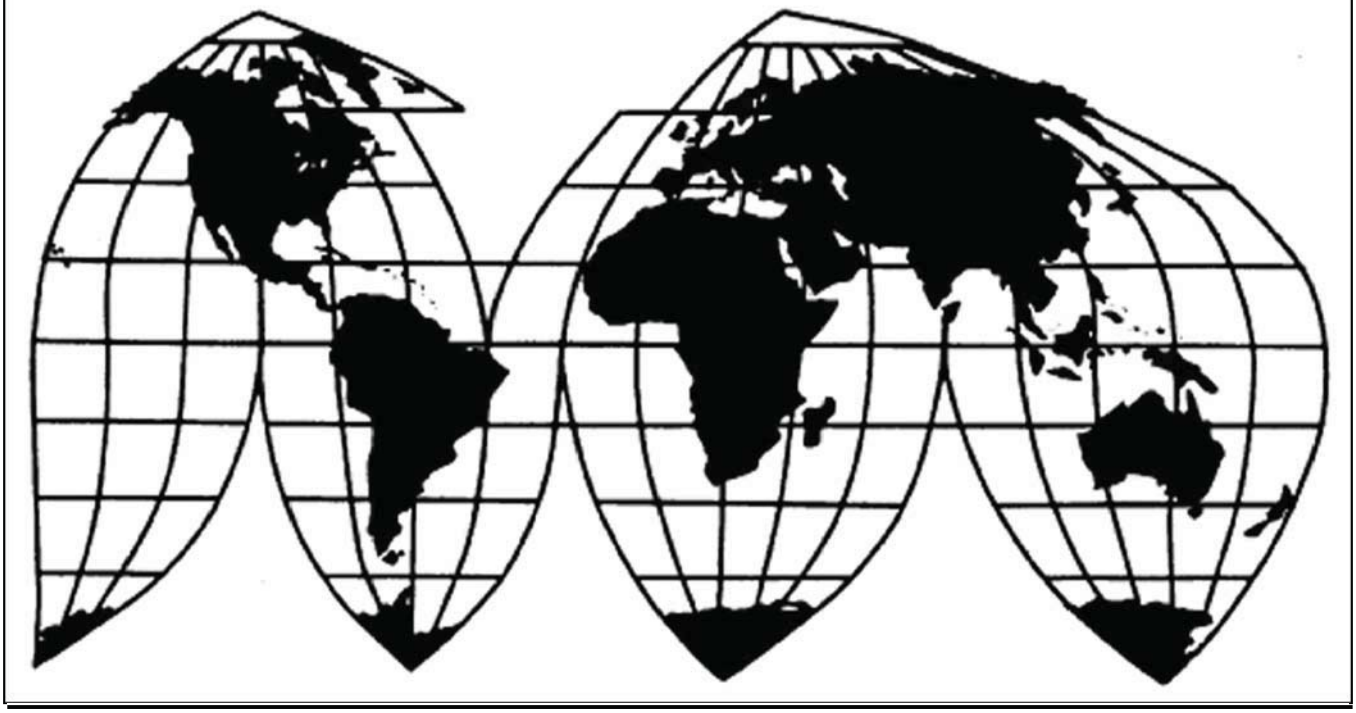
In the Matter of

Certain Refrigerators and Components Thereof

Investigation No. 337-TA-632

Publication 4185 **September 2010**

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

In the Matter of CERTAIN REFRIGERATORS AND COMPONENTS THEREOF	Investigation No. 337-TA-632

NOTICE OF THE COMMISSION'S FINAL DETERMINATION OF NO VIOLATION OF SECTION 337, EXTENSION OF TARGET DATE, TERMINATION OF THE INVESTIGATION

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined that there is no violation of Section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337) by LG Electronics, Inc.; LG Electronics, USA, Inc.; and LG Electronics Monterrey Mexico, S.A., De, CV. The target date of the investigation is extended to February 12, 2010. The investigation is terminated.

FOR FURTHER INFORMATION CONTACT: Megan M. Valentine, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-2301. Copies of the presiding Administrative Law Judge's ("ALJ") Initial Determinations ("ID") and all other non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at *http://www.usitc.gov*. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov*. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: On February 26, 2008, the Commission instituted this investigation, based on a complaint filed by Whirlpool Patents Company of St. Joseph, Michigan; Whirlpool Manufacturing Corporation of St. Joseph, Michigan; Whirlpool Corporation of Benton Harbor, Michigan; and Maytag Corporation of Benton Harbor, Michigan (collectively, "Whirlpool"). The complaint, as supplemented, alleged violations of Section 337 based upon the importation into the United States, the sale for importation, and the sale within the United States after importation of certain refrigerators and components thereof that infringe certain claims of U.S. Patent Nos. 6,082,130 ("the '130 patent); 6,810,680 ("the '680 patent"); 6,915,644 ("the '644 patent"); 6,971,730 ("the '730 patent"); and 7,240,980 ("the '980 patent").

