at the top, but I cannot tell personally whether this is Whirlpool's or not.**

Q. **Can we go to the Elmo?**

This is a slightly better copy. But whether you can make it out or not, you agree in the upper right-hand corner it describes the Whirlpool side-by-side refrigerator with ice in the door. Correct?

A. **(Through the interpreter) I cannot recognize just seeing that picture, I cannot recognize it is Whirlpool or not.**

Q. **Looking at the upper left-hand side of this particular page, you agree with me that the box labeled "Preexisting Ice & Water System" is empty. Am I reading that correctly?**

A. **That part, the picture is empty, you are right.**

Q. **Now, you mentioned during your testimony -- and I don't have the exact words -- but you talked about your view that there was something, I think you said unique, about putting the ice maker on the door. Do you recall testimony along those lines?**

Mr. Kim, if you will.

A. **Yes.**

Q. **Let's turn to PTX-379. Dr. Lee, if you would like a**

copy of this exhibit, I am happy to hand it up.

Let's look at the description on the upper left, the whole block on the upper left. This is a Whirlpool patent filed in December 1998. The issue date on the top is November 21st, 2000. That is before you started the Bics project. Correct?

A. **Yes.**

Q. **And if we go down to the abstract and we look at the first two lines of the abstract, it reads, "A refrigerator having a cabinet forming a freezer compartment having an access opening. A closure member is hinged connected to the cabinet for closing the access opening and an ice maker is mounted on the closure member."**

Do you see that language?

A. **Yes.**

Q. **Let's go to Figure 1 of the patent. Here we have a depiction of a refrigerator in Figure 1. Do you follow me so far?**

MR. COYNE: Your Honor, may we approach sidebar?

THE COURT: Sure.

(The following took place at sidebar.)

MR. COYNE: Your Honor, I am sorry to interrupt. I was hoping this was going to be impeachment, then I wouldn't have needed the exhibits. We had an agreement to exchange the exhibits, and I got no cross exhibits. I am

trying to follow along without the original documents.

MR. PARTRIDGE: I am happy to give them documents. We specifically talked about whether we were going to exchange cross exhibits and we decided that we weren't. In the second pretrial conference or just before the start of this trial, Mr. Coyne raised that issue. I argued that we shouldn't have to do that. And we agreed.

MR. COYNE: We have been doing that with every witness until now.

MR. HERRMANN: We have been exchanging cross notebooks at the time the witness is being crossed, not in advance. We didn't get a cross notebook for this gentleman, except for impeachment.

MR. COYNE: For example, I don't know if there is --

THE COURT: It is not to anybody's benefit if your opponent can't follow.

MR. PARTRIDGE: I have copies and I neglected to hand them to him.

THE COURT: Why don't you do that.

(End of sidebar conference.)

MR. PARTRIDGE: May I approach, Your Honor?

THE COURT: Yes.

BY MR. PARTRIDGE:

Q. **Dr. Lee, I hadn't intended to go very far with this.**

But as you can see, if you open up that patent to Figure 1, you will see there is a refrigerator and you will see element 22 at the top of the refrigerator door. Do you see element 22?

A. **Yes.**

Q. **And if you look at the patent specification, and we have blown up for you the description of the preferred embodiment, and in the second paragraph it identifies element 22 as an ice maker. Do you see that?**

A. **Yes.**

Q. **In the various patent searches that were undertaken by LG during and before the Bics project, did you come across the Whirlpool patent that has an ice maker on the door, which you described as unique to LG?**

A. **(Through the interpreter) Sir, I had previously given you a sort of technical explanation, and it was not that the placement of the ice maker on or in the door itself was unique. Rather, in going about so placing an ice maker on or in the door, we had pulled off something unique in the sense of preventing the spillage of water. And hence, my earlier testimony about the aid or, say, seven items of technology that we had uniquely developed.**

Q. **Thank you, Dr. Lee. That helps clarify the testimony. I appreciate that.**

Turning to Hitachi for one brief moment. You

mentioned that, I think you said that the auger could be horizontal, side-by-side, or front-to-back. Did I understand you to say that you had considered augers in both positions?

A. **Yes.**

Q. **And Hitachi publication that you talked about earlier had the auger side-to-side. Correct?**

A. **(Through the interpreter) Yes, it was horizontally placed.**

Q. **But it was side-to-side?**

A. **(Through the interpreter) Well, the thing is, the notion as to side-by-side or side-to-side, that all depends on from which perspective you are looking at things. What is definitely the case here is it was horizontal. By horizontal we are talking about horizontal relative to a certain plane. When it moves along a certain plane, together with a plane, the plane being a plane surface, that is -- that is what I mean by "horizontal." When you say side-by-side, it all depends on the, say, location from which you are looking at it.**

Q. **This is a yes-or-no question or you can decline to answer it, Dr. Lee, whichever you choose.**

It is true that you did not continue with the side-by-side configuration in the Hitachi publication that you discussed earlier today. You reoriented the auger. Is

that correct?
A. (Through the interpreter) Well, the sort of Hitachi patent that I have in mind when I think about that is one in which the movement is horizontal. Whether it is side-by-side or front or back, that is not important. The fact is, it's horizontal, and what we did was to use the Hitachi patent as is.
Q. Let's go to Defendants' Exhibit 187. This exhibit corresponds, for the benefit of the jury, I think there were two numbers for this. We will have to go with 187 because I don't know what the other number is at the moment.
This is the draft -- what you called the draft completion report from December of 2003, correct?
A. (Through the interpreter) Yes, that is right.
Q. Let's go to the page that you discussed with Mr. Coyne, page 774. And let's pull up the language that concerns "a dispute is expected when product is developed.".
You discussed this with Mr. Coyne earlier this morning, correct?
A. (Through the interpreter)Yes.
Q. Let's put up, if we can, next to it the conclusion from what you called the final report, the statement you also discussed with Mr. Coyne concerning your view that you had done something different than the Whirlpool patent. This is your PTX-381, and the first document was your

PTX-382.

Let's go to page 714 of the second of these documents. Let's highlight the language, "We were successful in avoiding the existing Whirlpool's patent layer in bank area."

Do you see that?

A. **(Through the interpreter) Yes.**

Q. **And you agree that between the first draft and the final report, the design remained the same. Correct?**

A. **(Through the interpreter) Yes.**

Q. **Dr. Lee, am I correct that the second statement was written by you precisely because you expected a dispute with Whirlpool and that was a convenient way for you to change the final report to not reflect your expected dispute?**

MR. PARTRIDGE: Please translate.

A. **(Through the interpreter) Sir, if I may explain to you the relevant passage that is part of that draft version. Basically, we start off here by first talking about how we selected for ourselves a number of countries. With respect to which countries, we conducted a patent search, and upon actually coming across patents, we saw that Whirlpool had lots of patents. They had a number of patents there. Whereas this further states that a dispute is anticipated.**

If you will look at Section 3, we then set forth a means of resolving these things. And it basically states

that we ought to design around these patents.

And No. 4, as such, we, LG, would come to file a number of patents, and that was basically how we steered around, how we designed around. And it as such entails this overall process, if you will.

So going back to the parenthetical No. 2 section here, and it first basically it talks about how upon conducting lots of patent searches, and analyses, it sets forth the results thereof, but those, mind you, are not our ultimate conclusion. Time-wise, it wasn't -- period-wise, it wasn't.

Q. **Thank you, Dr. Lee.**

Last question. I have reviewed carefully and had my team review carefully both the final completion report and the draft completion report. And I found nothing in either report that suggests that the '130 patent was invalid, even though you had the Hitachi publication in your possession.

My question to you is simply this, and this is a yes-or-no answer: Do you have any reason to dispute my reading of these documents?

Dr. Lee, if you need to review them, in order to answer my question, you can do that on Mr. Coyne's time. My question is whether you, sitting there right now, have any reason to dispute my statement. You either do, or you

don't, or you don't know. Which is it?

A. **(Through the interpreter) All right. In answer to you, I do not agree with you. And I have sufficient reason not to agree with you.**

MR. PARTRIDGE: Very well. That ends my questioning, Your Honor.

THE COURT: Mr. Coyne, you may redirect.

MR. COYNE: No questions, Your Honor.

THE COURT: Thank you, Dr. Lee. You are excused.

(Witness excused.)

THE COURT: We will take our morning break, ladies and gentlemen.

(Jury leaves courtroom at 10:57 a.m.

THE COURT: Counsel, where are we on the most recent iteration on the parties' proposed jury instructions?

MR. HERRMANN: Your Honor, I hope we might have something to submit to the Court at the end of this break.

THE COURT: Counsel, you had the entire weekend. I would expect that. You have had multiple hands on deck to deal with this. It is going to be at the end of the day just me and my law clerk having to resolve these issues. And I don't want to do it under undue time pressure. Am I clear on that?

That is all I need to hear on that, Mr.

Herrmann. We will recess.

(Recess taken.)

THE COURT: Ms. Walker.

Counsel, thank you. I have gotten the most recent iteration, Exhibit 1, I guess it's (ii). Then I received LG's submittal.

(Jury enters courtroom at 11:27 a.m.)

THE COURT: Okay, ladies and gentlemen. Please take your seats.

Mr. Sharma, you have the next witness.

MR. SHARMA: Thank you, Your Honor. I do. LG would like to recall as its next witness, refrigerator expert Dr. Warren Bessler.

Your Honor, we have also provided to Ms. Walker some direct witness binders.

THE COURT: Yes, I have them.

...Warren Bessler, having been previously sworn as a witness, was examined and testified further as follows...

DIRECT EXAMINATION

BY MR. SHARMA:

Q. Good morning, Dr. Bessler.

A. Good morning.

Q. Were you in court during Dr. Karvelis's testimony concerning the invalidity of the claims of the '121 patent?

A. **Yes, I was.**
Q. **Did you agree with his opinions?**
A. **No, I did not.**
Q. **Why not?**
A. **I believe that his opinions regarding the invalidity of the '121 patent were not correct. I believe it's a valid patent because there is some prior art out there, particularly the Hitachi '165 patent and also --**
Q. **Dr. Bessler, just to stop you. Let's take a step back. I am talking about LG's '121 patent.**
A. **I am sorry.**
Q. **Do you recall that?**
A. **Yes.**
Q. **What is that about?**
A. **That is about a rotating spigot and automatic mechanism for presenting that spigot and a sliding tray.**
Q. **So let's go back. I was asking you about Dr. Karvelis's opinions on invalidity and whether you agree with them or not. Do you recall?**
A. **Yes.**
Q. **Do you agree with them?**
A. **No, I do not.**
Q. **And why not?**
A. **Because I believe that LG was the first to come up with the idea of combining a rotating spigot and a sliding**

tray in a mechanical mechanism. They were the first ones to come up with the idea, they were the first ones to file a patent application, and they were the first ones to get a patent on those three ideas.

Q. **What do you base that opinion on?**

A. **I base that opinion on my work in reviewing that patent. I have looked at the claims from that patent, and I believe that their documents were valid.**

Q. **Dr. Bessler, when did LG first conceive of the idea for a removable spigot and an extendable tray and a mechanical drive mechanism?**

[redacted]

Q. **When did Whirlpool first have that idea of combining a movable spigot and extendable tray and mechanical drive?**

A. **I think Whirlpool, their first idea of that was when their customer, Sears, had had a meeting with them. I think that was about April of '04. And Sears asked them if they could put together a concept with the mechanical drive operating the spigot and a sliding tray.**

Q. **What about Whirlpool's 2002 prototype, what features did that include?**

A. **Their 2002 prototype did not have a mechanical drive and it did not have a rotating spigot.**

Q. **How about Whirlpool's 2003 prototype?**

A. **If I recall from what Mr. Voglewede said, the 2003 prototype did not have a mechanical drive.**

Q. **Do you recall Mr. Voglewede's invention sheets? I believe they were PTX-709 and PTX-708. They are tabs 2 and 3 of the binder.**

Mr. Brooks, if we could put them up on the screen. Thank you.

A. **Tabs 2 and 3?**

Q. **Tabs 2 and 3, PTX-708 and PTX-709.**

A. **Yes, I recall those invention sheets.**

Q. **What did they tell you?**

A. **Well, those invention sheets were explaining a record of the Whirlpool invention. What I found was they had two dates on that were quite different. If you could blow that up.**

Can I use my pointer from here? Let's see. Does that work? Yes.

Okay. They had a typed-in date of conception here, which is the -- I think it says March 2001. And then down here, they have some signatures of the witnesses, where it says that it's preferable that they witness this invention when it was first disclosed. And those signatures are like June of '03, which is more than two years from when the typed-in date of conception is.

Q. **Based on your experiences, how soon into a project**

would you prepare an invention disclosure sheet?

A. Based on my experiences at the GE labs, when we had an invention, we made every effort to get that recorded --

THE COURT: Let's see counsel.

(The following took place at sidebar.)

THE COURT: Are you content with this testimony?

MR. SPEARS: I don't think it's going anywhere. But being I think it's proper.

THE COURT: You don't think it's testimony with which you may have to contend?

MR. SPEARS: I don't think it is going to be terribly effective in front of the jury.

THE COURT: Do you think it's admissible under the rules?

MR. SPEARS: I do not think it's admissible.

THE COURT: Why aren't you participating in raising an objection, counsel? You think this witness' opinion and testimony as to what they did at GE is pertinent to his opinion that he has provided with regard to the validity of this patent?

MR. SPEARS: No, not at all. And I will take a more active profile in my objections with this witness.

(End of sidebar conference.)

BY MR. SHARMA:

Q. I apologize, Dr. Bessler. Could you finish your

answer, please?

A. **When I was working at the GE labs, if we came up with a new idea or invention, it was key for us to record that invention in our patent notebook as soon as possible. By that I mean a few days after coming up with the patent. And when we did that, we would have our witnesses sign in the patent notebook.**

That was because of a couple reasons. First, as an engineer you would want to get credit for your ideas and document your timeline, and also for the company to help protect their invention dates as well.

Q. **Dr. Bessler, do you recall in Dr. Karvelis's testimony him indicating that the Patent Office did not have any information about Whirlpool's advanced dispenser prototype?**

A. **Yes, I remember him saying that.**

Q. **Why did the Patent Office not have information about Whirlpool's advanced dispenser?**

A. **I believe Whirlpool did not share that with the Patent Office. They kept it to themselves. It was a secret.**

Q. **Now, Dr. Bessler, let's shift to tab 4 of your binder, DX-570.**

If we could pull that up on the screen, Mr. Brooks.

If you could confirm, once you get there, this is the Kim reference Dr. Karvelis was talking about.

A. **Yes, I do.**

Q. **Do you know whether LG knew about this reference when it filed the '121 patent?**

A. **I don't believe they knew about this reference.**

Q. **Do you recall Dr. Karvelis's opinions about the Kim reference?**

A. **Yes. I think he used that in his invalidity arguments.**

Q. **Did you agree with his opinions?**

A. **No, I did not.**

Q. **Why not?**

A. **Well, if you look at the Kim reference, there is a couple of figures, maybe we could pull up --**

Q. **Figures 5 and 6?**

A. **Yes. Figure 5.**

Q. **Can you please explain what we are looking at here, Dr. Bessler?**

A. **Yes. This is a schematic of a Kim reference. In general terms, it shows a dispensing nozzle here, which is kept inside the refrigerator. And then what happens is the -- this is the front of the refrigerator here -- the customer would push the button in for water delivery, and when he does that it extends the spring here, loads the spring up. And then the dispenser comes forward through the refrigerator out the front of the refrigerator door. And it**

stays there as long as he keeps his hand on the button, and water comes out of here.

When the customer releases the button, then the spring pulls the -- or retracts the nozzle back into the refrigerator.

Q. **Now, is the water spigot in the Kim reference biased?**

A. **The spigot in this invention is biased to stay inside the refrigerator door. By that what I mean is that normally, in its rest position, it's inside the door. In order to make it come out, you have to put a force on the spring and push your button in and extend the spring to hold it there.**

Q. **What relevance, if any, does the biasing of the spigot in the Kim reference have in relation to the '121 patent?**

A. **That type of arrangement is actually directly opposite from the mechanism in the '121 patent.**

In the '121 patent, when you release the catch, the spring actually supplies a force to the dispenser and it rotates it out to you automatically. So it's exactly the opposite type of bias. It's biased to open in the '121 patent.

Q. **Are you aware of any other distinctions between the Kim reference and the '121 patent or Whirlpool's advanced dispenser prototype?**

A. **Yes. I mean, there are some other distinctions. The**

Whirlpool dispenser prototype and also the '121 patent are all about providing the customer with some convenience in that he is able to fill large containers hands-free. In this type of device, there is no way to do that because you have to hold your hand on the button to keep the spigot out there. And there is no tray, extendable tray to put any large containers on.

Another thing is, I think the intent of the '121 patent and also the advanced dispenser is to provide some extra space in the freezer by making the cavity for the dispenser as small as possible. And they get that by allowing the spigot to rotate out to the customer.

This device is pretty large and cumbersome. It's got a lot of gears and a bellows, valve. I would expect this to take up a lot of space.

Q. **Do you recall Dr. Karvelis's testimony where he may have indicated that the use of springs were primitive?**

A. **Yes, I do.**

Q. **Do you agree that springs were primitive in the context of refrigerator dispensers in 2003?**

A. **Well, I mean, I agree with Dr. Karvelis that springs are a well-known mechanical component. But what I think was going on there was that Dr. Karvelis was using some hindsight as far as it relates to refrigerator designs and springs and dispensers.**

Q. **Could you please explain what you mean by "hindsight"?**

A. **Well, there is an expression, you know, hindsight is 20/20. In the patent, you can't use hindsight to say that something was obvious. In other words, back in the time of invention, 2003, nobody had come up yet with the idea of using a spring to power an automatic dispensing mechanism. So you really can't say that it was an obvious idea.**

Q. **Are you aware of any other examples of springs in hindsight analysis?**

A. **Well, I have an example of my own that I like, which is, if you just look at these types of pens that everybody has, a ballpoint pen with a click mechanism to push the pen in and out from the housing, that type of spring mechanism, in hindsight, looks very obvious. You look at that and think, you know, anybody could think of that. But the truth is, before they had springs in pens, nobody had come up with that idea, and whoever did went ahead and got a patent on it, and it became a huge commercial success.**

Q. **Dr. Bessler, I would like to shift and talk about Whirlpool's '130 patent.**

A. **Okay.**

Q. **Have you been asked to give any opinions with respect to Whirlpool's '130 patent?**

A. **Yes, I have.**

Q. **What opinions were you asked to provide?**

A. **For the '130 patent, I was asked to provide an opinion on the validity of that patent and also whether LG's refrigerators infringed the '130 patent and whether the refrigerators willfully infringed that patent.**

Q. **Dr. Bessler, what did you review in the context of the '130 patent?**

A. **In my work on the '130 patent, I obviously looked at the patent and the claims that Whirlpool was asserting. I looked at the file history of the patent. And I looked at the prior art that existed. I reviewed Whirlpool documents, LG documents. And I also read testimony from the inventors.**

Q. **Did you also review the Judge's claim construction?**

A. **Yes, I did.**

Q. **How much time did you spend?**

A. **I spent a lot of time on that. I would say, if I added it up, several months looking at the '130 patent.**

Q. **If you could please turn to tab 1 of your second binder. This is PTX-9, the '130 patent.**

Mr. Brooks, if we could place it on the screen.

Briefly, Dr. Bessler, what is the '130 patent about?