Whirlpool named LG Electronics, Inc.; LG Electronics, USA, Inc.; and LG Electronics Monterrey Mexico, S.A., De, CV (collectively, "LG") as respondents. The complaint, as supplemented, further alleged that an industry in the United States exists as required by subsection (a)(2) of Section 337 and requested that the Commission issue an exclusion order and cease and desist orders.

On May 1, 2008, Whirlpool filed a motion to partially terminate the investigation based on their withdrawal of the '730 patent and the '980 patent. LG supported the motion. On June 9, 2009, the ALJ issued an ID, Order No. 8, terminating the investigation, in part, as to the '730 and '980 patents. On June 24, 2008, the Commission determined not to review Order No. 8. On September 11, 2008, Whirlpool and LG filed a joint motion seeking termination of this investigation with respect to the '680 patent and the '644 patent on the basis of a settlement agreement. On September 25, 2008, the ALJ issued an ID, Order No. 10, terminating the investigation, in part, as to the '680 and '644 patents. No petitions for review were filed. On October 27, 2008, the Commission determined not to review Order No. 10. The '130 patent is the sole patent remaining in this investigation.

On October 17, 2008, Whirlpool filed a motion for summary determination that it had satisfied the importation requirement. On November 20, 2008, the ALJ issued an ID, Order No. 14, granting complainant's motion for summary determination of importation. No petitions for review were filed. On December 15, 2008, the Commission issued notice that it had determined not to review Order No. 14.

On July 24, 2008, Whirlpool filed a motion seeking leave to amend the complaint and notice of investigation to (1) remove references to patents that had been withdrawn from this investigation; (2) add a reference to a non-exclusive license that relates to two patents at issue; and (3) update the current state of the domestic industry. On November 25, 2008, the ALJ issued Order No. 15, in which he granted Whirlpool's motion as to (1) and (3) above and denied it with respect to (2). No petitions for review were filed. The Commission determined not to review the subject ID on December 15, 2008.

On February 26, 2009, the ALJ issued a final ID, in which he found no violation of Section 337. On March 11, 2009, Whirlpool filed a petition for review, and LG filed a contingent petition for review. Whirlpool, LG and the Commission investigative attorney ("IA") filed responses. On April 27, 2009, the Commission determined to review the final ID in its entirety. 74 *Fed. Reg.* 20345-6 (May 1, 2009). In particular, the Commission was concerned with the ALJ's claim construction of the terms "freezer compartment," "disposed within the freezer compartment," and "ice storage bin having a bottom opening." The Commission asked the parties to address several questions concerning claim construction.

After receiving briefing from the parties, the Commission determined to modify the ALJ's claim constructions of the terms "freezer compartment," "disposed within the freezer compartment," and "ice storage bin having a bottom opening," determined to affirm the ALJ's construction of the term "ice maker," and determined to remand the investigation to the ALJ to

make findings regarding infringement, validity, and domestic industry consistent with the Commission's claim constructions. The Commission further ordered the ALJ to issue a remand ID ("RID") on violation and a recommended determination on remedy and bonding. The Commission also issued an Opinion detailing its reasons for modifying the claim constructions.

On July 22, LG filed a petition for reconsideration of the Commission's decision to modify the ALJ's claim constructions of the phrases "freezer compartment" and "disposed within the freezer compartment." On August 28, 2009, the Commission denied LG's petition.

On October 9, 2009, the ALJ issued his RID, in which he found no violation of Section 337. Specifically, the ALJ found that the accused refrigerators and components thereof do not infringe claims 1, 2, 4, 6, 8, and 9 of the '130 patent literally or under the doctrine of equivalents. The ALJ also found that claims 1, 2, 4, 6, and 9 of the '130 patent are invalid under 35 U.S.C. § 103 for obviousness, but that claim 8 of the '130 patent is not invalid under 35 U.S.C. § 103. The ALJ further found that a domestic industry exists.