A. **I think in a nutshell the '130 patent is about placing an ice maker in a freezer cabinet and placing an ice storage bin with a motorized auger on a freezer door.**

Q. **In the '130 patent, where is the ice maker located?**

A. **In the '130 patent, the ice maker is located in the freezer cabinet.**

Q. **Does the '130 patent describe any other locations for the ice maker?**

A. **No. As far as I can see, reading this patent, it doesn't describe any ice makers located on a freezer door or on a fresh-food door.**

Q. **Dr. Bessler, were you in the courtroom during Dr. Manny Lee's testimony early today?**

A. **Yes, I was.**

Q. **I would like to show you an exhibit from his testimony. It's PDX-171. I am going place it on the Elmo.**

A. **Okay.**

Q. **Do you recall Dr. Lee's testimony about PDX-171?**

A. **Yes, I do.**

Q. **Are these challenges that LG faced in placing the ice maker on the door?**

A. **I would agree that those are definitely challenges for placing an ice maker on a door, yes.**

Q. **Are any of those challenges discussed in the '130 patent?**

A. **From what I remember, in reading that patent, no, those things are not mentioned.**

Q. **Any solutions to these challenges, were any discussed in the '130 patent?**

A. **No, I don't think so. As I said, that patent is really concerned with mounting the ice maker in the freezer cabinet.**

Q. **Dr. Bessler, I would like to talk to you about Whirlpool's infringement claims. Do you see the LG French-door refrigerators that are accused of infringement in the courtroom today?**

A. **Yes, I do.**

Q. **Can you point them out, please?**

A. **Yes, the refrigerators right there, the stainless steel.**

Q. **Are you identifying DPX-22?**

A. **Yes.**

Q. **Now, can you just briefly describe how LG's French-door refrigerators compare to a side-by-side refrigerator?**

A. **Yes, I can.**

Your Honor, if it's okay, can I go over to the refrigerator?

THE COURT: Yes.

THE WITNESS: Okay. I think I am going to take the claim constructions over there, too.

MR. SHARMA: Your Honor, would it be okay if Dr. Bessler is miked? I think I am going to have Dr. Bessler over there for a few questions.

THE COURT: He can be miked.

(Witness steps down from stand.)

BY MR. SHARMA:

Q. **Dr. Bessler, if you could just briefly describe how this LG French-door refrigerator compares to a side-by-side refrigerator?**

A. **Sure. The French-door refrigerator is called a French-door refrigerator because up here there are two doors that open, just like a set of French doors that you might have in your house.**

And up top here is a fresh-food cabinet, where you put your regular food items at fresh-food temperature. That cabinet is closed by these two doors. These would be fresh-food doors.

Then down here you have a bottom-mount freezer. And in here is where your frozen foods are placed. This is below-freezing temperatures. That's the freezer cabinet. Then this door here is the freezer door.

Q. **Dr. Bessler, did you hear Dr. Caligiuri's opinions on infringement by LG's French-door refrigerators?**

A. **Yes, I did.**

Q. **Did you agree with him?**

A. **No, I did not.**

Q. **Why not?**

A. **In the French-door refrigerator, the claims require**

that there is --

Q. **Maybe we should pull up the claims.**

A. **Yes.**

Q. **PTX-9. If you can go to Claim 1, Mr. Brooks.**

A. **Okay. Claim 1 is one of the -- is the independent claim that is being accused of infringement. And that claim has some language --**

Q. **I am having a little difficulty hearing you, Dr. Bessler.**

A. **Is that any better?**

Q. **Yes.**

A. **This is Claim 1, so what I was talking about was there is some language in here that is required in order to infringe Claim 1. And one of those first things is "an ice maker disposed within the freezer compartment." And as you can see down here, there is no ice maker --**

MR. SPEARS: Objection. Irrelevant, Your Honor.

THE COURT: Sustained.

BY MR. SHARMA:

Q. **Dr. Bessler, let's look at the first element. "An ice maker being disposed within the freezer compartment for forming ice pieces."**

A. **Yes.**

Q. **Is that claim language found anywhere in DPX-22, LG's French-door refrigerator?**

A. **No, I don't believe it is.**

MR. SPEARS: Same objection.

THE COURT: Same ruling. I previously discussed the Court's views on this particular line of inquiry, Mr. Sharma. To be fair to you, I don't think you were at sidebar when I think -- I think it was at sidebar.

MR. SHARMA: Could I have one moment, Your Honor?

THE COURT: Sure.

MR. SHARMA: I wasn't thinking.

(Pause.)

BY MR. SHARMA:

Q. **Dr. Bessler, let's then look at the next element of the claim, "an ice storage bin"... Do you see that language?**

A. **Yes.**

Q. **"Ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker."**

A. **Yes.**

Q. **Does that language have a structure in the LG refrigerator, DPX-22, or its equivalent?**

A. **No, I don't believe so. That claim language to me states that you need an ice storage bin mounted to the closure member --**

MR. SPEARS: Same objection.

THE COURT: Let's see counsel at sidebar.

(The following took place at sidebar.)

THE COURT: Mr. Spears, let's be fair, for Mr. Sharma's benefit. Let me have you articulate the objection.

MR. SPEARS: Dr. Bessler keeps on returning to the lower freezer compartment, which is not what we contend to be the freezer compartment.

What we need for him to do is to apply the Court's claim construction as opposed to LG's commercial designation to the actual structure that we are accusing of infringement.

THE COURT: Do you understand the import of his objection?

MR. SHARMA: I do, Your Honor.

THE COURT: I have already ruled on this, by the way. I think Mr. Coyne understands the ruling.

MR. COYNE: Yes, Your Honor.

THE COURT: So you need to adjust.

MR. SHARMA: Whirlpool's point is there are two freezer compartments in this refrigerator.

MR. SPEARS: That is not Whirlpool's point at all. We don't give a damn about that. Just direct your witness to what we are actually accusing of infringement.

MR. SHARMA: We know each other well enough. You don't have to treat me like that.

THE COURT: I appreciate the zealous advocacy, but to the point.

(End of sidebar conference.)

BY MR. SHARMA:

Q. **If we could pull back up PTX-9, Claim 1.**

Dr. Bessler, where is the ice maker and ice bin located in LG's French-door refrigerator?

A. **LG's French-door refrigerator, in there, the ice maker and the ice bin are located on the fresh-food door, the left fresh-food door.**

Q. **Is that a freezer compartment, in your opinion?**

A. **No. In my opinion, this is not a freezer compartment.**

Q. **Can you please explain?**

A. **Sure. When you consider a freezer compartment, the thing I used was the claim construction as construed by Judge Sleet. So I don't know if we can put that --**

Q. **Tab 20 is the Judge's claim construction.**

A. **Okay. If you could just expand that a little bit.**

When I read this claim construction here, it says that a refrigerator includes a freezer compartment having an access opening and a closure member for closing that access opening. Then it goes on to say that is construed by the Court to mean a refrigerator including a section of the refrigerator cabinet kept at a below-freezing temperature.

Now, my understanding is, being a refrigerator engineer, that this outside piece that goes all the way around here is what we call refrigerator cabinet. And down here there is a section of that cabinet that's kept at or below freezing temperature.

So I would consider this down here to be the freezer cabinet.

MR. SPEARS: Objection. Completely irrelevant.

THE COURT: We should meet on this again.

(The following took place at sidebar.)

THE COURT: Mr. Spears, I am not so sure that I agree. I think we say applying the Court's claim construction as one of skill in the art would. I think that's all we can require of him.

MR. SPEARS: Fair enough.

(End of sidebar conference.)

THE COURT: You may proceed, Mr. Sharma.

BY MR. SHARMA:

Q. **I apologize for interrupting. If you could start from the beginning, we can pull back up the Judge's claim construction.**

A. **Sure. What I was trying to explain was that in looking at the claim construction for what a freezer compartment is, the statement there talks about a refrigerator including a section of the cabinet kept at a**

below-freezing temperature. So this being the cabinet back here, and here is a section of the cabinet at a below-freezing temperature.

THE COURT: Doctor, make sure you are explaining on the record, when you say "here," what you mean.

THE WITNESS: Sure. In the lower portion of the cabinet is where I am pointing to. That is a section that's below freezing temperatures. So I consider that a freezer cabinet.

Now, it also says that it has an opening that provides access, which is right here, the opening I am pointing to, around the edge of the cabinet, the lower portion of the cabinet. And I would say that that is the access opening, to get access into the interior of the freezer cabinet.

Then there is a closure member, that is the next part, which allows access to this opening. So the closure member is actually this element right here that closes the access opening. And I would call that the freezer door.

Q. **Dr. Bessler, there is a footnote 1. What does that footnote 1 refer to?**

A. **Yes, that is a very important footnote. Footnote 1 relates to this construction, and it says, "In making its ruling, the court concludes that the closure member is part of the freezer compartment."**

So I believe what that says is, if you look at this cabinet down here, the freezer cabinet, and you look at the freezer door, that together, they form the freezer compartment. That's my understanding of the claim construction.

Q. **How does the claim construction apply to where LG has its ice maker and ice bin?**

A. **Okay. LG has its ice maker and its ice bin located here on the fresh-food door. Just like we had the freezer compartment up here, there are two fresh-food doors, and they close the access opening here to the refrigerator cabinet. And this refrigerator cabinet is actually a section of the cabinet that's kept at fresh-food temperatures.**

So I call this a fresh-food cabinet. I call these two doors fresh-food doors. And I call this whole part up here the fresh-food compartment.

Q. **Dr. Bessler, in your opinion, is the French food door that has the ice maker in LG's refrigerator, is that a freezer compartment, under the Court's claim construction?**

A. **No, I don't believe this is a freezer compartment.**

Q. **Is it a freezer door?**

A. **No, I don't believe it's a freezer door. I believe it's a fresh-food door.**

Q. **Are you aware of anything that supports your opinion?**

A. **Yes. I am aware that Whirlpool and the patent examiner agreed that when you have an ice box like this mounted on a fresh-food door, that that is not a freezer compartment. And this is not a freezer door.**

There was a prior art reference, I believe it was Gould, that had a structure similar to this ice box. And when Whirlpool and the examiner looked at that, they said that that structure was mounted on a fresh-food door, like this one, and that that refrigerator was a freezerless refrigerator.

Q. **Now, Dr. Bessler, I would like for you to assume, if you can assume that Dr. Caligiuri is correct, and where LG places its ice maker in this fresh-food door, if that is the claimed freezer compartment, how would that affect your conclusion of no infringement of LG's French-door refrigerators?**

A. **I still believe that LG's refrigerators would not infringe the Whirlpool patent even if hypothetically this was a freezer compartment.**

Q. **Could you please explain?**

A. **Yes. If we can go back to the claim language of Claim 1.**

Claim 1 has some claim language in it where it talks about "an ice storage bin mounted on a closure member." Then it talks down here about "a motor mounted on

the closure member; and an auger disposed within the ice storage bin."

So all of these things would be mounted to a closure member.

Now, in this case that closure member is the closure member of the freezer compartment.

So, if, hypothetically, we call this a freezer compartment, which I don't think it is, but let's say we call this a freezer compartment, then right here, where the green tape is, it's still up there, this would be considered the access opening to the freezer compartment. And then this here I would consider the closure member. This closes the access opening to the freezer compartment. So this is the closure member for the freezer compartment. And I am looking at the claim language, which requires that we have a motor, an auger, and an ice storage bin mounted to this closure member. And I don't see anything mounted to it.

Q. **What effect does that have on whether this LG French-door infringes, even under Dr. Caligiuri's --**

A. **What that says is this doesn't meet the claim language of Claim 1, so it would not infringe.**

Q. **Did you hear Dr. Caligiuri's opinions on the doctrine of equivalents and his views as to whether LG's refrigerators infringe under doctrine of equivalents?**

A. **Yes, I did.**

Q. **Did you agree with them?**

A. **No, I did not.**

Q. **Why not?**

A. **This cabinet right here, this section right here, which I call an ice box, this keeps the temperature below freezing. But I think it does it in a substantially different way than the way this compartment down here is kept below freezing.**

The reason I state that is because this is normally in a temperature above freezing. So in order to keep ice in this compartment --

THE COURT: You are talking about the fresh-food section?

THE WITNESS: Yes, this section here is normally above freezing. So in order to keep this ice frozen in here, first we need to provide an insulated storage box. Then we need to bring some air from the freezer compartment, or from the evaporator down here, the refrigeration system, we have to bring air from that evaporator up, supply it to this cabinet through these door seals, which come -- the cold air comes up through some special ducts that they have in the side of the refrigerator here. And that freezer air, from the evaporator, comes up from this supply into this seal into this frozen compartment, the ice compartment, and then back down again to the evaporator, or to the freezer

section.

That type of supply is controlled by a control system primarily for making ice.

Now, an ice control system, to make these ice cubes here, is based on temperatures primarily for efficient ice-making and for rapid ice-making. Those type of temperatures are not really controlled for fresh-food preservation. By that I mean there is no thermostat in here to control the temperature level. You can't set as a customer whether you want your ice cream frozen, hard or soft. This is really controlled just to make ice. So it is a substantially different way than you would have in your normal freezer compartment, where you would put your food, where you get to adjust your frozen temperature.

Q. **How is it done in a normal freezer compartment?**

A. **In a normal freezer compartment, you set the temperature of the freezer as you would like and there is a cooling coil and an evaporator in the back there and a fan and it blows the air for the freezer right into the freezer compartment.**

Q. **Dr. Bessler, what about Dr. Caligiuri's equivalence analysis for the claimed closure member?**

A. **I think Dr. Caligiuri was trying to say that this fresh-food door here and this ice box door here were both part of the freezer closure member. My read of the claim**

language is that, as far as closure members for a freezer compartment, you only have one, that the freezer compartment closure member is something that has to close the access opening to the freezer compartment.

So if we assume that this is a freezer compartment for the moment and this door here would be closing the access opening, I would consider that the freezer door.

This here is closing the access opening of the freshfood cabinet. So I consider this the fresh-food door.

Q. **If we could bring the claim up on the screen, Mr. Brooks, Claim 8?**

Now, Dr. Bessler, do you have an opinion as to whether Claim 8 is infringed?

A. **Yes, I do. Claim 8 is a dependent claim on Claim 1, which was the independent claim we were talking about. So if Claim 1 is not infringed, then Claim 8 would not be infringed as well.**

Q. **How does that affect the other dependent claims that Whirlpool is asserting?**

A. **All of the dependent claims would be the same way. They all depend on Claim 1. So if you did not infringe Claim 1, then you would -- the other claims would not be infringed as well.**

Q. **Is it your opinion that the LG French-door**

refrigerator does not infringe Claim 1?

A. Yes, that is what I was just speaking about.

Q. How about Claim 8, if you could talk to Claim 8?

A. Well, Claim 8, as I said already, it is a dependent claim. But I think there is another reason why Claim 8 is not infringed. That has to do with some of the language in Claim 8.

Particularly, Claim 8 talks about an ice storage bin, and that ice storage bin has an upper member, which has a bottom edge, and it has a lower ice bin member right here connected to the lower edge of the upper bin. Then there is some other requirements on the lower bin. It states that the lower ice bin member has to define an ice-crushing region through which the ice pieces pass.

This type of a bin structure, in my mind, is really well-represented in the '130 patent. If I can put that up?

Q. Is there a figure that you are referring to?

A. I think it's Figure 3.

Q. Mr. Brooks, is it possible to split the screen, see if we can get Figure 3 on one side and the claim on the other.

Claim 8 is the claim I was referring to.

A. Okay. When you look at this, this is Figure 3 from the '130 patent, this type of an ice storage bin is what I call a vertical bin. The reason being is it has an upper

bin, which is right here, I can maybe shade that in yellow, yes, that upper bin right there, that's where the ice cubes are kept.

What happens is the ice maker here in the cabinet dumps the ice into this upper bin, where it sits.

Now, when the auger, which is 172, this thin piece here, rotates, it sends the ice through this opening down here into a lower bin, which maybe we could put a different color, right here. And that lower bin right there is where the blades, these things right here -- it's a side-view -- those are the crushing blades. So basically the lower bin, which is the blue, the lower bin right here, is connected to the lower edge of the upper bin. There is a floor right in here. That would be the lower edge of the upper bin. And the lower bin member, which is the blue right here, defines a crushing region, which has the blades in it, right there.

So I think this type of vertical bin is very repetitive of the language in Claim 8 from the patent that is included.

Q. **Dr. Bessler, how does the language of Claim 8 compare to LG's ice bin?**

A. **LG has a different kind of ice bin entirely.**

Is it okay if I take it out of the refrigerator?

THE COURT: Yes.

THE WITNESS: This is the ice bin that is found in the LG refrigerator. This is what we call a horizontal design.

Can I show the jury?

MR. SPEARS: No problem.

THE COURT: Yes, sir.

THE WITNESS: Thank you.

This bin here is the storage bin from the LG refrigerator. This is what we call a horizontal-style bin, because if you look inside it here, as you can see, this is the shaft here where the auger is, and the ice sits in this side of the bin right here. That's where the ice cubes are kept.

Now, when this auger rotates, it moves the ice sideways into the crushing region. And the crushing region in here is this section right in here where these blades are.

So in a horizontal-type design, it's really a side-by-side design. There is no upper and lower bin. There is an ice storage section with its floor down here, where you keep the ice cubes, and then on the side of it is a crushing region.

So with a horizontal auger you end up with a side-by-side design. There is really no upper and lower bin in this type of design.

BY MR. SHARMA:

Q. **So, Dr. Bessler, what is your opinion as to whether LG's refrigerators infringe Claim 8?**

A. **Well, I think both the side-by-side and the LG French-door refrigerator have these types of bins which don't have an upper and lower bin member. So I would say they don't infringe Claim 8 for that reason as well.**

Q. **When you are referring to the side-by-side LG refrigerators, are you referring to DX-23?**

A. **Yes, the refrigerator like this.**

Q. **And the bin that is inside DPX-23?**

A. **Yes. This bin here has the same type of design, side-by-side, as the bin over there.**

Q. **Dr. Bessler, on the LG side-by-side refrigerators, do you have any additional opinions on infringement?**

A. **Well, relative to infringement on a side-by-side refrigerator, this is a freezer compartment here. And this is a similar type of a structure that was referred to in the prior art, which we will, I guess, get to. It was a JP '165 patent that had a similar type of structure.**

So to the extent --

MR. SPEARS: Objection, irrelevant. The witness appears to be giving a noninfringement opinion based on comparing this exhibit to prior art instead of the specific limitation.

THE COURT: Fair enough. Sustained.

MR. SHARMA: Dr. Bessler, you can return to your seat. Thank you.

(Witness resumes stand.)

BY MR. SHARMA:

Q. **Dr. Bessler, you referred to a JP '165 reference. What is that? What are you referring to?**

A. **I was referring to a prior art reference.**

Q. **Have you heard it called by any other names in here in court since you have been here this week?**

A. **Yes. It's a patent that was granted to Hitachi. So I heard it referred to as a Hitachi patent.**

Q. **Dr. Bessler, I would like to talk to you now as to the validity of the asserted claims of the '130 patent.**

A. **Okay.**

Q. **What is your opinion as to the asserted claims of the '130 patent?**

A. **Well, there are several claims. I believe that Claims 1, 2, 6, and 9 are invalid when you consider the Hitachi patent and also the known ice maker technology at that time.**

Q. **Can you please explain, Dr. Bessler?**

A. **Yes. In a nutshell, I think the Whirlpool patent here is about mounting an ice bin and a motor on the door. When the Patent Office and Whirlpool -- when the Patent Office granted Whirlpool this patent, they didn't have any prior**

art in front of them with that feature.

Now, since then, if you know about the Hitachi patent, that really gives the prior art that was necessary.

Q. Let me see. This is tab 2 of your binder. This is PTX-10. I am trying to get an understanding of what you were referring to when you were talking about the Patent Office.

A. Sure.

Okay, I am there.

Q. What is PTX-10, Dr. Bessler?

A. This looks like it's the Hitachi patent.

Q. PTX-10?

A. Hang on. I am sorry. I got the wrong one here.

PTX-10.

Q. Is that the file history of the '130 patent, Dr. Bessler?

A. Yes. Now that I am here, sure. It's a pretty substantial section of pages.

Q. Let's turn to page 227.

Mr. Brooks, if you could show page 227.

What is this page referring to, Dr. Bessler?

A. This page, in the file history, is an interview summary between the patent examiner and Whirlpool. I think it's talking about what I just mentioned. If we could blow up this paragraph down at the bottom here.

Yes. It's speaking over here about the fact -- let's see, let me find where I am. Maybe starting right here, it says, "it was also pointed out that several problems would occur in trying to mount a prior art auger such as taught in Buchser in a bin that is mounted on a freezer door."

So they are talking there about the problems of putting the motorized auger and bin on a freezer door.

Then it says, for example, you would have wiring, spacing location, the weight of the motor on the door, these were some of the problems.

Q. **Dr. Bessler, what did Buchser teach?**

A. **Buchser was a prior art patent that had a motorized auger and an ice bin, but it was not mounted on the freezer door. It was mounted in the freezer cabinet. So here they were talking about the complexities of mounting that on a freezer door, and then it says next that it was agreed that there was nothing directly in Buchser that would lead one skilled in the art to solving these problems of combining the ice auger with a bin mounted on a freezer door. Based on the fact that they didn't have any prior art, I think that's why the patent was granted.**

Q. **Could you explain?**

A. **Yes. Whirlpool and the patent examiner were agreeing that there was no prior art at that time in front of them**

that had to deal with mounting a motorized auger and a storage bin on a freezer door.

Q. **You talked about an Hitachi reference. How does the Hitachi reference relate to these statements? And the Hitachi reference is in tab 3 of your binder, PTX-130.**

Mr. Brooks, is it possible to split this screen and put the Hitachi reference on the right side?

A. **Okay.**

Q. **It's tab 3, PTX-130.**

A. **I got it. Let me just get to the English translation. Okay.**

Yes, that is the Hitachi '165 patent I was talking about. I think there is a figure in there that is probably a good example of this.

Q. **Mr. Brooks, if we can go to Figure 3, please? Figure 2 and 3. Thank you.**

A. **Yes, that's what I had in mind. Figures 2 and 3.**

Q. **Dr. Bessler, how does Hitachi, which is on the right-hand side, PTX-130, relate to the statements that were made and the agreements made at the Patent Office?**

A. **Well, the agreements made at the Patent Office, we are talking about the fact that nowhere was there a motorized auger and a storage bin mounted on a freezer door. Then it turns out that this prior art patent from Hitachi shows just exactly what they were talking about didn't exist at the**

time. In other words, the Hitachi patent shows that we have a motorized auger here and a storage bin mounted on a freezer door. Here is the freezer door and here is a side-view of the freezer door right here, and here is the storage bin and behind here is the auger and a motor.

So basically, the Hitachi patent is supplying the missing element that the examiner and Whirlpool said wasn't available.

Q. **So how was the examiner able to allow this '130 patent if Hitachi already described the missing element?**

A. **At the time the examiner didn't have the Hitachi patent in front of him. He didn't know about it.**

Q. **Now, what type of ice maker does Hitachi have?**

A. **In the Hitachi patent, if you read the language of it, it talks about what they call an ice-making tray. An ice-making tray is a little bit unclear. In some other Hitachi patents, the ice-making tray actually means an automatic ice maker, because those kind of components can be part of an automatic ice maker. On the other hand, there are other Hitachi patents where an ice-making tray just refers to a simple manual cube tray.**

In any case, I would believe that in a system like this, you would expect that you would have an automatic ice maker present.

Q. **At the time of Whirlpool's '130 patent, how would you**

describe the prior art status of automatic ice makers?

A. **At the time of the Whirlpool -- of the '130 patent?**

Q. **Yes.**

A. **Yes. At that time ice makers were -- automatic ice makers were already well-known and accepted in the industry. Automatic ice makers for refrigerators actually were a pretty old invention. And by the mid-'70s they had become commercialized and they were available in the higher-end refrigerators.**

Q. **Did Whirlpool recognize this in the '130 patent itself?**

A. **Yes. I think in the '130 patent there is some language in the text where they talk about the fact that automatic ice makers were well-known at the time.**

Q. **When we are talking about these automatic ice makers that were known before Whirlpool's '130 patent, where are those automatic ice makers located in the refrigerator in relation to the ice bin?**

A. **Automatic ice makers in relation to an ice bin, generally all the automatic ice makers are located above the storage bin. And there is a very good reason for that. The way these systems work, after ice is made in the automatic ice maker, it's taken from there and placed into the bin. In order to do that, the ice falls out of the automatic ice maker and the easiest way to get it in a bin is just let**

gravity do its work and carry the ice for the automatic ice maker to the bin.

That requires, if you want to use gravity, to put the bin underneath the ice maker, you know, below it in spatial relationship.

If you leave the top of the bin open, then the ice will fall right in there.

Q. **Are you aware of any automatic ice makers that have been placed below ice storage bins?**

A. **No, I am not aware of any that would be below the bin. If you put the ice maker below the bin, then you would have to add some engineering structure to grab the cubes and lift them up and put them in the bin, and that would be a lot more expensive and complicated than just letting gravity do its job.**

Q. **When you were talking about Hitachi and the ice-making trays, you were referring to at some times Hitachi refers to that as an automatic maker and sometimes it refers to that as an ice tray. In the Hitachi reference itself that we are talking about here as PTX-130, does this Hitachi reference suggest a preference for an ice tray versus an automatic ice maker?**

A. **Yes. If you read the '165, the Hitachi patent here, I think it supports my thought that there is an automatic ice maker. Some of the language in the patent talks about the**

need to have some hygiene, that is more hygienic, not to touch the ice cubes.

Q. Dr. Bessler, let's turn to tab 4 of your binder, PDX-148. If we could take a look at that?

Mr. Brooks, if we could bring up PDX-148.

What is this referring to?

A. Yes. This is what I was talking about. In the Hitachi patent, there is some language, it is translated to mean, besides being cumbersome, however, this method of handling has the drawback that cold air is lost by opening and shutting the door, and directly touching the ice by hand is unsanitary.

So the '165 patent, I think, is saying here you don't want to have a manual tray because you are going to have to touch the ice cubes and you are also going to have to open the door and lose some freezer air.

Q. If you used an ice tray in the Hitachi reference, would you describe for me how you would actually have to operate the refrigerator to get ice?

A. If you had a manual ice tray in this refrigerator, it wouldn't make any sense to me, because you have an automatic ice dispenser on the door. So if you wanted to use that, you would have to go in there, take your ice tray, open your freezer door, take your ice tray, dump your cubes into the dispenser, close the door, and go around and press the

dispenser and get the ice dispenser out of your hands, that you did a couple seconds ago. It doesn't seem to make any sense to me.

Q. **If we could go to the next tab in your binder, PDX-146.**

Mr. Brooks, if you could pull that up on the screen.

What is shown on PDX-146?

A. **These are a couple of pages of the GE service handbook for ice-making systems. That handbook covers GE and Hot Point models from the mid-'70s through 1990. These are just a couple of pages from that book showing several different part number ice makers that were available at the time for different refrigerators.**

Q. **PDX-146, these GE ice makers, does that come out of the GE service handbook that has been marked as PTX-177?**

A. **Yes, that is where they are from.**

Q. **Why are there so many different variations or models of ice maker shown?**

A. **Even by that time, in the mid-'70s through the '90s, there were a lot of different models to accommodate different size and type refrigerators, different ice-making rates, different time cycles, things like that.**

Q. **Dr. Bessler, going back to the Hitachi reference, is the bin in the Hitachi reference removable?**

A. **If we could go back to the sketch there.**

Q. **This is at PTX-130, figures 2 and 3.**

A. **Yes. What you asked me, I think, is this bin here on the door removable. And I think if you read the '165 reference, it's not clear as to whether it's removable or not. They don't explicitly say it is or it isn't.**

But in my experience with ice storage bins, they are always removable from the refrigerator. And there is a good reason for that. When you have an ice storage bin, you want to be able to take it out. When you fill large containers, you want to be able to take it out of the refrigerator, when you clean it, take the old ice out of there sometimes.

In my experience, all the bins I am familiar with are removable. And I am pretty sure some of the Whirlpool inventors agreed with me on that.

Q. **Dr. Bessler, let's turn to the next tab in your binder, tab 6, which is PDX-145.**

PDX-145, Mr. Brooks.

What is shown on PDX-145?

A. **Yes. This chart here shows some different prior art. There is several more of these as well. But I chose four of them here as examples. And all of these prior art patents and the GE service handbook there, what they show is an ice maker, which is labeled, and a bin, which you can see, and**

the bins are located on the door, the freezer door. And in the case of the Gould there, that bin is actually a fresh-food door, I think.

Q. **Are the bins shown on this slide, PDX-145, removable?**

A. **Yes, they are all removable. And in all cases, the ice makers are above the bins. The difference is the Winfield, Brubaker and Gould patents show what they call a belt-type ice maker. It is a little bit of a different design in that it has a low-profile horizontal.**

Q. **Are you referring to PTX-374, PTX-375, and PTX-127, respectively?**

A. **Yes.**

Q. **What about the GE handbook?**

A. **The GE handbook shows a different kind of design where they have the ice bin located on the freezer cabinet and they have the ice storage bin located on the freezer door. Even though it is on the door, it is still an ice maker.**

Q. **Dr. Bessler, do you have an opinion as to whether one of ordinary skill in the art would include an automatic ice maker and a removable bin in the Hitachi reference by the mid-1990s before Whirlpool's '130 patent?**

A. **Yes, I do. I believe that an engineer of ordinary skill would certainly include an automatic ice maker in the Hitachi reference and the bin would be removable. But I would say that based on an engineering background at that**

time, anybody of ordinary skill would be familiar with ice makers in an engineering sense, and they would want to include that, especially when you have a sophisticated system with an automatic dispenser.

Q. **Would there be a motivation to combine that automatic ice bin with Hitachi?**

A. **Yes. By that time customers who were buying high-energy refrigerators with dispensing systems would absolutely expect an automatic ice maker to be present. And also, I can't imagine any company allowing that system to be made without having an ice maker.**

Q. **And does the Hitachi reference itself speak to any motivations to combine an automatic ice maker?**

A. **Yes. They suggest in the patent itself the idea of having an automatic ice maker to keep your hands off the ice cubes and to also save on the cold air.**

Q. **Dr. Bessler, could you compare the asserted claims of the '130 patent to the Hitachi and known ice maker and ice maker designs and show how the two compare?**

A. **Yes, I could. If we could, I think I made some charts up with the claims and the language. Let me see which tab it is.**

If you look at PDX-149.

Q. **Dr. Bessler, can you just describe for us how the language of Claim 1 compares the Hitachi application and**

known technology at the time of the '130 patent?

A. Yes. What I have done here is I have put the claim language of Claim 1, of the '130 patent, on the left side, then I put the Hitachi '165 prior art on the right side. And what I am trying to do is show that the Hitachi reference in combination with the known automatic ice maker technology would directly match up with the claims, claim language in the '130 patent.

So if I start right off here with the '130 patent, the first paragraph up here calls for a refrigerator, which we have, including a freezer compartment, which is up here, it has an access opening, which is this door, and a closure member -- an access opening behind the door and then the door for closing it and opening it.

So I would say I could put a checkmark next to this first paragraph and say that that is covered here.

Q. If you could just continue with the next paragraph.

A. Sure. The next paragraph talks about an ice maker being disposed within the freezer compartment for forming ice pieces. As we just discussed, automatic ice makers were well-known at that time, and I would expect they would have one in here. So I put a checkmark on that.

The next paragraph talks about an ice storage bin mounted to the closure member for receiving ice, that's

right here. And that it has a bottom opening, which is over here.

So I could put a checkmark there.

The next part asks for a motor mounted on the closure member, that is this green section right here, that is the motor. So I check that off.

Then we need an auger which is disposed within the ice storage bin, and that's right here. And it's drivingly connected to the motor through a gear box right there. So I put a checkmark on that.

Then it talks about whereupon energizing the motor, the auger moves ice pieces from the bin through a bottom opening. And that's -- this is the auger here. If you have the ice pieces which are shown when the auger turns, it would move them this way, they go through the crushing region and come out the bottom.

So I could check that.

So if I look at the Hitachi reference and I combine it with automatic ice maker technology, I am saying that I have all the elements of Claim 1. So I would say that's invalid.

Q. **What about Claim 2?**

A. **I have a chart for Claim 2. That's PDX-150.**

Q. **How does the language of Claim 2 compare to the Hitachi reference?**

A. **Okay. Claim 2 is a claim -- again, we need a refrigerator, which we have, so we can check that right off.**

And then we need an ice discharge chute through the closure member below the bottom opening in the ice storage bin. Here is the bin. There is a bottom opening here. Here is a chute right down here.

When the motor is energized, the auger moves ice pieces from the bin through the bottom opening to this ice chute. So I would say that's covered as well. As I would put a checkmark there.

In that case, I would consider Claim 2 invalid.

Q. **What about Claim 6?**

A. **Okay. Claim 6 is PDX-151.**

Q. **If you could walk through and compare the language of Claim 6 briefly with the Hitachi reference.**

A. **Claim 6, we have a refrigerator with an ice storage bin, so we can check that.**

And it says that the ice storage bin defines a crushing region through which the ice pieces pass, which is right here, the ice goes through this crushing region right here. When they are discharged from a bottom opening. And the ice-crushing region has an inlet opening, which is right here. So I check that box off.

We have an auger, where the shaft passes into the crushing region, so I check that.

And we have an ice crusher blade rotatably connected to the shaft for rotation, that's this yellow blade right here. It turns around when the auger turns. And we have -- so we can check that off.

Then we have a stationary blade, which is the blue one right here which sits right there, that is fixed. When the ice crusher blade rotates past, it moves into that other blade. So we have the stationary blade met as well. We can check that off.

So we have all the elements of Claim 6. I would say that's invalid as well.

Q. **Dr. Bessler, I think the other claim you mentioned was Claim 9, that is PDX-153. Tab 11 of your binder, Claim 9.**

A. **Okay.**

Q. **Can you please compare the language of Claim 9 to the Hitachi reference and known technologies at the time of the Whirlpool '130 patent?**

A. **Yes. This claim here is talking about a storage bin, which we have right here. It says it's removable from the freezer compartment. As I stated, I consider all bins at the time in that technology to be removable. So we have a removable storage bin. I checked that as well.**

Q. **Dr. Bessler, based on your analysis, what is your opinion as to the obviousness of Claims 1, 2, 6, and 9 of the '130 patent?**

A. **I believe that those claims are invalid because they are obvious when you combine the Hitachi reference with the known automatic ice maker technology that I talked about.**

Q. **And what about removable bins?**

A. **That automatic technology includes the ice makers, removable bins, and the fact that the ice maker would be above the bin.**

Q. **And are there any examples of prior art references that you are referring to?**

A. **For those examples, yes. There was a chart I had before with the four prior arts, then there was quite a few other ones as well.**

Q. **Is PDX-145 what you were referring to?**

A. **Yes, I think that's the one.**

Yes. That shows four possible examples from the prior art.

Q. **Dr. Bessler, what about Claim 8? That is the last asserted claim of the '130 patent.**

A. **Yes. We could put that up, I think I have a PDX here.**

Q. **PDX-152, tab 10.**

A. **Okay. Yes. This is Claim 8, the one that talks about an upper and a lower bin member.**

Now, as I stated before, the Hitachi reference, in my opinion, doesn't really have an upper and lower bin

member. It's a -- it's more of a horizontal design, just like LG has a horizontal design.

Now, if that's the case, you know, I don't agree that it has an upper and lower bin. However, Whirlpool is asserting that we are infringing this claim. So, indeed, if these type of bins match -- if the LG-type bin, which is like this one, matches the claim language here, then the Hitachi patent would also match the claim language. And that would make this claim invalid.

Q. **Dr. Bessler, last subject, willful infringement. I am going to try to move through this quickly, Whirlpool's claim of willful infringement.**

A. **Yes.**

Q. **What is your opinion on willful infringement?**

A. **I disagree that LG willfully infringes the '130 patent.**

Q. **Now, what did you consider in arriving at your opinion on willful infringement?**

A. **When I considered my opinion, I considered the same documents I talked about earlier, which are the same ones that Dr. Caligiuri considered. And I also considered a couple of other things. I considered the final Bics report that LG issued, and I also considered a patent application that LG filed on some of their refrigerator ideas.**

Q. **What is your understanding of the willful infringement**

test?

A. **Not being a legal expert, I recall there is some terminology called "objectively reckless." In order to be a willful infringer, you have to be objectively reckless. And the way I see that is, it means that if you knew about the '130 patent, then you wouldn't have made any efforts to try to come up with something different. You would just go straight ahead and build the same thing, that would be reckless.**

Q. **Dr. Bessler, you mentioned that you reviewed documents, several documents. What did these documents tell you?**

A. **Well, overall, they told me that LG knew about the '130 patent, they recognized it. And then they took some steps to try to come up with an idea that was different. And they did that by looking at prior art and using some of the older patents, like Hitachi, that had already expired, so that they could use that technology without any trouble and also coming up with some of their new design concepts, like putting the ice maker on the door.**

Q. **Dr. Bessler, when did LG first consider placing ice bins and ice makers on a freezer door?**

A. **Well, they had a Korean patent application, which I think was filed in 1997.**

Q. **If you could turn to tab 12 of your binder, PTX-380.**

Mr. Brooks, if we could put up PTX-380, please. If we can flip to the English version of it.

A. **Yes, that is the one.**

Q. **What is PTX-380?**

A. **PTX-380 is a Korean patent application that was filed in Korea, and I am looking for the date there. I think it's December 16, 1997.**

MR. SPEARS: Objection. Confusing and irrelevant. I don't see what this has to do with the concept of objective recklessness, the fact they filed patent applications here.

MR. SHARMA: Your Honor, I am trying to show context for LG's state of mind before Whirlpool's patent even issued, what they were doing and how what they were doing continued and evolved after they saw the '130 patent and how it evolved with the Hitachi reference. I am just trying to provide that context.

THE COURT: Overruled.

BY MR. SHARMA:

Q. **Dr. Bessler, I apologize. If you could continue. What is the date on PTX-130, this LG Korean application?**

A. **It's highlighted there. This was filed December 16, 1997.**

Q. **How does that compare to the filing for Whirlpool's '130 patent?**

A. **It's approximately one year before. That patent, I think, was filed in December of '98.**

Q. **Are you able to identify who the inventor is on this LG Korean application?**

A. **Yes. If you go down there to I guess it's No. 72, it says the inventor is Yong Shik Kim.**

Q. **Now, what does this Korean application, PTX-38, describe?**

A. **Well, it describes some of LG's idea that they had at that time regarding ice makers and storage bins on a freezer door. And that's shown on figure -- I think it's Figure 5 and 6.**

Q. **Mr. Brooks, if you could please bring up figures 5 and 6. Can you describe what is shown here, Dr. Bessler, in figures 5 and 6?**

A. **Yes. These are a couple of figures from that application. And what the bottom one shows down here is the automatic ice maker. This is one of those ice-making tray types, so the cubes in here actually form ice and then they are twisted out with a motor here. And there is an ice bin down here with an auger and a hole for discharging the ice. That whole ice-making and storage assembly is located up here on the freezer door.**

And then down below it here, I think that's No. 5, is a -- No. 5 is where the dispensing section is that

would send the ice out to the front of the door.
Q. Dr. Bessler, can you turn to tab 13 of your binder? This is PTX-381.
What is PTX-381?
A. PTX-381 is the LG completion report for the Bics project. I believe it's the final version of that report.
Q. Can you turn to page 20, please?
Mr. Brooks, if you can expand under "Self-Evaluation and Thoughts."
I think this is a document we have seen a lot in the past few days. What is being described under that heading, if you can just briefly describe it?
A. Sure. I mean, one of the bullets there under that heading is LG believes they were successful in avoiding Whirlpool's patent bank area, and that they formed their own new patent layer, and established themselves as well.
Q. Dr. Bessler, do you believe that LG's stated conclusion was objectively reckless?
A. No, I don't. I believe what we are saying here is they knew about Whirlpool's patent and that they did a lot of hard work to come up with an idea and use prior art so that they avoided Whirlpool's patents.
Q. What prior art are you referring to?
A. That would be the Hitachi patent we were talking about.

Q. **So then, Dr. Bessler, all things considered, how does LG's behavior compare to the objectively reckless standard?**

A. **I don't think that they were recklessly objective -- reckless at all.**

In fact, I think they were cautious. I think they spent a lot of time evaluating the '130 patent, and then looked for ways to come up with something totally different.

Based on my experience, that's what you would do if you were developing a new product. You would find out everything you could about what was out there, what the patents were, and then come up with something different.

Q. **How does LG's behavior compare to the work that you did at GE?**

MR. SPEARS: Objection.

THE COURT: I will sustain that objection.