On October 26, 2009, Whirlpool filed a petition for review challenging the RID's conclusion of non-infringement and obviousness. LG also filed a contingent petition for review challenging the ALJ's findings concerning non-obviousness and his conclusion that a domestic industry exists. On November 3, 2009, LG filed a response to Whirlpool's petition. On November 4, 2009, Whirlpool filed a response to LG's petition. On November 6, 2009, the IA filed a combined response to both petitions.

On December 14, 2009, the Commission issued a Notice determining to review the RID in its entirety and requesting written submissions from the parties regarding the issues under review, particularly concerning the validity of claim 2 of the '130 patent, as well regarding issues of remedy, the public interest, bonding. 74 *Fed. Reg.* 67250-1 (Dec. 18, 2009). The parties filed initial submissions in response to the Commission's Notice on December 30, 2009, and reply submissions on January 7, 2010.

Having examined the record of this investigation, including the ALJ's final RID, the Commission has determined to affirm the RID's determination of no violation of the '130 patent.

Specifically, the Commission has determined to modify the ALJ's implied construction of the claim limitations "the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin" and "ice crushing region." The Commission has also determined to reverse a portion of the ALJ's determination of non-infringement and find that the accused side-by-side models infringe claims 1, 2, 4, 6, and 9 of the '130 patent.

The Commission has determined to affirm the remainder of the ALJ's findings. Specifically, the Commission affirms the ALJ's finding that the accused side-by-side model refrigerators do not infringe claim 8 of the '130 patent. The Commission also affirms the ALJ's finding that the accused French Door model refrigerators do not infringe any of the asserted claims of the '130 patent. The Commission further affirms the ALJ's finding that claims 1, 2 4,

6, and 9 of the '130 patent are invalid for obviousness with several modifications to the analysis concerning claims 1 and 2. The Commission also affirms the ALJ's finding that claim 8 is not invalid for obviousness. Finally, the Commission affirms the ALJ's finding that there is a domestic industry.

The target date of the investigation was February 9, 2010. Due to inclement weather, the federal government was closed from Monday, February 8 through Thursday, February 11, 2010. The target date is, therefore, extended to Friday, February 12, 2010, pursuant Commission Rule 210.51(a) (19 C.F.R. § 210.51(a)).

The authority for the Commission's determination is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in sections 210.42-46 of the Commission's Rules of Practice and Procedure (19 C.F.R. §§ 210.42-46).

By order of the Commission.

Marilyn R. Abbott
Secretary to the Commission

Issued: February 12, 2010

CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **337-TA-632 (Remand)**

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION'S FINAL DETERMINATION OF NO VIOLATION OF SECTION 337; TERMINATION OF THE INVESTIGATION** has been served by hand upon the Commission Investigative Attorney, Lisa Murray, Esq., and the following parties as indicated, on February 12, 2010.

Marilyn R. Abbott, Secretary
U.S. International Trade Commission
500 E Street, SW
Washington, DC 20436

On Behalf of Complainants Whirlpool Patent Corporation; Whirlpool Manufacturing Corporation; Whirlpool Corporation; and, Maytag Corporation:

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(✓) Via Overnight Mail
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( ) Other: _____

On Behalf of Respondents LG Electronics, Inc., LG Electronics, USA, Inc., and LG Electronics Monterrey:

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PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

In the Matter of **CERTAIN REFRIGERATORS AND COMPONENTS THEREOF**	**Inv. No. 337-TA-632**

COMMISSION OPINION ON REMAND

On February 12, 2010, the Commission issued notice of its final determination affirming the presiding administrative law judge's ("ALJ") finding of no violation of Section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337) ("Section 337") in the importation into the United States, sale for importation, and sale within the United States after importation of certain refrigerators and components thereof by reason of infringement of U.S. Patent No. 6,082,130 ("the '130 patent"). This opinion sets forth the Commission's reasons for its determination.

Specifically, and in contrast with the ALJ's implicit construction, the Commission's construction of the claim limitation "the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin" does not require that the auger move ice pieces from the ice storage bin through the bottom opening for dispensing in a continually downward direction or without the assistance of any additional force, such as gravity. We also construe the claim limitation "ice crushing region" as "an area defined by the ice storage bin (claim 6) or the lower ice bin member (claim 8) through which ice pieces must pass before being dispensed from the ice storage bin." We reverse the ALJ's determination of non-infringement in

part and find that the accused side-by-side models infringe claims 1, 2, 4, 6, and 9 of the '130 patent.