MR. SHARMA: No additional questions. Thank you, Dr. Bessler.

THE COURT: I think it might be prudent, I will be guided by your thoughts, Mr. Spears, to take our lunch now.

MR. SPEARS: I will be closer to a half-hour than 15 minutes.

THE COURT: Let's take our lunch, ladies and gentlemen.

(Jury leaves courtroom at 12:47 p.m.)

(Luncheon recess taken.)

THE COURT: Okay. Ms. Walker.

(Jury enters courtroom at 1:47 p.m.)

THE COURT: All right, ladies and gentlemen. Please take your seats.

Mr. Spears, you may cross-examine.

CROSS-EXAMINATION

BY MR. SPEARS:

Q. **Dr. Bessler, were you in the courtroom when Verne Myers testified about all the time and effort that went into the development with his in-door-ice invention? Were you in the courtroom for that testimony, sir?**

A. **Yes, I was.**

Q. **Likewise, were you in the courtroom when various Whirlpool witnesses testified about the reception of that invention in the marketplace and the significance of that invention to Whirlpool's business? You have heard some of that testimony as well, haven't you?**

A. **Yes, I have.**

Q. **Now, in light of the importance of this invention to Whirlpool, would you agree that it would be unfair for any expert to even question the validity of the '130 patent until he had made a thorough study of all of the relevant information available to him?**

A. **I believe that I have studied all the relevant information.**

Q. **Fair enough.**

I believe you indicated that it would be unfair to look at LG's '121 patent using hindsight. Do you recall that testimony?

A. **Yes, I mentioned that this morning.**

Q. **And it would be every bit as unfair to look at Whirlpool's '130 patent using hindsight. Correct?**

A. **My understanding of hindsight is it's not appropriate for patent evaluation, that's right.**

Q. **Okay. Now, your opinion that the '130 patent is invalid, that is an opinion that you didn't form until sometime after 2007. Correct?**

A. **I would say it's probably after 2007.**

Q. **Yet you are aware that as early as 2001 or 2002, LG's engineers were working on the development of a refrigerator that would have an ice bin placed on the door?**

A. **I don't recall exactly when they started their work.**

Q. **But it was a lot earlier, years earlier, than you began your analysis of the validity of the '130 patent. We can agree on that, can't we?**

A. **When I actually did the analysis, yes.**

Q. **Now, if the jury finds that what these LG engineers were writing in their documents about the IDI invention is**

inconsistent with the opinions that you have provided them, it would be perfectly reasonable for them to either question your opinions or just disregard them entirely. That would be a reasonable thing for them to do. Right?

A. **Could you just repeat the first part? If what happened?**

Q. **If the jury believes that what LG engineers were writing in their documents about Whirlpool's invention is inconsistent with the opinions that you have provided them, it would be perfectly reasonable for them to either question your opinions or disregard them entirely. That would be a reasonable thing for them to do. Right?**

A. **It would be reasonable. I am just not sure what you mean by "inconsistent." We have had a lot of translations of Korean documents, so in my estimation sometimes the wording comes across a little bit confusing, if you will, due to the translations.**

Q. **Let's talk about some of the wording that we have seen during the course of this trial.**

We have seen up on this screen LG documents that talk about Whirlpool's IDI as advanced technology. Right?

A. **We have seen those documents talking about the Whirlpool patent, and as I mentioned, LG was well aware of that.**

Q. **Right. And we have seen them refer to Whirlpool's**

advanced technology and uniquely advanced technology. You have seen those words in LG's documents. Correct?

A. **I have probably seen them. I can't recall the document numbers or exactly where they were, but we have seen a lot of phrases up on that screen.**

Q. **I take it from the testimony that you have just provided that you don't think IDI is advanced technology at all, you think it's old technology and obvious technology. Is that correct, Dr. Bessler?**

A. **When you say I don't agree that it's advanced technology at all, I don't think I said those words. I said that LG's products don't infringe the '130 patent. And I think that the claims that we looked at, those specific claims, I said, were obvious in view of some previous patents that I was aware of.**

Q. **So if I understand your testimony correctly, you have no reason to question that IDI is advanced technology or uniquely advanced technology?**

A. **When you say "question," you are asking me about advanced technology. Technology is what it is. I mean, Whirlpool has put out a product. What I am saying is that LG's patents -- well, Whirlpool's patents are not infringed by the LG refrigerators.**

I don't think I was passing judgment on whether Whirlpool's technology was advanced or not.

Q. **Let's move on, Dr. Bessler. I would like to talk about the Hitachi reference that you spent a fair amount of time discussing with the jury.**

I believe you indicated, because I was very careful to write it down, that this Hitachi reference was in your view a patent granted to Hitachi. Do you recall that testimony?

A. **If I said that, I am not sure I said those exact words, but I think it's a patent application.**

Q. **That's correct, Dr. Bessler. It is not a patent that was granted to Hitachi, is it?**

A. **If I said that, I misspoke. It's what they call a patent application, which, I am not a legal -- I can't explain the details of that, but I believe they applied for that patent, so they call it an application.**

Q. **Insofar as you know, the Japanese Patent Office never even looked at that application, much less granted it as a patent to Hitachi?**

A. **I don't really know the answer to that question.**

Q. **Now, the language in that Hitachi reference that you thought disclosed an automatic ice maker reads ice-making tray. Correct?**

A. **Yes. And as I mentioned, I think that ice-making tray is unclear.**

THE COURT: Let me establish some ground rules.

If you answer his questions, you will have a chance to answer additional questions from Mr. Sharma. It will probably go quicker if you just answer his questions.

THE WITNESS: I am sorry, Your Honor.

BY MR. SPEARS:

Q. **I believe you indicated in response to Mr. Sharma's question, that same phrase, "ice maker tray" was used in other Hitachi patent applications to refer to the sort of manual ice tray that I might pour water into, stick in a freezer, and then empty once that water is frozen into ice?**

A. **I mentioned that other Hitachi patents or applications had it both ways.**

Q. **Now, when you reviewed the Hitachi reference, I take it you didn't see any illustration of an automatic ice maker in the figures of the patent. Correct?**

A. **Yes, as I mentioned, I didn't see one. But I suspected that a normal engineer would expect that one would exist at that time.**

Q. **Sure. And I believe you have indicated that the position you would expect to find an automatic ice maker would be above the ice bin. Correct?**

A. **Yes.**

Q. **And the Hitachi reference doesn't say anything about where the ice-making tray is located, correct?**

A. **I don't think it says anything explicitly. But as I**

said, automatic ice makers are always placed above a bin, and any engineer would know that.

Q. I understand that opinion.

Now, if the bin in the Hitachi reference were meant to be used with an automatic ice maker, you would expect to find some type of overflow prevention structure so you don't have this sorcerer's apprentice situation where the ice is overflowing out into the refrigerator and out into your kitchen. Right?

A. If an automatic ice maker was in there, you would have to have some mechanisms for controlling the ice flow. And they can be on the bin or they could be with the ice maker.

Q. My point is, Dr. Bessler, there is no such structure illustrated in the Hitachi ice bin. Correct?

A. It is not in there because I don't think a normal engineer would need to see it in there.

Q. Let's look at something that is actually in the Hitachi reference. And I would like to direct your attention to page 6 of the translation, to the text that appears right above the description of the drawings. If we could have that up and enlarged.

Here we see a statement that "By attaching the entire device on the inner side of the door 2, among other significant practical effects, the capacity of the freezer compartment can be used more effectively," and here is the

part I am interested in, "and the operation of emptying ice cubes 4 from the ice making trays into the ice storage section 5 is more pleasant."

Are you with me, Dr. Bessler?

A. **Yes, I am.**

Q. **Now, when an automatic ice maker empties ice cubes, that's not a pleasant experience for the ice maker, is it?**

A. **I don't believe ice makers have the ability to experience pleasure.**

Q. **You answered my question, Dr. Bessler.**

Would it be reasonable for the jury to conclude from this language that what it's talking about is a pleasant experience encountered by the user of the ice-making tray upon removing this manual ice tray and emptying it into the bin? Is that at least a reasonable conclusion that the jury could draw from this language?

A. **I don't think so. I think that that would tell me something totally different.**

Q. **Okay. But if the jury does draw that conclusion, that there is no automatic ice maker in the Hitachi reference, you have, nevertheless, provided an alternative opinion that it would have been perfectly obvious to stick one in there at least as late as 1998. Correct?**

A. **An engineer of ordinary skill would be able to do that, that's right.**

Q. **Could we have Figure 1 of the Hitachi reference put on the screen?**

Easy question, Dr. Bessler: That refrigerator, that is a top-mount refrigerator. Correct?

A. **Yes. That is referring to the fact that the freezer cabinet is on the top section up there.**

Q. **And once this top-mount refrigerator is modified to include an automatic ice maker, what we would have is a top-mount refrigerator with an automatic ice maker stacked above an ice bin, stacked above some type of dispensing port to get ice out of the door. Correct?**

A. **Depending on how you arrange your dispenser, the ice maker would have to be over the bin, and then you would have to decide, like the schematic shows there, how your bin and dispenser were set up.**

Q. **To move this examination along, I would like to refer to that configuration of top-mount refrigerator, one with an ice maker, a bin beneath it, and some type of dispensing portion of the door as the obvious refrigerator. Okay?**

For the next set of questions, I would like for you to turn to tab 6 in your binder, where we have placed a copy of Defendants' Exhibit 815. I would like you to turn specifically to page 95 of that exhibit.

A. **Did you say tab 6?**

Q. **Yes, it's tab 6, I believe. And the jury has seen a**

bit of this before when Dr. Caligiuri testified. What we have here --

A. **I am sorry. Could you just tell me the page again?**

Q. **Page 95. There is no page number actually on 95, so you may have to look at 96 and work your way backwards, or 94 and work your way forwards, whatever the case is.**

A. **Okay.**

Q. **What this is, Dr. Bessler, is a listing of various LG top-mount refrigerators that are at issue in this case. And the X on the right-hand box indicates that they are accused of infringing the '601 patent, whereas the absence of X's under "In-Door Ice Storage" indicates that they are not accused of infringing the '130 patent. Do you understand that?**

A. **I think so.**

Q. **Okay. So on pages 95, 96, and through the first half of 97, what we have are a listing of maybe 50, 60, 70 different LG top-door refrigerator models, none of which have in-door-ice in them. Correct?**

A. **From this chart, it looks like there is no in-door-ice in top mounts. And I would say that's pretty normal in the marketplace, because those type of refrigerators aren't really what they call like a high-end or even a mid-range refrigerator. They are generally very low cost, sort of commodity builder models. And they generally don't have the**

features of these high-end ones like are in the courtroom.
Q. I think we might be moving to a point of agreement, Dr. Bessler. I would like to ask a couple of followup questions on it.
So out of all these LG top-mount refrigerators, not one of them is the obvious refrigerator that would have the ice bin, the automatic ice maker, and the three-door dispense system. Correct?
A. I think, when you are saying "obvious," you are using it in a legal sense. This is just showing in the marketplace, there is not any top-mount refrigerators that are sold commercially by LG with that type of dispenser in the door. It doesn't mean it can't be done, and I know over time there have been models with dispensers in that type of arrangement.
Q. Dr. Bessler, if we were to go to bestbuy.com and look at all the top-mount refrigerators that were offered by Best Buy today, what we would see is a couple of hundred top-mount refrigerators offered by various suppliers and not one of them would have the automatic ice maker, the ice storage bin, and the three-door dispense system that you would say would have been obvious to make in 1998 based on the Hitachi reference?
A. I would say it would be obvious to make from an engineering standpoint. I think what you are confusing

there is from a marketing standpoint, I don't think the customers are asking for those kind of features in a top-mount refrigerator.

Q. To that extent, I don't think we need to take you to bestbuy.com. You are perfectly willing to accept that if we went there, we would not see a top-mount refrigerator with that feature set. Correct?

A. I would say without going there I could take your word for it.

Q. I would like to talk about one reason we might not be seeing these obvious refrigerators either offered by LG or offered by any of the suppliers who retail through Best Buy.

MR. SPEARS: May I approach the refrigerators, Your Honor?

Q. I am standing next to DPX-23, the representative side-by-side model that is accused of infringement. This freezer compartment, it's almost as tall as I am, isn't it?

A. Yes.

Q. So there is plenty of room in this freezer compartment to fit an automatic ice maker above the storage bin, above the dispense system, to the door. Correct?

A. In that type of design, because it's a tall and narrow freezer compartment, LG has elected to put a design together that fits well into that type of a space.

Q. Okay. Now, if I were to take this and walk it over to

this top-mount refrigerator, it won't fit in the freezer compartment, will it, Dr. Bessler?

A. I am sure it won't fit in that refrigerator. And that's because that type of design is made for a side-by-side refrigerator, which has a much taller freezer opening. When I showed one of my references this morning, there is different kinds of ice makers, particularly belt ice makers, which have a very low aspect ratio. And there is no reason I couldn't apply something like that.

Q. Okay. Now, Dr. Bessler, when you were at General Electric, working on the design of refrigerators, isn't it the case that you and your fellow engineers actually tried for years to come out with a refrigerator that had an in-door storage bin for ice, an automatic ice maker, and a three-door dispense system? That's something that GE actually tried to develop. Correct?

A. We did actually develop it in the lab. We had some prototypes I was involved with that were made. They never found their way to production. But we had them working in the lab, that's true.

Q. And I take it the reasons that GE never came out with that product included financial reasons, safety reasons, and technical reasons, too?

A. You know, I'm not really sure what all the reasons were. But I would say it was a combination of factors and

could well involve the things that you were talking about.

MR. SPEARS: May I approach, Your Honor?

THE COURT: Yes.

BY MR. SPEARS:

Q. I am going to show you a copy of a deposition that you provided on October 15th of 2008. And I have actually put a cellophane tape on the specific testimony that I would like to direct you to.

MR. SHARMA: Your Honor, if this is being used for impeachment, this is improper impeachment.

(The following took place at sidebar.)

THE COURT: Hasn't he agreed with you?

MR. SPEARS: He kind of waffled on whether they included technical reasons. I got an "I am not sure."

MR. SHARMA: I believe it is entirely consistent with that testimony, Your Honor (handing document to Court.)

THE COURT: I agree with Mr. Sharma.

(End of sidebar conference.)

BY MR. SPEARS:

Q. Dr. Bessler, insofar as you know, the first refrigerator maker to actually come out with a refrigerator that had Whirlpool's in-door-ice invention, that was Whirlpool. Correct?

A. The first manufacturer that had their invention?

Q. The first one to bring to market this in-door-ice

invention, that was Whirlpool. Correct?

A. **I would say in modern times that I can think of now, the first ones to come out with the ice in the door, the bin, and the auger motor in the U.S. market? Is currently, the only one I can recall, is Whirlpool.**

Q. **And that was done in the year 2000. Correct?**

A. **I am not sure exactly what year. I remember Mr. Voglewede was mentioning something around that time frame.**

Q. **This was almost 25 years after this Hitachi reference that we have been talking about published. Correct?**

A. **Yes, that would be about 25 years, between those two periods, yes.**

MR. SPEARS: May I approach the refrigerators, again, Your Honor?

THE COURT: Yes.

BY MR. SPEARS:

Q. **I would like to talk briefly about this French-door refrigerator, Dr. Bessler.**

A. **Okay.**

Q. **You don't dispute that the region inside this ice box is maintained at a freezing temperature, otherwise the ice would melt, right?**

A. **Yes, I agree that that is a freezing temperature.**

Q. **Likewise, you would agree that if I want to get to that ice box, I have to open this left-hand door. Correct?**

A. **You would have to open that left-hand door to get into the fresh-food cabinet, is what I believe.**

Q. **But I can't get to this ice box if I don't open the left-hand door. Correct?**

A. **Well, the way you are looking at it there, if the door was already open, you could get in the ice box by opening the ice box door.**

Q. **One last question, Dr. Bessler. This door, it's a closure member. Correct?**

A. **I only see that door as a closure member for the fresh-food cabinet, not as a closure member for the freezer cabinet. I think each opening needs one closure member.**

Q. **Now, that ice box, you have seen, have you not, LG documents that refer to it as a freezer? You have seen those documents, haven't you?**

A. **I believe I saw one translated document. It may have even been handwritten where some engineer marked the word "freezer."**

Q. **Could you turn to tab 17 of your binder?**

There we have placed a document which, for the record, bears LGKR production Nos. 126715 through 762. Are you with me?

A. **You said tab 17?**

Q. **Correct.**

A. **Yes. It says "Exhibit A" in front of it?**

Q. **No, I don't think that is it. Exhibit A should be tab 16.**

A. **All right. I have Exhibit A in tab 17.**

Q. **We can move on, Dr. Bessler.**

Now, I believe you indicated to Mr. Sharma that it's your opinion there was no willful infringement in this case on LG's part with respect to the '130 patent.

A. **Yes, that's what I said.**

Q. **And that it is your opinion that instead of following the Whirlpool in-door-ice refrigerator, that what LG was really doing was following up on the Hitachi refrigerator. Correct?**

A. **Well, when you say "following up on," I think what LG was doing is, they were looking to see how they could come up with a system that did not infringe the Whirlpool patent. And part of that was using existing technology, like the Hitachi patent, and part of that was using some of their new ideas that they had.**

Q. **Now, I would like for you to look at that Exhibit A that you found in your binder.**

A. **Okay.**

Q. **And I believe that that Exhibit A is a list of information that you have reviewed in connection with your work in this case. Correct?**

A. **It's got a lot of documents on it. I imagine at one**

time or another I have seen every one of them.

Q. The heading of Exhibit A is -- it indicates it's information that you have reviewed. Correct?

A. Correct.

Q. And not only is it information that you have reviewed, it's information that, according to your expert report, you have reviewed and relied upon in connection with your work in this case?

A. Okay.

Q. And one of the bits of information that you reviewed and relied upon is the deposition of a gentleman named Greg Garavalis. Do you see that on Exhibit A?

A. I see it on Exhibit A here. The name doesn't ring a bell with me immediately. But I am seeing it's on the list here.

MR. SPEARS: May I approach the witness, Your Honor?

THE COURT: You may.

BY MR. SPEARS:

Q. I am handing you a copy of the transcript of the deposition of Greg Garavalia. And what I would like to do is have you read along while we play video of certain pages which I am about to identify for you and Mr. Sharma. Those pages are 66, line 20, through 68, line 9?

THE COURT: Do you want to mark that in some

way?

THE WITNESS: Page 66, you said?

THE COURT: Mr. Spears, why don't you stay there.

MR. SPEARS: I need my notes, Your Honor.

THE WITNESS: You said page 66, line?

MR. SPEARS: It's 66, line 20, through 68, line 9.

THE COURT: Mr. Sharma?

MR. SHARMA: Your Honor, I have a question as to what purpose this is being used for. Is this impeachment?

THE COURT: We will find out in just a moment. I am going to have him mark the relevant questions. You can follow along, and if we need to, we can discuss it at sidebar.

BY MR. SPEARS:

Q. After that, 69, line 11, through 71, line 5.

A. If you don't mind, the first ones start at page 66, line 20, and ended at --

Q. 68, line 9.

A. Then you said 69, 11, to page 71, line 5.

Q. Then 71, line 9, through 74, line 5.

We have it all marked out, Your Honor.

MR. SHARMA: Excuse me, Your Honor, I am not sure what the purpose is. As I look at the testimony, it

doesn't appear to be anything --

THE COURT: Let him ask a question.

BY MR. SPEARS:

Q. **Shall we play the tape, then?**

THE COURT: Let's talk.

(The following took place at sidebar.)

THE COURT: I had forgotten we were ready to go to the videotape.

MR. SPEARS: We have heard from three witnesses now. It is more clear with the prior two witnesses than Dr. Bessler that LG wasn't at all interested in the '130 patent, that what they really had in front of them in their development effort was the Hitachi reference.

What this testimony is going to show, and this is information he reviewed and relied upon, Rule 705 gives me a lot of leeway in cross-examining that sort of thing, so what this information will show is that the very first time that in-door-ice was displayed to the public in a trade show in Las Vegas, that LG's representatives were so interested that they not only crowded the booths, but they broke in at midnight later.

I will note that the reason that LG insisted on bringing Mr. Marcy was, according to Mr. Coyne, to preempt this very testimony. They expected all along that we would put it in, and this is the place we are putting it in. It's

only seven minutes long. I have five minutes with this witness when I am done. And none of the testimony was objected to at the deposition.

MR. SHARMA: Your Honor, first, it's hearsay. Second, it appears to be an improper depo designation.

THE COURT: Let's deal with the hearsay.

MR. SHARMA: We haven't even established that Dr. Bessler has relied --

THE COURT: We established that he relied upon it. You need to move on from that. It's listed on the information that he just acknowledged, the list, Exhibit A, that lists all the information upon which he relied. He relied on it. Go ahead. There may be another basis.

MR. SHARMA: It appears to be improper deposition designations. This was never designated.

THE COURT: Wait. That's altogether different from live witnesses -- witnesses who would otherwise be potentially live witnesses. That doesn't fall within the deposition designation protocol, as I understand it.

MR. SPEARS: No.

MR. SHARMA: Is it being played for impeachment purposes?

MR. SPEARS: It is being played under Rule 705 to get in front of the jury what this witness relied on.

THE COURT: Just a second. I want to refresh my

recollection on the rule we are applying. It's not a situation that we often encounter.

MR. SHARMA: Your Honor, would you mind if I get my rules?

THE COURT: No. Get your rules.

Are you there, Mr. Sharma?

Here is the language that Mr. Spears is relying on. It is the extension in the ruling. It provides: "The expert may in any event be required to disclose the underlying facts or data on cross-examination."

I am assuming I am correct.

MR. SPEARS: Yes.

THE COURT: I have to say, in 11 years of doing this, it's the first time it has come up. I am going to permit it.

(End of sidebar conference.)

MR. SPEARS: I believe we are ready to play the tape now.

(Deposition played as follows:)

"Question: Mr. Garavalia, Mr. Abraham has asked you some questions about an incident that occurred at a trade show, and I'd like to sort of follow up to put everything in orderly progression. Where was this trade show that you were discussing held?

"Answer: In Las Vegas.

"Question: And in what month and year was this trade show?

"Answer: I believe it was in January of 2000.

"Question: Did you personally attend this trade show?

"Answer: I did.

"Question: Could you describe for me what your responsibilities at this show were?

"Answer: Responsibilities at the show specifically?

"Question: Yes.

"Answer: I worked the -- I was involved in -- principally, since it was a new product, new launch, I was working the -- working the booth and discussing not just this product but other products in refrigeration to vendors. Suppliers -- mainly vendors --

"Question: What was this.

Answer: -- trade vendors.

"Question: What was this new product that you referred to in your last answer?

"Answer: And the new product was in-door ice, that's the feature, we call it in-door ice, but it was the Conquest refrigerator, as it was the name that we gave -- that we gave the product, Conquest was the name of the product, and Conquest included in-door ice as one feature.

There were more features than that, including a new door styling on the outside.

"Question: Where in Las Vegas was this booth set up?

"Answer: It was at the convention center.

"Question: Okay. And did the Las Vegas convention center have its own security?

"Answer: They did.

"Question: Okay. While you were in the booth displaying Whirlpool's IDI product, did any LG employees visit the booth?

"Answer: They did.

"Question: What did they do?

"Answer: I have a -- my -- what I remember about this show and LG in the booth was as we were trying to discuss the -- the new product with our trade partners, we were coming into the conversation in close proximity to our trade were LG employees. And it was -- it wasn't conducive to a good business conversation, when it was not two people talking. It was with two plus the competitors that were sitting there -- standing there, and so we were having to ask them to leave the booth and come back at another time.

"Question: And did they come back at another time?

"Answer: They came back.

"Question: At what time did they come back.

"Answer: Well, they came back at different times --

"Question: Mm-hmm.

"Answer: -- obviously, but they -- but the -- frankly, the problem we had was we had -- it was a -- a lot of interest in this product. It was a very well-attended show, and we had a lot of traffic with a lot of foot traffic, people, vendors, trade partners, kitchen designers, architects, just to name the type of people who are there. We had a -- we were busy in front of the product explaining what this product was and what the innovations were, so they were having a hard time -- LG was having a hard time getting time in front of the product without us with having another trade partner there.

"Question: Okay. Was any incident reported to Whirlpool about LG trying to get time in the -- in front of the product when Whirlpool wasn't there?

"Answer: The incident -- there was an incident in the middle of the night.

"Question: Okay. Please describe that incident.

"Answer: Well, to set that up, what -- one -- one of the mornings, and to my recollection it was either a Friday morning or a Saturday morning, when I went -- and

before the booth opened, and I want to say the booth opened at 9:00 or 9:30 in the morning, I would get there early just to make sure the product was cleaned, wiped down, presentable in a showroom fashion to our trade partners.

"When I went into the booth that morning, we already had employees in the booth waiting for the show to open, and there was common -- there was a -- there was common knowledge at that point that an incident had taken place that evening -- that night before of two LG employees being in the booth and that they're -- and this -- at the time. I thought it was kind of funny that their badges had been removed from them while they were there by the venue security, and then those -- and we were informed of it. 'We' being Whirlpool, was informed of it, of the incident, and that would have been Diana Seaman and Mark Raglan. Mark Raglan is the -- at that time was the Director of Training for our training organization. One of his responsibilities was administration and running of our trade shows that we attended.

"Diana Seaman was the manager for our trade shows. So it was her responsibility to manage the show, put -- organize it, put the schedules together. Just, she was the point of contact. So the venue security reached out, informed Diana and Mark that there was this incident with these two employees, and the word spread from there

that -- that an incident had taken place, and it was, again, all our -- and all our employees knew about it at the time.

"Question: So it was the venue security that caught the LG employees?

"Answer: It was the venue security that caught the LG employees.

"Question: At what time?

"Answer: I don't recall what time, it was in the late evening. I think the words used to describe it was middle of the night, whether that was middle of the night, 2 in the morning, or 11:00, it was late.

"Question: Where in Whirlpool's booth were these LG employees caught by the venue security?

"Answer: They were caught in front of the Conquest refrigerator which had the new in-door-ice feature.

"Question: Okay. January of 2000, this trade show in Las Vegas, was this the first public exhibition of Whirlpool's in-door-ice refrigerator?

"Answer: It was."

BY MR. SPEARS:

Q. **One last question, Dr. Bessler.**

Do you still think that LG did not copy this invention?

A. **Yes. I absolutely do. I have been to a lot of those trade shows myself. And other than the odd hour, it's a**

public display of your new products. I remember when GE had new products, our displays were mobbed by competitors. And there was nothing wrong with them looking at our new products. They were going to look at them one way or the other. That is what the trade show is all about.

MR. SPEARS: Pass the witness.

THE COURT: Mr. Sharma, your redirect.

MR. SHARMA: Your Honor, may I approach one of the refrigerators?

THE COURT: Yes, you may.

REDIRECT EXAMINATION

BY MR. SHARMA:

Q. **Dr. Bessler, can you hear me from here?**

A. **Yes, I can.**

Q. **Mr. Spears had asked you questions about this refrigerator and he was asking you questions about this left fresh-food door. Do you recall that?**

A. **Yes.**

Q. **And he was asking you questions about this ice box inside the French door. Do you recall that?**

A. **Yes, I do.**

Q. **Can you see the butter bin that is in the left French door?**

A. **Yes, I believe they call it either a dairy or butter bin, that's right.**

Q. **What relationship does this butter bin door have to the right French door?**

A. **They are two totally different doors. The one is the fresh-food door, the one right there, and the other one inside closes the butter bin. That is the butter bin door.**

Q. **Would you call the right French door, DPX-22, a butter bin door?**

A. **No, I would call that a fresh-food door.**

MR. SHARMA: No further questions, Your Honor.

THE COURT: Thank you, Dr. Bessler.

(Witness excused.)

MR. SHARMA: Your Honor, for our next witness, we will have some deposition designations from Mr. Willis of Whirlpool.

THE COURT: They are going to be played?

MR. SHARMA: That's right, Your Honor. Very short. Half a minute. It may not be that long.

Your Honor, we have a witness sheet for the jurors' binders, listed in the binder.

As background, we are going to be playing video of the deposition testimony from Mr. Willis. Mr. Willis is a 30-year employee of Whirlpool.

Mr. Brooks, can you play the video, please?

(Video played as follows:)

"Question: So every single ice bucket that

you've worked with at Whirlpool for 30 years has been removable from the freezer, is that true?

"Answer: Yes."

MR. SHARMA: Your Honor, it was closer to 10 seconds. There were no counter-designations. Thank you.

THE COURT: All right.

MR. COYNE: Your Honor, LG calls Dr. Ching Ho Lee to the stand.

... Ching Ho Lee, having been duly sworn as a witness, was examined and testified through the interpreter as follows ...

DIRECT EXAMINATION

BY MR. COYNE:

Q. Good afternoon, Dr. Lee.

A. Yes. Good afternoon.

Q. Where do you work?

A. I currently work for LG Electronics' refrigerator division.

Q. Where specifically, what location?

A. Yeah. We are located in the city of Changwon in Cansam (phonetic) Province, located in South Korea.

Q. How long have you been at LG?

A. I joined the company in 1986, and to date I have been serving within the company for 24 years.

Q. What have you done during those 24 years at LG?

A. **After first joining the company, I first worked on product development, then eventually served as team leader, the head of the R&D lab, and currently I serve as vice president.**

Q. **What is the highest level of education you have achieved?**

A. **I obtained a Ph.D. in mechanical engineering from Pusan National University in Korea, and I further obtained an M.B.A. at Helsinki University, located in Finland.**

Q. **I would like to switch to the subject of the plaques that are used in LG's refrigerators. When you started at LG in 1986, was LG using plaqued liners then?**

MR. SPEARS: Objection. Confusing and irrelevant.

THE COURT: That is not real illuminating. I will speak with you at sidebar.

(The following took place at sidebar.)

THE COURT: Why is it irrelevant and confusing?

MR. SPEARS: Use in Korea is not prior art. Use in the United States is.

MR. COYNE: The publication is a publication from a catalog that a company was selling throughout the world. The catalog is 102(b).

THE COURT: That is what he is saying.

MR. SPEARS: He is not talking about the

catalog.

THE COURT: Do you agree with him as to the catalog potentially being 102(b)?

MR. SPEARS: Potentially.

THE COURT: You need to establish that foundation. Let's get to it.

(End of sidebar conference.)

BY MR. COYNE:

Q. **Dr. Lee, what is this?**

A. **That would be a new product catalog for the model years 1988-'89 for the Gold Star brand refrigerators.**

Q. **This particular catalog, is that a printed publication?**

THE COURT: You can ask another question. What do you mean? That is a term of art, isn't it?

BY MR. COYNE:

Q. **How is this catalog used?**

A. **After we develop a model, when we launch it into the market we provide a catalog along with the product.**

Q. **How is the catalog distributed?**

A. **These catalogs get, say, distributed, basically by way of each of our dealers or overseas-located branch offices, once they are picked up by LG Electronics.**

Q. **Where was this particular catalog distributed?**

A. **As for this one, this mostly got distributed in Korea.**

The Asian markets, say the Middle Eastern markets, mostly.

Q. **And when was this catalog distributed?**

A. **This here was distributed back in 1988.**

Q. **So is that before October 19, 1989?**

A. **Yes, that's right.**

Q. **Mr. Brooks, can we turn to the page that shows the interior of the refrigerator for the 602 photograph?**

Yes. Can we zone in on the right-hand side? This portion.

Dr. Lee, what are these structures on the wall, on the left wall of the refrigerator that we are looking at?

A. **Yes. Those would be what's called the plaque within the refrigerator. Within LG Electronics, we typically refer to those as beads.**

Q. **Any difference between beads and plaques?**

A. **No, there are no differences as to the meaning. They are one and the same thing.**

Q. **The beads or plaques that we are looking at on the side of the unit that is shown in Exhibit 403, how big are they?**

MR. SPEARS: Objection. Confusing and irrelevant.

May I have a sidebar, Your Honor?

THE COURT: Okay.

(The following took place at sidebar.)

MR. SPEARS: The catalog is prior art for what's in it. What this testimony purports to do is to add information that is not in the catalog itself.

THE COURT: That's fair enough. Mr. Coyne?

MR. COYNE: It's foundation for the material that is in the catalog, Your Honor. Their expert is saying --

THE COURT: Mr. Coyne, how long have you been doing this? A long time. You can't get to the point more quickly than that?

MR. COYNE: All right, Your Honor.

THE COURT: I am addressing that generically with you. It is taking up time, your method of approaching the examination of a witness, that I don't think we need to take up. Okay?

MR. COYNE: Okay.

THE COURT: I am going to sustain the objection and allow you to elicit the information that you know is proper to elicit by getting straight to the point with the witness. Okay?

(End of sidebar conference.)

BY MR. COYNE:

Q. **Dr. Lee, in the refrigerator that is shown in Exhibit 403, is the foam closely embracing the back of the liner?**

MR. SPEARS: Objection. The --

THE COURT: Sustained.

BY MR. COYNE:

Q. **Was the refrigerator that is shown in this catalog commercially acceptable?**

MR. SPEARS: Objection. Relevancy.

MR. COYNE: Your Honor, may we approach on this one?

(The following took place at sidebar.)

MR. COYNE: This goes directly to a noninfringing alternative, as well as the prior art. This is what LG has available to it to go back to in the event that the jury finds this is infringing.

I think we should be able to establish that this is a noninfringing alternative. I have established already that it is prior art.

THE COURT: He has agreed with you.

MR. COYNE: What I would like to establish is the contours of it so we can establish it is commercially acceptable to go back to it, its size, its performance, et cetera.

MR. SPEARS: When he is talking about commercially acceptable, he is not talking about a picture in a catalog? He is talking about a living, breathing, if you will, refrigerator, that is not prior art.

THE COURT: You are saying the refrigerator

itself is not prior art?

MR. SPEARS: Right. The catalog is prior art for whatever is in it.

THE COURT: Sustained.

(End of sidebar conference.)

BY MR. COYNE:

Q. **Sir, how big is the refrigerator that is shown in this catalog?**

MR. SPEARS: Same objection.

THE COURT: Sustained.

BY MR. COYNE:

Q. **Sir, how big is the refrigerator that is shown in this catalog?**

MR. SPEARS: Same objection.

THE COURT: Sustained.

BY MR. COYNE:

Q. **Would will go be able to go back, if it was required to and use the --**

THE COURT: Sustained. Don't push it, Mr. Coyne.

MR. COYNE: Thank you, Your Honor.

BY MR. COYNE:

Q. **Let me ask you, Dr. Lee, why was LG using plaques in its refrigerator?**

A. **The thing about that is, when you are making**

refrigerators, and when you extrude the polyurethane foam, basically, these plastic Tyron es tend to be a little wobbly, you will see these wave-like phenomena, and in order to basically disguise that from the naked eye, we built in these plaques, actually, to cosmetically sort of hide these defects.

Q. **Do the plaques prevent bowing?**

A. **No. That is not at all the case.**

Q. **Do the plaques reduce bowing?**

I will withdraw the question.

Prior to August of 2009, did you think the plaques reduced bowing?

A. **No, because at that time, basically, we had not done any, say, engineering type testing as to the plaque. And we had not contemplated as to whether or not the presence of these plaques would reduce bowing.**

Q. **What do you think now?**

A. **Well, sometime thereafter, we did request that certain computer simulations be performed by, what's that place, the Korea Marine Engineering University or something. And upon receiving the results thereof, basically I came to learn that plaque, any and all such things, have some inherent properties, apparently, whereby which they help reduce bowing, as it turns out.**

Q. **Will you please bring up PTX-248, Mr. Brooks.**

Sir, is this the study that you were referring to?

A. **Yes, that is right.**

Q. **And does the -- what was done for this study?**

A. **Yes, these present the results of certain computer simulations that were run concerning what kind of effects, impacts, if any, plaque may have on, say, bowing within a refrigerator and also the same as to steel reinforcement.**

Q. **And does this represent an accused LG refrigerator?**

A. **No. This is in reference to a general refrigerator.**

Q. **Are the results of this study or this simulation limited to any specific refrigerators?**

A. **No, it's not anything like that. It's just a general sort of refrigerator.**

Q. **What did the Korea Maritime University find with respect to the relative effect of the steel reinforcements relative to the plaques in this study?**

A. **Yes. The results of the maritime university's tests were such that the impact or effects between the use of plaque versus steel reinforcement was that the latter resulted in something a whole lot more powerful. So relatively speaking, if the depth of the plaque is, oh, about one millimeter or so, then in such an instance, the use of steel reinforcements results in a sixfold effect in comparison, in terms of the reduction as to bowing.**

Q. **Mr. Brooks, could you please bring up PTX-546?**

Dr. Lee, what is this?

A. **This is a depiction as to how steel reinforcement is being applied, so to say, right there on the LG refrigerator assembly lines.**

Q. **If the plaques help reduce bowing to some extent, even if it is less than the steel, why does LG need to use the steel?**

A. **Well, although all plaque does have some impact in terms of bringing down the bowing phenomenon within refrigerators, in actuality, the amount thereof as such is insufficient. Hence, LG's use of the steel reinforcements so as to bring down the amount of bowing.**

Q. **Sir, let's go back, if we could, for a moment to PTX-403.**

The refrigerator that is shown in this catalog, was this ever made known to people in the United States prior to October 19, 1989?

A. **Let's see. 1989, '89, you say, in actuality, although this was not sold in the United States, we did -- we were making preparations to sell this in the U.S. And as part of that, this refrigerator had been sent over here to the U.S. to undergo UL laboratory testing. As such, sometime around that point in time or perhaps a little before that, its existence had been made known.**

Q. **Could you please bring up, Mr. Brooks, PTX-614.**

Dr. Lee, while that is coming up, what does Underwriters Laboratory do?

A. **Underwriters laboratory is an institution that does essentially safety certification. For instance, in order for a refrigerator to be imported into and sold within the U.S. it must undergo UL testing. Upon passing the UL certification will a refrigerator get to be sold.**

Q. **Did UL in fact test this GFX 602 model in the U.S.?**

A. **Yes, that's right.**

Q. **Before October 19, 1989?**

A. **Yes.**

MR. SPEARS: I may be a bit tardy with this objection. We have had this document on the screen in front of the jury without any foundation or testimony from this witness. I have a hearsay objection or authentication objection. I assumed Mr. Coyne would get to the point.

MR. COYNE: Your Honor, I have been laying the foundation with the last two questions.

THE COURT: Before you display a document, take it down for now, go ahead.

MR. COYNE: My next question is for the witness to identify the document, Your Honor.

THE COURT: Anything?

MR. SPEARS: I would be surprised if he can.

But if he can, let's let him try.

THE COURT: Whether you would be surprised or not doesn't matter a hoot to this jury. Okay?

BY MR. COYNE:

Q. **Dr. Lee, what is PTX-164?**

A. **This would be the certification that we obtained from UL as to the 602 model.**

Q. **When was this product, the GFX 602 product certified by UL?**

THE COURT: Mr. Spears, I expect you are too old to remember Gomer Pyle, aren't you: "Surprise, surprise."

Go ahead.

THE WITNESS: That would be August the 9th, 1988.

BY MR. COYNE:

Q. **That is before October 19, 1989. Right?**

A. **Of course, yes.**

Q. **Let's go back to the PTX-403 catalog and display the page with the interior refrigerator again.**

Sir, let me ask you, what was the configuration of the plaques that were in that refrigerator that was shipped to the United States for testing by UL prior to October 18, 1989?

MR. SPEARS: Objection. Confusing, Your Honor.

THE COURT: I am going to sustain that. I

believe I sustained a similar objection before.

MR. COYNE: Nothing further, Your Honor.

THE COURT: Mr. Spears, your witness.

CROSS-EXAMINATION

BY MR. SPEARS:

Q. **Dr. Lee, I believe you have indicated that the plaques or beads were placed in LG's refrigerators for aesthetic reasons. Is that correct, sir?**

A. **Yes. They serve a certain aesthetic purpose as to the cosmetic aspects.**

MR. SPEARS: May I approach the refrigerators, Your Honor?

THE COURT: You may.