The Commission affirms the remainder of the ALJ's findings. Specifically, we affirm the ALJ's finding that the accused side-by-side model refrigerators do not infringe claim 8 of the '130 patent. We also affirm the ALJ's finding that the accused French Door model refrigerators do not infringe any of the asserted claims of the '130 patent. We further affirm the ALJ's finding that claims 1, 2, 4, 6, and 9 of the '130 patent are invalid for obviousness with several modifications to the analysis concerning claims 1 and 2. In addition, we affirm the ALJ's finding that claim 8 is not invalid for obviousness. Finally, we affirm the ALJ's finding that there is a domestic industry. The Commission adopts the ALJ's final remand initial determination ("RID") to the extent it is not inconsistent with this opinion.

I. BACKGROUND

A. Procedural History

The Commission instituted this investigation on February 26, 2008, based on a complaint filed by Whirlpool Patents Company of St. Joseph, MI; Whirlpool Manufacturing Corporation of St. Joseph, MI; Whirlpool Corporation of Benton Harbor, MI; Maytag Corporation of Benton Harbor, MI (collectively "Whirlpool"). 73 *Fed. Reg.* 10285 (Feb. 26, 2008). The respondents named in the Notice of Investigation were LG Electronics, Inc. of South Korea; LG Electronics, USA, Inc. of Englewood Cliffs, NJ; and LG Electronics Monterrey of Mexico (collectively "LG"). *Id.*

The complaint, as supplemented, alleged violations of Section 337 in the importation into

the United States, sale for importation, and sale within the United States after importation of certain refrigerators and components thereof by reason of infringement of certain claims of U.S. Patent Nos. 6,810,680 ("the '680 patent"); 6,915,644 ("the '644 patent"); 6,971,730 ("the '730 patent"); and 7,240,980 ("the '980 patent") and the '130 patent. The complaint, as supplemented, further alleged that an industry in the United States exists as required by subsection (a)(2) of Section 337. The investigation was assigned to Judge Theodore R. Essex.

On October 17, 2008, Whirlpool filed a motion for summary determination that it had satisfied the importation requirement. On November 20, 2008, the ALJ issued an initial determination ("ID"), Order No. 14, granting complainant's motion for summary determination of importation. No petitions for review were filed. On December 15, the Commission issued notice that it had determined not to review Order No. 14.

On July 24, 2008, Whirlpool filed a motion seeking leave to amend the complaint and notice of investigation to (1) remove references to patents that had been withdrawn from this investigation; (2) add a reference to a non-exclusive license that relates to two patents at issue; and (3) update the current state of the domestic industry. On November 25, 2008, the ALJ issued Order No. 15, in which he granted Whirlpool's motion as to (1) and (3) above and denied it with respect to (2). No petitions for review were filed. On December 15, 2008, the Commission issued notice that it had determined not to review the ID.

In the course of the investigation, the issues regarding the '680, '644, '730, and '980 patents were resolved leaving only the '130 patent for the final ID. *See* Order No. 8 (granting Whirlpool's motion to terminate U.S. Patent Nos. 6,971,730 and 7,240,980) (June 9, 2008)

(unreviewed) and Order No.10 (granting joint motion to terminate U.S. Patent Nos. 6,810,680 and 6,915,644) (September 25, 2008) (unreviewed).

On February 26, 2009, the ALJ issued his final ID, in which he found that no violation of Section 337 had occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of the accused refrigerators and components thereof by reason of infringement of one or more of claims 1, 2, 4, 6, 8, and 9 of the '130 patent. On March 11, 2009, Whirlpool filed a petition for review challenging the ALJ's final ID. On March 10, 2009, LG filed a contingent petition for review. On March 18, 2009, the Commission investigative attorney ("IA") filed responses to the petitions. On March 19, 2009, Whirlpool and LG filed responses to each other's petition.

On April 27, 2009, the Commission determined to review the final ID in its entirety. 74 *Fed. Reg.* 20345-6 (May 1, 2009). In particular, the Commission was concerned with the ALJ's claim construction of the terms "freezer compartment," "disposed within the freezer compartment," and "ice storage bin having a bottom opening." The Commission's notice asked the parties to address several questions concerning claim construction.

After receiving briefing from the parties, the Commission determined to modify the ALJ's claim constructions of the terms "freezer compartment," "disposed within the freezer compartment," and "ice storage bin having a bottom opening," determined to affirm the ALJ's construction of the term "ice maker," and determined to remand the investigation to the ALJ to make findings regarding infringement, validity, and domestic industry consistent with the Commission's claim constructions. Order: Remand of Investigation (July 8, 2009). The Commission further ordered the ALJ to issue a RID on violation and a recommended

determination ("RD") on remedy and bonding. The Commission also issued an Opinion detailing its reasons for modifying the claim constructions. Commission Opinion (July 8, 2009) ("Comm'n Op.").