BY MR. SPEARS:

Q. **Just so we are clear, what we are talking about, Dr. Lee, are these indentations in the plastic inner liner of the refrigerator. Correct?**

A. **Yes, that is correct.**

Q. **It's your testimony that the reason these indentations are in this liner is because they are pretty?**

A. **Well, it's not pretty, so to say. Again, in terms of LG's refrigerators, in terms of the way the polyurethane that forms the liner happens to be basically extruded, when you do that on the surface, there tend to be these little things, so you want to cover up those things.**

But if you are asking as to the beads themselves being pretty, that's not quite it.

Q. **Could you turn to Defendant's Exhibit 430, which I believe we have placed behind Tab 1 of your binder?**

If we could have Page 55 from that exhibit, I am interested in the upper right-hand corner.

Do you see in the upper right-hand corner where it refers to side bead depth and then beneath it in parentheses, one millimeter arrow 2.5 millimeters? Are you with me?

A. **Yes.**

Q. **And that's a reference to a potential change in the depth of the plaques in LG's refrigerators from one millimeter to 2.5 millimeters, correct?**

A. **Yes.**

Q. **Could you turn with me to Page 66 of the same document. I am interested in a document and some supporting text that appears in the upper portion near the middle. Do you see where the document says change the depth of the bead used to support the I/Case's strength? Do you see that in the document, sir?**

A. **Yes.**

Q. **And I/Case is referring to the plastic inner liner of the refrigerator. Correct?**

A. **Yes, that is correct.**

Q. **So at least in this document we have an LG engineer considering the possibility of increasing the depths of the plaques in order to support or improve the strength of the inner liner of the refrigerator?**

A. **What this talks about here is the need to, let's say, change things in this manner, as to the beads, in view or in consideration of the impact vis-a-vis the styrofoam.**

Q. **Okay. Dr. Lee, from time to time in your career, have you supervised the design of LG refrigerators that would be sold in the United States under the GE brand?**

A. **Yes.**

Q. **And are you aware that from time to time, GE would provide LG with what it referred to as branded product change requests?**

A. **Would you run that by me again, please? Perhaps a little more specific?**

Q. **Maybe I could make it a little more specific. If you turn behind Tab 2 in your notebook, where, for the record, you will find a document that bears LGKR production numbers 15197 through '98. And the document there is titled Branded Product Change Request.**

THE INTERPRETER: Counsel, there is no Tab 2 in the binder.

THE COURT: There is no Tab 2.

MR. SPEARS: May I approach the witness, Your

Honor?

THE COURT: Yes.

THE INTERPRETER: Your Honor, may we have the question repeated?

THE COURT: Does Mr. Coyne have a copy?

MR. SPEARS: I believe he does.

BY MR. SPEARS:

Q. **The document I am interested in should be behind Tab 2 that you were just handed. Are you with me?**

A. **Yes, I am there.**

Q. **That document is Titled Branded Product Change Request. Correct?**

A. **Yes, that's right.**

Q. **And from time to time, would General Electric send LG that sort of document?**

A. **Yes, that's right.**

Q. **And in this document, do you see that the brief description of the change is the addition of four beads to the inner wall of the inner case in the refrigerator?**

A. **Yes, that is correct.**

Q. **Do you see that the purpose of that change, of adding beads to the inner wall of the inner case, was to remove the generation of bending or flexion of the inner wall of the inner case, which is caused by deep depth and flat form in molding inner case. Do you see that?**

A. **Yes, that's right.**

Q. **So the engineer who wrote this document, at least, believed that by adding four beads to the inner wall with these refrigerators, that this would remove the generation of bending or flexion in the inner wall. Correct?**

A. **Yeah. Basically, the gist here would seem to be that there is some inherent properties of the beads, it has some effect in terms of bringing down the amount of bending.**

Q. **During your direct testimony, did Mr. Coyne show you a single LG document in which it was suggested that the plaques in LG liners aren't there to have some effect on bending or flexion, but are really in LG's refrigerators for aesthetic reasons? Has he shown you a document that said that?**

A. **I am going to have to try to explain this to you from two perspectives.**

Generally, while the role of the plaque is such that it does have some effect in terms of bringing down the, what you call it, the amount of bending in the refrigerator, in actuality, in LG's refrigerators, the thing that performs that role is the steel reinforcement. That is what I would like to tell you.

Q. **Is that the end of your answer, sir?**

A. **Yes.**

Q. **Dr. Lee, the refrigerators that LG is currently**

selling into the United States with plaqued wall liners, to your knowledge, do those refrigerators have a problem with the shelves popping loose from their mountings?

A. **No. As I mentioned earlier, all plaques do, as part of its inherent properties, does have some effect in bringing down the amount of bowing, though limited it is, the fact of the matter is that's insufficient and that's why here we within LG use steel reinforcement to deal with that.**

Q. **One last question. Insofar as you know, do LG's refrigerators with plaque wall liners have any problem with the gasket engaging in sealing the door?**

A. **There is no, say, major correlation between bowing per se versus the gasket or there being some gap as to the gasket. There is no correlation.**

Q. **But you are not having a problem with the gaskets in your refrigerators, as far as you know?**

A. **Negative. On the contrary, there do happen to be gasket-related problems. But that is simply not on account of bowing is what I am trying to tell you. Basically, the gasket consideration is something that take place as a function of some, say, strength-related aspects, as to the upper, say, structure of the refrigerator. That's what I am saying.**

MR. SPEARS: Pass the witness.

THE COURT: Redirect.

MR. COYNE: No further questions.

THE COURT: Thank you, Doctor. You are excused.

(Witness excused.)

THE COURT: Let's take our afternoon break.

(Juries leaves courtroom at 3:15 p.m.)

(Recess taken.)

THE COURT: Ms. Walker.

(Jury enters courtroom at 3:38 p.m.)

THE COURT: All right, ladies and gentlemen. Please take your seats. Counsel.

MR. ABRAHAM: Good afternoon. My name is Jeff Abraham. On behalf of LG, we call our next witness, Dr. Donald Vannoy, an expert in structural engineering.

... Donald W. Vannoy, having been duly sworn as a witness, was examined and testified as follows ...

DIRECT EXAMINATION

BY MR. ABRAHAM:

Q. **Good afternoon, Dr. Vannoy.**

A. **Good afternoon.**

Q. **Could you please tell the jury what your specialty is?**

A. **My specialty is civil engineering, with a specialty in structural engineering and material testing.**

Q. **Can you please give the jury a sense of your educational background?**

A. **Yes. I have a Bachelor's of science in civil**

engineering from West Virginia Institute of Technology, a Master's of engineering, and a Ph.D. in civil engineering from the University of Virginia.

Q. **Could you please take a moment to describe your professional career for the jury?**

A. **Yes. I have been a professor at the University of Maryland Department of Civil Engineering for 33 years, and I am currently professor emeritus.**

I also am a licensed professional engineer in five states. And I am president and owner of two engineering companies, Vannoy & Associates, which is headquartered in Silver Springs, Maryland, and Trident Engineering & Associates, which is headquartered in Annapolis, Maryland. And for the last 30 years I have been practicing civil engineering, which uses various materials, including composites, subjected to various types of loading, which would include thermal loading.

Q. **As a professor at the University of Maryland, what subject matter did you teach?**

A. **At the University of Maryland I am responsible for teaching courses that included various types of materials, including composites subjected to various types of loading. In this case, including, for example, thermal loading.**

One of the classes that I was responsible for was mechanics of materials. That's a basic class, taken by

all engineering students. And we teach them basically to calculate stretches, deflections, and all types of engineering materials, including composites and being subjected to all types of loading, dead load, live load, shock, blast and thermal loading.

The second series of classes that I teach is engineering materials. That has a three-hour lecture and a three-hour lab. In that particular course, we teach the engineering students how to conduct various testing of engineering materials, which include composites. That would be tensile tests, flexure tests, subjected to various types of loading, including thermal loading. Also in that class is where we would teach data acquisition testing protocol, how you basically measure the stresses and deflections in engineering components.

Then the third thing that I do is I teach structural analysis and design. That's basically teaching the various techniques of structural analysis and how they apply to engineering components built into structures. And in there I cover everything from classical to modern techniques, and modern techniques would include such things as matrix methods and also what is called finite element analysis or FEA.

In addition to the responsibilities of teaching for 33 years, I was very active in research and publication

at the University of Maryland and testing all types of structures used in a building environment. Those would include composites subjected to thermal loading.

Q. **Are you a member of any professional organizations?**

A. **Yes. As I said, I am a Registered Professional Engineer in five states, West Virginia, Virginia, D.C., Maryland and Louisiana. I am also a fellow of the American Society of Civil Engineers.**

And I have served as past president of the Maryland section of the American Society of Civil Engineers. And currently I am the Region 2 Governor for the American Society of Civil Engineers. And that covers the states of Pennsylvania, Delaware, Maryland and D.C.

I represent the 12,000 practicing civil engineers in those states at the national level.

MR. ABRAHAM: Your Honor, LG would like to offer Dr. Vannoy as an expert in structural engineering and materials testing.

MR. SPEARS: No objection.

THE COURT: The doctor is accepted.

BY MR. ABRAHAM:

Q. **What were you asked to do in this case?**

A. **I was asked to take a look at the '601 patent, which talks about the plaques in the liner of a refrigerator and determine if the plaques have any influence on preventing**

bowing of the wall of the refrigerator.

Q. **Were you able to reach any conclusions about whether the plaques influence wall bowing?**

A. **Yes, I first.**

Q. **What was that conclusion?**

A. **Based on the testing that I did, I concluded that the plaques in the liner of the refrigerator, that having plaques of different sizes and shapes did not prevent the walls from bowing.**

Q. **What was the basis for your opinion?**

A. **The basis of my opinion was I tested 11 full-fledged sized refrigerators in a controlled environment.**

Q. **Which refrigerators did you test?**

A. **I tested 11 refrigerators, three LGs that were manufactured in 2009, three Whirlpool that were manufactured in 2009, three other Whirlpool's that were manufactured in 1991, 1993, and 1993, and two Montgomery Wards that were manufactured in 1981 and 1987.**

Q. **Can you please describe the tests that you performed?**

A. **Yes. Basically, all the testing was done at my offices in Annapolis, Maryland. Basically, we constructed a room for temperature control. And we take these units and bring them into the room.**

And around the unit, we built a frame. This was a structural frame built out of aluminum C-channels, because

we were going to measure 24 locations of wall bowing. The reason you want to build the frame is because you want to be able to measure at the same locations every time, because this test took three days.

So we built a room, put the unit inside the room. Built the frame around the room. And then, this was a temperature-controlled room. So we initially did the test at 90 degrees.

Q. **Why did you use 90 degrees?**

A. **90 degrees we used because that is the temperature that is used when you conduct tests for the refrigerator according to the national standards. So what happens is we opened the fresh door and the freezer compartments. And this refrigerator would be in this room for four hours at 90 degrees. That would basically get the unit to equilibrium.**

Then we would take measurements at 24 locations of the walls. Then I plugged the refrigerator in. And then I would turn the temperature control inside the fresh food and the freezer compartment to mid-mid-level. There is a dial inside each compartment where you can turn the temperature.

So I turned it to mid-mid-level and ran the refrigerator for a period of 24 hours. At the end of 24 hours, that would allow the unit to become stabilized.

I took the measurements at the 24 locations that

we had originally taken, at what is called the heat sell. And we found that the walls bowed.

I then, after taking the measurements at 24 locations, I turned the controls to high-high, that a consumer could do. In other words, you take your temperature controls and turn it up as high as you could. So I turned it to high in the freezer, higher in the fresh food. Let it run again for 24 hours, and wanted to see if the walls would continue to bow. And we measured those and found that the walls continued to bow.

Q. If you turn to Tab 4 of your notebook, which is Exhibit 234. Dr. Vannoy, do you recognize this document?

A. Yes, I do.

Q. Can you explain what this is?

MR. SPEARS: Can we have a sidebar, Your Honor?

(The following took place at sidebar.)

MR. SPEARS: Woe don't have a foundation for authentication of either of these Montgomery Ward refrigerators as prior art. In the context of what this witness is about to say, that's not harmful from my perspective. But I don't want to be in a position of having waived that objection should any of their future witnesses begin to give testimony that actually is confusing on these issues.

THE COURT: With respect to this exhibit, you

mean?

MR. SPEARS: That's correct.

THE COURT: Are any future witnesses going to be utilizing this exhibit?

MR. ABRAHAM: I believe we may, our next expert --

MR. SHARMA: There is a future witness, who is Dr. Mellinger, who is going to give testimony on the Montgomery Ward refrigerators that Mr. Spears is talking about. And he will lay the foundation as to why they are prior art.

He also, I don't believe it will come out in his direct testimony in any sort of detail, but he also relied on the testing from Drs. Vannoy and Mr. Dapkanis.

MR. SPEARS: Usually you put your fact witnesses up to prove up your prior art and then you put up your experts.

THE COURT: We know what's what's coming. So I will overrule the objection.

(End of sidebar conference.)

BY MR. ABRAHAM:

Q. **Dr. Vannoy, can you explain what this is up here, PTX-234?**

A. **Yes, as I explained, I tested 11 refrigerators, and down at the bottom right are the 11 units that I tested,**

color-coded, the LG 2 -- Whirlpool, 2009, this is 1991, 1991, and 1993. This is Montgomery Ward '81 and '87. And they are color-coded, to give you a guide here. This is a schematic of the side-by-side refrigerators. And you see the points located on the freezer side here. They are points on this, they go, here, 16, 17 to 24.

If you noticed in the red line there, there is points 19, 20 and 21. So this data right here, that's the plot, these are 11 curves of the deflection that occurs at the center and in the vertical direction of that unit.

Q. **And what does that plot show?**

A. **What the plot shows is, it shows all of the data just for looking at it to show that it deflects. It is not meant to be comparing one curve to the other. But it shows that no matter who made -- no matter who made the unit or the year it was made, the wall bowed and the plaques did not prevent the wall from bowing. They basically behaved all the same.**

Q. **Were you present in court when Whirlpool's expert, Dr. Kelivarus, testified ?**

A. **Yes, I was.**

Q. **Were you aware that he also performed bowing tests?**

A. **Yes.**

Q. **Did you study the results of his tests?**

A. **Yes, I did.**

Q. **How did the results from his tests compare with yours?**

A. **He measured two LG refrigerators, and found that the walls bowed.**

Q. **So based on all the testing that you have seen in this case, both yours and Dr. Kelivaris', did you form an opinion as to the effect of plaques on the thermal bowing of refrigerator walls?**

A. **Yes, I have.**

Q. **What is your opinion?**

A. **As these graphs show, the presence of plaques in a plastic liner refrigerator do not prevent the wall from bowing. It doesn't matter, like I said, about who makes the unit or the year. They all perform the same. And the plaques do not prevent the wall from bowing.**

MR. ABRAHAM: Pass the witness, Your Honor.

THE COURT: Mr. Spears.

CROSS-EXAMINATION

BY MR. SPEARS:

Q. **Dr. Vannoy, I take it it's your opinion that plaques don't prevent bowing whether we are talking about the LG refrigerators that are accused of infringement or the current refrigerators that are manufactured by Whirlpool. Correct?**

A. **Correct.**

Q. **Now, I would like to talk about the testing you did**

perform and the testing you didn't perform. The testing you did perform was to measure bowing in LG and Whirlpool refrigerators that had plaqued wall liners. Correct?

A. **Yes.**

Q. **The testing you did not perform was to measure bowing in LG or Whirlpool refrigerators that had smooth liners. Correct?**

A. **Yes. In the refrigerators that we have --**

Q. **I think you have answered my question, Dr. Vannoy.**

The jury has heard from one witness in this case who has tested refrigerators with plaque liners, tested refrigerators with smooth liners, and determined how much bowing the plaques prevented. Right?

A. **I don't understand the question.**

Q. **The jury has heard from one witness in this case, who has measured bowing in refrigerator walls with plaqued liners, measured bowing in refrigerator walls with smooth liners, and determined how much bowing the plaques prevented.**

Steve Williams did that, didn't he?

A. **Yes. In the '601 patent, they talked about doing some testing. I was unable to review that information.**

Q. **But Mr. Williams certainly told the jury all about it, didn't he?**

A. **He basically -- if you look at the '601 patent, when I**

look at it, they use the word prevent, I think it's 15 times. But there was no data submitted that I could review to look at the data.

Q. Now, at the time that Mr. Williams did this work that is reported in the patent, he had eight years of experience in making, testing and designing refrigerators. Do you understand that, sir?

A. I don't recall.

Q. But you in contrast, you have no experience whatsoever in manufacturing or designing refrigerators. Right?

A. Correct.

Q. And the only experience you have in testing refrigerators comes from the work that you have done in this case?

A. This is the first refrigerator I have tested, yes.

Q. So sitting here today, you are in no position to doubt or even question Mr. Williams' testimony that before Whirlpool plaqued its door liners, Whirlpool was having problems with the shelves popping out, with the gaskets sealing, with the inner light cycling, you are not in a position to question any of that testimony, are you?

A. That is correct.

Q. Likewise, you are in no position to question Steve Williams' testimony that after the plaques were put in the Whirlpool refrigerators, that enough bowing was prevented so

that these problems vanished? You are not in a position to question that testimony, are you, sir?

A. **I am only looking at reading the '601 patent. Throughout there, they talk about the testing that they did, and the conclusion was that they could actually prevent or they would be without bowing of the wall.**

Q. **I am not asking about the '601 patent. You were in the courtroom when Mr. Williams testified. Correct?**

A. **Yes.**

Q. **And you heard him say that once Whirlpool plaqued its door liners, that enough bowing was prevented that all these problems went away. You heard that testimony, didn't you?**

A. **Yes, I did.**

Q. **Sitting here today, you have had no reason to question the truth of that testimony?**

A. **That is correct.**

MR. SPEARS: Pass the witness.

THE COURT: Redirect.

REDIRECT EXAMINATION

BY MR. ABRAHAM:

Q. **Dr. Vannoy, were you able to review the data from the testing from Mr. Williams that Mr. Spears was referring to?**

A. **No, I was not.**

Q. **Why not?**

A. **It wasn't available.**

Q. **Do you have any understanding as to -- you referred a couple times to the testing that was reported in the '601 patent. Correct?**

A. **Yes.**

Q. **Do you have an understanding of what type of testing that was?**

A. **Well, they tested the -- they did testing on the plastic liner. They didn't do testing on a composite wall or the complete unit. It was just simply testing on a plastic liner, and they had referred to a finite element analysis that they had done. But there was no test report or anything I could review to look at that.**

Q. **Finite element analysis, was that a mathematical simulation?**

A. **Yes.**

Q. **Did Mr. Williams testify that the plaques he tested reduced bowing?**

THE COURT: Counsel, let me see just for a second.

(The following took place at sidebar.)

THE COURT: What Mr. Williams said is for the jury to decide, not to have this witness interpret what the witness said.

MR. ABRAHAM: I understand.

(End of sidebar conference.)

MR. ABRAHAM: We have no further questions.

(Witness excused.)

MR. ABRAHAM: As its next witness LG calls Mr. Stanley Dapkunas.

... Stanley Dapkunas, having been duly sworn as a witness, was examined and testified as follows ...

DIRECT EXAMINATION

BY MR. ABRAHAM:

Q. **Good afternoon, Mr. Dapkunas.**

A. **Good afternoon.**

Q. **Could you please give the jury a brief rundown of your education after high school?**

A. **I have a Bachelor's degree in metallurgical engineering from the Virginia Polytechnic Institute and a Master's degree in materials science from the George Washington University.**

Q. **What is your specialty?**

A. **Material engineering.**

Q. **Could you give a brief description of your professional career, please?**

A. **Yes. I worked for 13 years as the U.S. that he was engineering laboratory in Annapolis, Maryland, in their metals lab, conducting tests and evaluations of various types of materials, not just metal.**

I spent ten years as a program manager in

materials evaluating and testing at the U.S. Department of Energy's headquarters in Washington, D.C.. I then spent 16 years at the U.S. Government's National Bureau of Standards, which became the National Institute of Standards and technology. I was there for 16 years in the materials lab. And I was responsible for the volume of testing evaluation and characterization techniques for a variety of materials.

I retired from the government in 2002, and I went to work at Trident Engineering. And I am spokesman there for testing evaluation of materials for a variety of applications, mostly mechanical of one sort or another.

Q. What would you say you have spent the majority of your professional career doing?

A. I spent over 40 years in testing evaluation of materials.

MR. ABRAHAM: Your Honor, LG would like to offer Dr. Dapkunas as an expert in materials testing.

MR. SPEARS: No objection.

THE COURT: He is accepted.

BY MR. ABRAHAM:

Q. What were you asked to do in this case?

A. I was asked to evaluate the effect of plaques, you are familiar with now, on the behavior of the plastic liners out of refrigerators, that is to say, how did the presence of the plaques change a flat liner.

Q. **Is that what you did?**

A. **Yes, that's what I did.**

Q. **How did you go about doing that?**

A. **I did it by conducting two kinds of tests, a tensile test where you will pull the material, evaluate how much stresses were given for a force and pull, much as Dr. Karvelis described, and did flexion testing, where you bend the material and see the cross-sectional geometry, how that changes the flexure. We did that in several different ways.**

Q. **What did you test, what unit did you test?**

A. **I tested liner material from ten different refrigerators. The earliest was a 1990 General Electric HotPoint. And the most recent was a 2009 LG refrigerator. In between that the other eight refrigerators discussed consisted of those built in the early nineties by Whirlpool and KitchenAid.**

Q. **When you refer to that you tested the liner, could you please explain what you mean by that?**

A. **We would remove a section of liner from the refrigerators in question. We would find portions of those liners that had no plaques and portions that did have plaques.**

We would cut comparable samples from the plaqued and unplaqued areas, and then conduct tensile tests and flexure tests.

Q. **Were you able to come to any conclusions based on your testing?**

A. **Yes.**

Q. **What were those conclusions?**

A. **My conclusions were that the presence of the plaques made the liner material more easily stretched, it elongated more easily.**

The flexure tests showed that the plaques made the material stiffer in bending. So for the plaque it was more difficult to flex it.

Q. **If you could please turn to Tab 1 in your notebook, which is PDX-19.**

Mr. Brooks, if you could get PDX-19 on the screen?

MR. SPEARS: I have an objection to this.

THE COURT: As to whether this witness has the requisite knowledge?

MR. SPEARS: Yes, that's right.

THE COURT: Can you establish a foundation for this witness?

MR. ABRAHAM: I can try.

THE WITNESS: I am sorry? Did you say Tab 1?

BY MR. ABRAHAM:

Q. **Mr. Dapkunas, just a couple background questions. You referred to a GE HotPoint that you tested?**

A. **Yes, sir.**

Q. **Do you know what date that unit was manufactured?**

A. **The label on the inside of it said that it was manufactured in 1990.**

Q. **So if you could please turn to PDX-19?**

MR. SPEARS: May we have a sidebar?

(The following took place at sidebar.)

THE COURT: So, counsel, PDX-19 is a demonstrative labeled tensile test results with and without plaques. This appears to be for a unit manufactured by GE. Is that right?

MR. ABRAHAM: That's correct.

THE COURT: Mr. Spears objects that there is no foundation that has been laid for the witness to discuss this particular item. Do you want to be more specific about your objection?

MR. SPEARS: The objection has to do with whether this has been proven up as prior art. Two problems with it. Manufacture is not a prior art event. Public use, public sale is a prior art event. So simply saying that if a refrigerator is manufactured at some time in 1990 does not prove it up as prior art.

The other problem is we have chain of custody issues. From what I can tell, they can't track the chain of custody for this refrigerator with its label back beyond the

summer of 2009. So there is that authentication problem as well.

Basically, two issues with respect to their clear and convincing evidence burden on proving this up as prior art.

MR. ABRAHAM: With respect to the fact that it's a 1990 GE HotPoint, at this point in time he is testifying to the fact that that is the date he believes it was manufactured, based on the label that is attached to the inside of the liner.

THE COURT: Mr. Sharma, it's his witness.

Would you react to Mr. Spears' comments about whether or not, regardless of chain of custody, at the end of the day this is prior art.

MR. ABRAHAM: Well, aside from the facts -- this witness won't be able to address whether or not this is prior art. That comes with a later witness who can lay that foundation.

MR. SPEARS: Then there should be an instruction to disregard this witness' testimony.

THE COURT: Let's get an offer of proof as to who and what that witness would say on the question of whether this particular unit is prior art.

MR. ABRAHAM: This particular unit, the evidence from that will come in from Dr. Mellinger, who was an

employee of GE at the time these units were being made and sold into the United States.

THE COURT: He would testify that these units were sold?

MR. ABRAHAM: Yes.

THE COURT: If that were the case, you would agree?

MR. SPEARS: I would agree. And if he could say that the specific one that was tested by Dr. Dapkunas was one of the units that was sold into the United States, before the critical date, absolutely.

THE COURT: When you say the specific one, do you mean one with a manufacturing label of the type that's been described? You don't mean the actual label?

MR. SPEARS: The one that he tested.

THE COURT: That is what I was afraid you meant. So there is a chain of custody.

I don't think we have an issue with regard to prior art. Because I am going to accept your representation that you are going to establish that foundation with the next witness or whenever he testifies. But what about the chain of custody?

MR. ABRAHAM: We can trace it back to when we purchased the unit from a supplier, I believe the summer of 2009. I believe --

THE COURT: Mr. Sharma, I am going to let you weigh in here.

MR. SHARMA: Unfortunately, Mr. Abraham did not work with Dr. Mellinger. Dr. Mellinger was the individual at GE who was in charge of all the plastic liners, the refrigerators. One of the refrigerators is right here with this model number. He is going to be able to say that he oversaw this production, he knows they were sold. He knows the units were this model number.

THE COURT: Mr. Spears has a very technical objection. That is while he may be able to talk about refrigerators that possess this model number, he is not, his contention, Mr. Spears' contention, going to be able to satisfy the chain of custody requirements that this particular unit was sold by GE?

MR. SHARMA: He can testify that as to this model and how it compares to the other models that he knows were sold and made.

THE COURT: Do you think, Mr. Spears, it would be inappropriate to allow him to adduce, Mr. Sharma or Mr. Abraham, whoever is going to do it, testimony from that witness we are talking about, chain of custody witness, and leave it to the jury to determine circumstantially, that is, whether there is an appropriate chain of custody?

Or are you saying this is something that I have

to do in my gatekeeping function before I let the jury consider it?

MR. SPEARS: I think it's an appropriate gatekeeping issue, Your Honor, because they do have a clear and convincing evidence burden. They aren't talking about these models in general. They are talking about a specific refrigerator tested.

THE COURT: Yes. But these are refrigerators made I assume on an assembly line of some sort. I can think of some analogous circumstances where it would be inappropriate for me to permit, absent a correctly established chain of custody, technically, where one witness could say I handed it off, the evidence from this witness to the next, it was in the evidence room, I brought it here, it's not been unsealed and all of that. Maybe drugs or something.

I am going to permit it.

(End of sidebar conference.)

BY MR. ABRAHAM:

Q. Could you please look at PDX-19. Mr. Dapkunas, could you please describe what is shown here on PDX-19?

A. Yes, I can. Can I use a pointer.

Q. Please do.

A. What you see is a stress/strain curve for some material that was removed from the GE HotPoint. This is the

1990 model I was telling you about.

What you see in the solid line is the deflection or the stretching, the strain, which is what strain is, it's how much it's stressed for a given load. You can see that for a given amount of strain, six-tenths of a percent of strain here, the solid line, that is the unplaqued material, requires about 2000 psi. For a material with plaque in it, it requires about 500 psi, which is what I was saying before, which is what I was saying before, the plaques make the material stretchier.

Q. **Were you presented in the court when Dr. Kelvaris testified?**

A. **Yes, I was.**

Q. **Are you aware that Dr. Kelvaris has done testing in this case as well?**

A. **He did similar testing.**

Q. **How did Dr. Kelvaris' test results compare where yours?**

A. **He qualitatively found the same thing, that plaques make the liner material stretchier, if you will. More easily elongated for the same stress.**

Q. **Can you describe, explain a little further what you referred to as your flexure testing?**

A. **Several kinds of flexure testing, the most straightforward kind was a cantilever test, so that I could**

easily, efficiently compare the stiffness of material with plaques and without plaques. I did that by clamping pieces of the same size to a bench and seeing how much they dropped.

Pieces with the plaques in them dropped less than the pieces without plaques. Plaques stiffened the material.

We also did three-point flexure test on one set of materials out of a refrigerator. We did a four-point flexure test, much as Dr. Kelvaris did. And I guess that was it.

Q. **What samples did you perform the flexure testing on?**

A. **We used the same materials that we did the tensile testifying on.**

Q. **Were you able to form any opinions about the behavior of marked and unplaqued liners with regard to your flexure testing?**

A. **Yes. The plaques increased the stiffness in bending of the liner materials. That is to say, if you put plaques in it makes it more resistant to bending whether you get cantilevered on the four-point point or three-point**

Q. **Do you know if Dr. Kelvaris also did flexure testing?**

A. **Yes, he did.**

Q. **Do you know which units he tested?**

A. **He tested the material, the liner materials from two**

LG models.

Q. **Have you reviewed the results of his tests?**

A. **Yes, I have.**

Q. **How did his tests compare with yours?**

A. **He also found that the plaques increased the stiffness over the unplaqued material.**

Q. **Doctor, with Dr. Karvelis' test results as well as your own, were you able to come to a conclusion as to the behavior of plaques in a plastic liner?**

A. **Yes. It seems to me that regardless of the age, vintage of the liner, who made the liner, or the dimensions of the plaques, the plaques increased the stiffness of the liner material, increased the stiffness of the liner material and make it less resistant to stretch, make it stretchier and less bending.**

Q. **Were those results surprising to you?**

A. **No, they are not.**

The effects that we are seeing are not unknown. For instance, the stretching issue. The plaques form expansion joints. Expansion joints -- in this case for thermal applications, where you have got different coefficients of thermal expansion and a different temperature excursion on the inside and outside of the refrigerator, which create thermal stresses on the liner.

Thermal expansion joints of different types are

put in all you kinds of machinery. You see them in bridges, buildings, you see them in mechanical equipment. That is not unusual.

So that is not an unknown phenomenon. It is to be expected.

The increase in stiffness for bending is also not unexpected.

What's going on here is that you are changing the cross-section of the material, or the geometry of the cross-section of the material. You are changing its moment of inertia, that was something that Dr. Kelvaris touched on.

This is a phenomenon that has been understood, analytically, probably for close to 200 years. It's not a new idea. In fact, in your houses, if you live in a house with more than one story, if you look underneath, you will probably find a steel I-beam running the length of your house. A steel I-beam has a top, which is a flange, and an upright portion, which is a bottom flange. It is very stiff because it has that material on the top and bottom. They are a lot wider than the material in the middle. It stiffens the structure.

It's a commonly used technique.

The way in which the moment of inertia is applied varies. But the phenomena is the same. The science is the same. The science is the same for all the specimens.

MR. ABRAHAM: Pass the witness, Your Honor.

THE COURT: Mr. Spears.

CROSS-EXAMINATION

BY MR. SPEARS:

Q. **Mr. Dapkunas, you told the jury about tensile testing and flexure testing that you performed on various refrigerators. Correct?**

A. **On liners, yes.**

Q. **And in order to get access to the equipment you needed to perform those tests, you had to travel from Annapolis, Maryland, to Pittsfield, Massachusetts. Correct?**

A. **That's correct.**

Q. **And I take it that you wouldn't have done that unless you thought that the tests that you were going to perform in Massachusetts would be important to the opinions that you provided the jury today. Correct?**

A. **That's correct.**

Q. **Now, you understand that LG contends, among other things, that Whirlpool's '601 patent is invalid. Correct?**

A. **Yes.**

Q. **And that for LG to prevail on this defense, it needs to come forward with not just some evidence, but with clear and convincing evidence that the invention is found in the prior art?**

Is that your understanding?

A. **I am not a lawyer. My limited understanding is as you said.**

Q. **Now, if you wanted to clearly convince another engineer that a structure, like a bridge or a refrigerator door, had some specific property, I take it you wouldn't just point to a picture of a bridge, you would actually perform some tests, like the tests you did in Massachusetts in this case?**

A. **Well, yeah. You would perform tests. But typically, for a complex structure, you would remove some portion of the structure or isolate some portion of the problem that you thought bore upon the total solution.**

That in a sense is what we were doing with the plaqued material.

Q. **I understand, sir.**

Now, with respect to prior art refrigerators, the only one that you actually believe was a prior art refrigerator that you tested and that you discussed with Mr. Abraham was this GE HotPoint refrigerator. Correct?

A. **That's correct.**

Q. **Now, that GE HotPoint refrigerator wasn't the only refrigerator that GE provided you with. Right?**

A. **GE didn't provide us with a refrigerator.**

Q. **I am sorry, that LG -- I am confused, I am sorry, late in the day -- that GE HotPoint wasn't the only refrigerator**

that LG provided you with. Right?

A. **I am sorry, could you repeat that?**

Q. **Well, let me ask a different question to you.**

You are aware of a warehouse that LG set up in Columbia, Maryland. Correct?

A. **Yes.**

Q. **That is just about 25 miles from Annapolis. Right?**

A. **That's correct.**

Q. **And in that warehouse, LG placed about 75 or 80 different refrigerators. Correct?**

A. **Correct.**

Q. **Were you aware that LG had essentially put out a bounty, told the public, asked the public to come forward with old refrigerators that had plaqued wall liners? Are you aware that LG did that?**

A. **I don't know how they collected those refrigerators. I have no knowledge of that.**

Q. **Of all those refrigerators in that warehouse in Columbia, the only prior art refrigerator that you tested was the GE HotPoint refrigerator?**

Correct?

A. **I would think that's right, because the date of manufacture on it, to my understanding, constitutes prior art.**

Q. **Now, I would like to talk about the two tests that you**

performed on that GE HotPoint refrigerator, and I would like to begin with the tensile test. All right?

A. **Yes.**

Q. **That is the test to determine how stretchy the wall liner is. Right?**

A. **Correct.**

Q. **In your tensile testing, you related what you called type 1 samples and type 2 samples. Correct?**

A. **I believe for the GE refrigerator we did the type 1 test.**

Q. **That was going to be a question, Mr. Dapkunas.**

Generally, with respect to the tensile tests that you performed on GE, LG and other refrigerators, you had type 1 samples. Is that correct?

A. **That's correct.**

Q. **The type 1 samples, these were strips that were what, 8 inches long?**

A. **The type 1 specimens were fabricated and tested according to an ASTM standard, D-638, which is a standard test, developed for the evaluation of the properties of flat plastics. They have a two-inch gauge length with a half-inch wide nominal width.**

Q. **Your type 1 samples were two inches long and a half-inch wide?**

A. **Yes.**

Q. **Your type 2 samples were larger?**

A. **They were large because what we wanted to do in those samples was include prior plaques.**

Q. **When you did your tensile testing on the GE HotPoint samples, the only samples that you tested from that refrigerator were the little type 1 strips. Correct?**

A. **Yes. And would you like me to tell you why?**

Q. **I know you can explain that to Mr. Abraham when he stands up for your redirect, sir.**

Now I would like to talk some about the flexure testing that you performed on the GE HotPoint samples. To begin our discussion, I would like for you to turn to Tab 1 in your notebook. If we could have on the screen photographs 1, 2 and 3 from what I believe were Mr. Dapkunas' rebuttal report, let's have one and two up.

That's enough. These three photographs illustrate the apparatus that you used for the flexure testing that you performed on certain refrigerator liner samplings. Correct?

A. **Yes. It's the same design that Dr. Kelvaris had in his report.**

Q. **And this is called a four-point flexure testing machine?**

A. **Well, the machine itself is an Instron testing machine. The setup is a four-point flexure arrangement.**

Q. **And I believe that you put in this Instron testing machine an LG sample, a Whirlpool sample, a Kenmore sample and a KitchenAid sample. Correct?**

A. **That's correct.**

Q. **Could you turn to Tab 2 in your notebook, if we could have that put up on the screen. It's Exhibit H from -- if we could page through this. I don't think that's it. Okay. We are getting to it. Next page. Next page. Next page.**

Okay. Here is what I am interested in, sir.

This, what we see on the screen is the testing arrangement that you set up for doing your flexure testing on the samples from the GE HotPoint. Correct?

A. **This is not the GE HotPoint.**

Q. **But this is the same type of arrangement that you used for the GE?**

A. **That is the type of arrangement, yes.**

Q. **You just clamped it to a bench. Right?**

A. **That's right.**

Q. **So was there bench in your garage or did you have to travel to Massachusetts to do that?**

A. **We did this in the Trident office in Annapolis. We have a laboratory there that I did it in.**

MR. SPEARS: Pass the witness.

THE COURT: Redirect, counsel.

REDIRECT EXAMINATION

BY MR. ABRAHAM:

Q. **Mr. Dapkunas, Mr. Spears referred to type 1 testing and type 2 testing. Do you recall?**

A. **Yes.**

Q. **For the GE HotPoint, you performed type 1 tensile tests, correct?**

A. **That's correct, according to the ASTM D-638 protocol.**

Q. **You did not perform the type 2 tensile tests?**

A. **No.**

Q. **Why not?**

A. **The plaques out of the GE refrigerator, the section of the refrigerator in which the plaques laid was about 24 inches wide and probably 26 or 28 inches high.**

It contained three plaques, a narrow one in the middle, two wide ones down the sides.

No, sir plaques extended just about to the side walls. And to get that back out of the refrigerator, the if you cut specimens from it, we had almost nothing left, because it was right up against the walls.

Whereas the Whirlpool, contingency Moore, KitchenAid, and the LG refrigerators had plaques that were isolated from one notice, and isolated from the ends of those wall sections.

So it was very feasible to cut sections out of those.

The refrigerator from which we had taken the material to do these type 1 tensile tests, to show the effect of plaques, essentially destroyed that section of the refrigerator in cutting things out.

And that's why we didn't do more than we did in terms of flexure. It would have been nice to do more than that. That's what we could do for that piece of material that we had.

MR. ABRAHAM: No further questions.

THE COURT: Thank you, sir. You are excused.

(Witness excused.)

THE COURT: All right, ladies and gentlemen. We have come to the end of the day. We will see you tomorrow morning at 9.

Please remember the instructions I gave at the end of the day.

(Jury leaves courtroom at 4:30 p.m.)

(Recess taken.)

THE COURT: Okay, counsel. Please be seated.

I want you to pull out your Exhibit 1, your file with the instructions. Let's go through this.

We will do what we can do today, understanding that there is still evidence that is going to be adduced in this case.

Page 3, under the 1.3 instruction, evidence

defined. Second paragraph, there is a typo, the second line, under deposition transcript testimony, should the word testimony be there?

MR. PARTRIDGE: That is fine.

THE COURT: Mr. Coyne, are you with me?

MR. COYNE: Yes, Your Honor.

THE COURT: Second paragraph, second line in that paragraph?

MR. COYNE: Yes, Your Honor.

THE COURT: I have moved on to Page 1.6, credibility of witness.

This is an instruction I used, this was Elan or ETG, that I have -- do you have the civil action number?

We are going to provide you with a copy of a credibility instruction that I am going to direct you to use, in lieu of the proposed now rather dated 1993 uniform Delaware patent instructions.

One day we will get around to convening a committee. But there are so many new folks involved in proposing patent instructions, I don't know that we need to.

I have moved on to 1.9, burden of proof. I would like you to add the following to the end of the second paragraph. Are you with me, Mr. Coyne?

MR. COYNE: Yes, Your Honor.

THE COURT: "Proof by clear and convincing

evidence is thus a higher burden than proof by a preponderance of the evidence."

I am assuming there is no difficulty on the other side.

MR. COYNE: No, Your Honor.

MR. SPEARS: No, Your Honor.

THE COURT: We have moved on to 3.1, independent and dependent claims, Page 12.

Have you taken a look at the Federal Circuit Bar Association's instruction in this area? I prefer it.

Moving on to Page 18, 3.2, DOE.

MR. SPEARS: I don't mean to interrupt, Your Honor.

THE COURT: Page 15, I am sorry. Was that what you were going to call to my attention?

MR. SPEARS: Yes, Your Honor. In light of the way the evidence has come in, Whir pool is perfectly agreeable to LG's.

THE COURT: Okay. So the language that I highlighted at the bottom of Page 15 is no longer in controversy?

MR. SPEARS: That is exactly right, Your Honor. We have no objection to you submitting that.

THE COURT: Just thinking about it, I am not certain that I agree with either of you, frankly, that this

language isn't confusing.

Let's be specific about the language we are talking about, so we are certain that we are talking about the same language: An accused device may be found to infringe if it is reasonably capable of satisfying the claim limitations, even though it may also be capable of noninfringing modes of refrigeration.

Yes, Mr. Spears? You don't think that language is potentially confusing?

MR. SPEARS: In the context of this case as the evidence has come in, I believe it would be confusing. Therefore, Whir pool no longer sees any need to have it submitted.

MR. COYNE: Your Honor, we agree it should not be submitted.

THE COURT: You are agreeing it should come out.

MR. SPEARS: Absolutely.

THE COURT: Fine. I didn't understand. Good. So does the Court.

Now I am on to Page 18. Counsel, I am not certain that the Federal Circuit Bar Association's instruction wouldn't be preferable, generally speaking. Have you looked at that?

MR. SPEARS: Yes, I have, Your Honor. In fact, there is a legal errors instruction.

THE COURT: Where is that legal error?

MR. SPEARS: The legal error, if you will, is in the statement, the statement of function, way, result test. And then the next statement is that in order for the structure to be considered equivalent, it must have been known at the time of the alleged infringement to a person having ordinary skill in the field of technology of a patent.

That is true, when you are talking about equivalence under 112(6) of the Patent Statute. It is fundamentally not true when you are talking about the doctrine of equivalents. And the Federal Circuit has drawn that very distinction in various cases, including the Jumana (phonetic) case. If this is in the Federal Circuit Bar Association instruction, and I think that that instruction is actually very close to this, it's wrong.

THE COURT: We can take another look. Go ahead, Mr. Coyne.

MR. COYNE: Yes, Your Honor. There is a 1994 Federal Circuit case, AllSight (phonetic) Court v. VSI. And the Court lays out there the difference between 112 and regular equivalence. And it tends to say the opposite of what Mr. Spears said. In other words, an equivalents analysis under 112 must have been conducted at the time the patent issued while an opinion under the doctrine of

equivalents may arise after or at the time of the infringement. We have proffered this and we believe it accurately states the law.

MR. SPEARS: That is very important. This language is talking about something existing -- I am sorry. It's at the time of the alleged infringement. My mistake, Your Honor. We have no problem with this.

THE COURT: So we are good. Okay.

3.3.3. It's long, it's confusing. I am not sure what purposes it serves.

MR. SPEARS: I agree with that. In addition, the second half of it dealing with prosecution history estoppel is an issue for the Court.

THE COURT: Yes.

MR. COYNE: Yes, Your Honor. We agree.

THE COURT: So, willful infringement, 3.4, I believe the controversy, or language is at the bottom of Page 25, it reads: You may also consider whether LG sought a legal opinion as one factor in assessing whether, under the totality of the circumstances, any infringement by LG was willful.

I have used a similar instruction in the past, counsel, under similar circumstances.

MR. COYNE: Our concern is it essentially forces us into a waiver proposition or at least telling the jury

that we have declined to waive, which I suppose we already have. But it does emphasize the lack of an opinion.

THE COURT: It doesn't emphasize anything but a fact.

MR. COYNE: Yes, Your Honor.

THE COURT: I have written on this before. While you may differ, it seems to me that, if -- are you saying if you haven't sought an opinion of counsel, that it's something that the jury may not consider?

MR. COYNE: No, Your Honor, I am not.

THE COURT: What are you saying?

MR. COYNE: We have in this case sought an opinion. We haven't waived privilege. I guess we will accept the language that the Court is suggesting, that that stays in.

THE COURT: Yes. I am assuming there is no objection?

MR. SPEARS: No, Your Honor.

THE COURT: 4 .3 is the next one I have.

I think there is one typo I see at Page 31, the first paragraph, after the semicolon, it says, and that the 89 patent, I don't think the 89 is any longer in the case. Right?

MR. COYNE: That's correct, Your Honor. It's out.

THE COURT: These are real similar instructions. One based on the national patent jury instruction model, and the other on the Federal Circuit Bar Association model, counsel. What do you want to do?

MR. SPEARS: I think the first thing we need to ask ourselves is whether we need to submit it at all.

I have the same question as to 4.12, written description. Whirlpool agreed to the form of that instruction. There were such defenses provided in Dr. Bessler's expert report. But since he didn't testify to them this morning, I don't think we have written description or enablement in the case anymore.

THE COURT: Let's see if your opponent agrees.

MR. COYNE: Your Honor, I don't know what I missed. I did put up that list with Dr. Lee and Dr. Bessler specifically said there was no description in the '130 patent for any of them.

THE COURT: So there is testimony.

MR. SPEARS: The next step of that is whether a person of ordinary skill in the art would have been capable of doing that --

THE COURT: And there is no testimony.

MR. SPEARS: There is no testimony on that point.

MR. COYNE: Your Honor, I appreciate this is an

issue that is hotly contested in the circuit right now, in the Aria en banc decision between written description and enablement. The enablement is whether someone of ordinary skill could be enable it. The written description has to be there. And what he testified is, there is no written description. It isn't a question of one of ordinary skill in the art would be enabled. Written description has to be present. Right now the circuit law is there are two separate requirements. Written description can't be backfilled by the level of skill in the art. There is no written description.

MR. SPEARS: In that case, we can agree to the submission of the written instruction and a written description, defense in the verdict form. I think we are in agreement that there is no enablement defense and we need not submit enablement to the jury.

THE COURT: Do you agree?

MR. COYNE: Yes, Your Honor. But there is another issue whether enablement goes to Your Honor.

THE COURT: I am talking about jury instructions.

MR. COYNE: For purposes of the jury instructions, we are fine with written description going to the jury.

THE COURT: Indefiniteness.

MR. SPEARS: I don't know what the defense is. I don't know why the jury should hear it.

THE COURT: 4.4.

MR. COYNE: Your Honor, there is circuit authority that says that it is an issue that is amenable to resolution by the jury where the issues are factual. That is the B.J. Services Corporation v. Halliburton case. This is part of the testimony we will be adducing tomorrow morning before we finish.

We believe --

THE COURT: We will address it again further later.

MR. COYNE: Thank you, Your Honor.

THE COURT: Yes.

MR. SPEARS: It appears that Dr. Mellinger, from whom this testimony is going to be adduced, has provided no opinions on indefiniteness in his expert report. As the Court said, if he is allowed to testify --

THE COURT: It is a different issue, counsel. Let's not mix metaphors. We are talking about jury instructions.

4.5.1 is the next one I have. Level of ordinary skill. I have the following language at the beginning of the instruction: Several times in these instructions I have referred to a person of ordinary skill in the field of

invention.

Did you get that, Mr. Coyne?

MR. COYNE: I am trying, Your Honor.

THE COURT: The next is 4.5.3, I just see a typo. The second sentence, you must consider the claimed, you need to add the "ed."

Claimed invention. Do you see that? By the time we get to 4.6 I will be dizzy. I am wondering whether we really need 4.6. But if you believe that we do, we do.

MR. SPEARS: Yes.

THE COURT: It was certainly talked about earlier.

MR. SPEARS: Yes, we believe we need this instruction.

THE COURT: Mr. Coyne.

MR. COYNE: Yes, Your Honor.

THE COURT: All right. We will give it.

Counsel, 5.3, when damages begin. Come on. Or I am going to submit it to the jury and let them decide?

MR. SPEARS: This deals with the date of actual notice. The Patent Statute says we have the date of actual notice as of the date that an action for patent infringement was filed.

On January 23rd of 2008, an action for patent infringement was filed in the International Trade

Commission.

In the summary judgment letter that was submitted by LG, LG took the position that this was the date of actual notice and from which damages under the '130 patent should run.

We think this is a simple issue, can be decided as a matter of law right now, especially in light of LG's submission, there is no reason to have the jury decide it.

THE COURT: Why can't you two agree?

MR. COYNE: I don't know why we can't agree. It's date of institution. We were not served with that complaint. In the ITC, you don't serve it when it's filed. The ITC rules on it first and then --

THE COURT: We have to get into the arcane rules of the ITC in order to decide notice?

MR. COYNE: No, Your Honor.

THE COURT: If what appears in the summary judgment letter is what Mr. Spears has represented you wrote in the summary judgment letter, my clerk is going to check, that is the date I am going to hold you to.

MR. COYNE: Very well, Your Honor. Thank you.

THE COURT: Let's continue on while she is doing that. I am coming now to the end here.

Counsel, you need to make two additions here, 6.1, deliberation and verdict. This is an old form,

wherever you got your form from, it's an old one. So after the first sentence, Mr. Coyne, add the following sentence: After you hear the closing arguments of counsel, you will return to the jury room to begin your deliberations.

Then in the next paragraph, please add the following sentence after the first sentence, right after the word case: You should add, The first thing you should do is select a foreperson.

That then necessitates the deletion of the last sentence in that paragraph. I no longer employ that procedure.

I also traditionally use, it's a little redundant, but I think it bears -- it should be used in this case. It's called duty to deliberate. When Mr. Nerozzi comes back I will have her duplicate this, so that it can be distributed.

Finally, 6.2, unanimous verdict, the second paragraph, last sentence, this is at Page 49. Instead of the word "of," I think it should be "from," your duty is to seek the truth from the evidence in this case. And then, lastly, in the last paragraph, the second line, it should be "intimation" rather than "limitations," intimation as to what I think your verdict should be.

I think that covers and disposes of all the of the issues except for the moment when damages begin.

MR. COYNE: I believe that's correct, Your Honor.

THE COURT: As soon as Ms. Nerozzi comes back, I will have her distribute the duty to deliberate addition. Let's move on.

MR. SPEARS: We have a copy of that, Your Honor.

THE COURT: Do you? That's fine. Let's make sure it's the same.

Do you have a copy?

MR. COYNE: I do not, Your Honor.

THE COURT: What Mr. Spears has handed me, for the record, is a copy of your submission in support of your request to move under Rule 56.

MR. COYNE: Very well, Your Honor.

THE COURT: It will be January 23.

Ms. Nerozzi, you can come back if you are listening.

Then that brings us to the verdict forms. I think I have -- I am going to recommend, for purposes of our discussion and actually the creation of a verdict form, that we use Whirlpool's model and work from that.

Do you have both in front of you, counsel?

MR. SPEARS: Yes, Your Honor.

THE COURT: At Page 2, Mr. Coyne, there is the following. Under Question 2. If you answered yes, which

references render the patent obvious?

I don't have a problem with that question. I just note there is a difference in the two forms. Is there an agreed upon list of prior art references between the parties?

MR. PARTRIDGE: Your Honor, there was a limited amount of prior art that was introduced to the jury. It's not one of those cases where there is this long list and various combinations. But I am worried about creating some inconsistency, given the lack of complexity that is associated with each of the obviousness cases, insofar as there is not a lot of prior art. I just think it's risky to ask this question and end up with something that's inconsistent.

THE COURT: Mr. Coyne.

MR. COYNE: Your Honor, I don't have a problem if we identify the specific references the parties have relied upon in these questions. What we are seeking here is just clarity. And I think it will help avoid jury confusion. What I am worried about is if they start getting confused.

THE COURT: I don't think it's confusion. I think it's an appellate issue for later on. I don't think it's a matter of confusion it may engender.

Talk about it some more. I prefer you agree on

this. If not, I will make the call.

On the other hand, Mr. Partridge, just as to the reasons you have suggested, maybe it's not an issue and it would be simple enough --

MR. PARTRIDGE: Mr. Spears just reminded me that we have this exercise we went through this afternoon about what qualifies as prior art in terms of accessibility and the like.

At the end of the day as to the plaques patent, the '601 patent, there may be some confusion and lack of resolution until after we finish the evidence tomorrow.

That sort of suggests to me that, again, I am not sure we will reach agreement on what that is. I would prefer not to put this in.

But we will endeavor to work it out, Your Honor, as you request.

THE COURT: All right. On Whirlpool's Page 2, damages, the reasonable royalty, Question No. 3, I prefer LG's proposal, for this reason: I like the direction to the jury, which reads, Answer this question only if you answered yes to Question 1 and no to Question 2. It is a clear direction to the jury.

Counsel, why don't you both write down the following. I have moved on to No. 6 on Whirlpool's proposed -- hold that for a second. I am sorry.

I have had to work back and forth between the forms.

Mr. Coyne, I prefer the order in which Whirlpool has proposed the presentation of Question 5, the willfulness question, they propose it later in the series of questions to the jury.

In addition to that, I think the question that you propose is rather argumentative, the way you propose it. It's proposed as follows:

Has Whirlpool proven by clear and convincing evidence that LG acted despite an objectively high likelihood that its actions constituted infringement of a valid patent ?

In contrast, Whirlpool's proposal reads: Has Whirlpool proven by clear and convincing evidence that LG willfully infringed the '130 patent?

They are going to be instructed as to the standard. Again, as I said, the manner in which it's proposed here smacks of spin to me, advocacy.

MR. COYNE: Your Honor, there is a separate issue on this. We certainly accept that.

THE COURT: Go ahead.

MR. COYNE: There is a separate issue with respect to the French doors and the side by side.

The evidence that has been submitted, there is a

different basis -- there is a factual basis for the jury to reach different conclusions about the French door and the side by side.

For example, they could find the side by side infringed and the French door not.

THE COURT: What is your point?

MR. COYNE: That's why we had split it out as to taking the willfulness verdict on each of the French door and the side by side.

MR. PARTRIDGE: Your Honor, a number of years ago the Federal Circuit dealt with whether we split up time periods with respect to willfulness, you know, if somebody corrected and did this, that and the other thing, and the bottom line is that the Judge considers, if there is a willfulness verdict, all of this in determining enhancement. In our case on willfulness, it is really the same for both side by side and French door, because the applicable structures are the same, the bin, ice maker, when you open that thing up and you look behind that freezer, that inside door on the French door unit, it looks the same as the one on the side by side.

So it is a continuous willfulness from our point of view. That's the case we have been presenting.

If LG -- if we get a willfulness verdict, and LG wants to argue that Your Honor should consider some

difference between the two as a factor in deciding whether to enhance, you know, one and a half, two and a half or whatever, I think that's for you to decide. I think it's confusing, particularly given the evidence as it has come in, to now tell the jury that there is two different willfulness cases when we presented it as one.

MR. COYNE: The basic difference, Your Honor, is on the French door model, both experts have testified that the door to which this apparatus is mounted is a refrigerator door. So there is a very strong factual basis in the record to distinguish. If Your Honor has -- let's say, if Your Honor gets a verdict that comes back and just says we have been willful, it's going to be hard to parse out which element of it it is.

There are factual differences. I disagree, respectfully, with Mr. Partridge on that. Clearly, the door is a freezer door on the side by side. But there is a genuine factual issue this jury is going to have to wrestle with on the French door model.

MR. PARTRIDGE: I just don't know of authority, Your Honor, that goes product by product by product on willfulness. I haven't seen a case that does that. I don't think there is anything in the Federal Circuit that does that sort of thing. We have been looking to see if there is some division of willfulness periods or willfulness by

products. I haven't found it. I am not saying it isn't out there somewhere.

I think this would be somewhat of a new direction and could be confusing.

I think the remedy is fixing it before our posttrial briefing, should we get there, in terms of what you do with respect to enhancement.

THE COURT: Do you know of any authority?

MR. COYNE: No, Your Honor. I have already spoken my piece.

THE COURT: I am going to defer to Whirlpool on this.

It seems to me it is a damages issue. We can discuss that at a later time.

I am going to suggest Mr. What Partridge has offered.

MR. COYNE: Okay, Your Honor.

THE COURT: Looking at anticipation, I think it's Question 9 for LG and Question 10 for Whirlpool. The distinction I see, I think it's one that causes me to favor LG's, is that, Mr. Partridge, you leave out the word any, any of the following claims, yours reads, Has LG proven by clear and convincing evidence that the following claims...?

MR. PARTRIDGE: That is a good point, Your Honor.

MR. COYNE: Yes, Your Honor.

THE COURT: I think Question 12 of Whirlpool's is consistent with the ruling I have just made. And the other matter is whether -- LG proposes that only the jury foreperson sign the verdict form. Whirlpool's instruction is a little inconsistent in that you tell the presiding juror to sign the form yet you provide signature lines for each juror. What do you want?

MR. PARTRIDGE: I was a little confused when I discussed this with Mr. Cottrell on the phone over the weekend. He thought you would want everyone to sign. Then I added the lines and I didn't fix the paragraph. My apologies. Whichever way is the Court's preference.

THE COURT: Mr. Coyne, do you have a preference?

MR. COYNE: No, Your Honor.

MR. PARTRIDGE: Just the presiding juror is fine with us.

THE COURT: Why don't we have the presiding juror sign. If either of you or both want to pole the jury, you certainly can do that.

I think that covers the verdict form. Any issues there?

MR. COYNE: The only other issue, Your Honor, is the indefiniteness issue. We also tabled that for the jury instructions. We can take that up tomorrow.

THE COURT: LG has submitted a Rule 50 motion. I thought I had brought it back out with me. I have misplaced it. I read it while out here, during the course of the day. I am going to deny it. I believe that it doesn't, the assertions do not meet the Rule 50 standard. I think there is evidence from which a reasonable jury could conclude -- unfortunately, I don't have each of the issues. The record will reflect, I am denying each of your points.

MR. COYNE: Yes, Your Honor.

THE COURT: That's the Court's ruling.

Counsel, is there anything else before the jury comes back tomorrow that we should talk about?

MR. PARTRIDGE: I did want to talk a little bit about closing arguments. One of the things at the pretrial conference, and I think it was the first one, that we tabled was the appropriate structure, whether we have Mr. Coyne just go and then I respond and that's it or whether he gets a rebuttal or whether I get a rebuttal to his rebuttal, given the nature of the case. I want us to come to a resolution on what we are doing in terms of closing arguments.

I am fine with doing it the way we did for closings that he argues, I argue, and we are done. But I am not, you know, adamant about --

THE COURT: I haven't had the back-and-forth

that you just described a moment ago. I haven't utilized that format in the past. I have gone the more, I guess, tradition natural route, versus that which Judge Markey recommended some time ago, which Judge Farnan experimented with and dropped quickly, some years ago.

MR. PARTRIDGE: Each side would do its thing and that would be it.

THE COURT: Yes.

MR. PARTRIDGE: I am fine with that, Your Honor.

May I have a moment, with Mr. Coyne.

(Counsel confer.)

MR. COYNE: Your Honor, the other issue we have been discussing is the Bench issues.

At this point, we are contemplating dropping several of the issues. But there is a few issues that would remain, prosecution history estoppel among them. And we would want -- if we can get all of the evidence in tomorrow, and I think we might be able to, which is why I raised this with Mr. Partridge earlier today, we would not see the need for a further evidentiary hearing. And what we were going to suggest to the Court is that if -- we would like to report back to you tomorrow whether we have achieved that goal or not.

If we have, we would like to suggest that the Court accept briefing from the parties on those Bench

issues, rather than keep everybody here for another day and have an oral argument with you. It seems it is less efficient for your time.

THE COURT: Is there any objection?

MR. PARTRIDGE: No, Your Honor. Our only Bench issue, which is something normally done on another day anyway, I raised it when we were talking about damages, we do have, as part of our enhancement case, should we get a verdict on willfulness, some additional damage information we want to provide the Court, that goes from the willfulness date, when they knew about the patent, up to the actual notice date, with regard to the statute. We think there is authority for you to consider that. We could do that by declaration, if you decided you wanted an evidentiary hearing on the issues, we could make the witnesses available.

With that addition, I am fine putting off the Bench trial.

THE COURT: Is that acceptable, Mr. Coyne?

MR. COYNE: Yes.

THE COURT: Counsel, anything else?

(Court recessed at 5:18 p.m.)