On July 22, 2009, LG filed a petition for reconsideration of the Commission's decision to modify the ALJ's claim constructions of the phrases "freezer compartment" and "disposed within the freezer compartment." The Commission denied LG's petition, finding that LG's petition did not raise new questions upon which LG had not had an opportunity to comment, and thus did not satisfy the requirements of Commission Rule 210.47. Order (Aug. 28, 2009).

On October 9, 2009, the ALJ issued his RID, in which he found no violation of Section 337. Specifically, the ALJ found that the accused refrigerators and components thereof do not infringe claims 1, 2, 4, 6, 8, and 9 of the '130 patent literally or under the doctrine of equivalents. The ALJ also found that claims 1, 2, 4, 6, and 9 of the '130 patent are invalid under 35 U.S.C. § 103 for obviousness, but that claim 8 of the '130 patent is not invalid under 35 U.S.C. § 103. The ALJ further found that a domestic industry exists.

On October 26, 2009, Whirlpool filed a petition for review challenging the RID's conclusion of non-infringement and obviousness. Complainants' Petition for Review of Remand Initial Determination (Oct. 26, 2009) ("Whirlpool's Pet.") LG also filed a petition for review challenging the ALJ's finding that Whirlpool's newer domestic industry product practices the '130 patent and offering additional grounds of support for the ALJ's determinations of non-infringement and obviousness. Respondent LG Electronics, Inc.'s, LG Electronics USA, Inc.'s, and LG Electronics Monterey Mexico, S.A. DE C.V.'s Petition for Review of Initial Determination on Remand Regarding Patents (Oct. 26, 2009).

On November 3, 2009, LG filed a response to Whirlpool's petition. Respondent LG Electronics, Inc.'s, LG Electronics USA, Inc.'s, and LG Electronics Monterey Mexico, S.A. DE C.V.'s Reply to Complainants' Petition for Review of Remand Initial Determination (Nov. 3, 2009). On November 4, 2009, Whirlpool filed a response to LG's petition. Complainants' Response to Respondents' Petition for Review of Initial Determination on Remand Regarding Patents (Nov. 4, 2009). On November 6, 2009, the IA filed a combined response to both petitions. Office of Unfair Import Investigation's Combined Response to Respondent's and Complainant's Petitions for Review of the Remand Initial Determination (Nov. 6, 2009).

On December 14, 2009, the Commission determined to review the ID in its entirety and requested briefing on the issues it determined to review, as well as remedy, the public interest, and bonding. 74 *Fed. Reg.* 67250 (Dec. 18, 2009). In its notice of review, the Commission asked the parties to address the following question:

> Does the prior art of record show an ice discharge chute, as recited in claim 2 of the '130 patent, that is separate from and below the bottom opening of the ice storage bin? Can this prior art be combined with the Hitachi reference, or any other prior art references that are currently in the record, to render claim 2 obvious?

On December 30, 2009, the parties filed initial written submissions regarding the issues on review, remedy, the public interest, and bonding. Complainants' Response to the Commission's Notice of Review and Brief on Remedy, the Public Interest, and Bonding (Dec. 30, 2009); Respondents LG Electronics, Inc.'s, LG Electronics USA, Inc.'s and LG Electronics Monterey Mexico, S.A. DE C.V.'s Brief in Response to the Commission's Decision to Review in Its Entirety the Initial Determination on Remand Regarding Patents (Dec. 30, 2009)[1]; Brief of

[1] LG also filed a separate brief regarding remedy. Respondents LG Electronics, Inc.'s,

the Office of Unfair Import Investigations on Issues Under Review (Dec. 30, 2009). On January 7, 2010, the parties filed reply submissions. Complainants' Reply on Violation Issues (Jan. 7, 2010); Respondents LG Electronics, Inc.'s, LG Electronics USA, Inc.'s and LG Electronics Monterey Mexico, S.A. DE C.V.'s Reply to Complainants' Response to the Commission's Notice of Review and to the Brief of the Office of Unfair Import Investigation on Issues Under Review (Jan. 7, 2010); Reply Brief of the Office of Unfair Import Investigations on Issues Under Review (Jan. 7, 2010).

B. The Patent at Issue

The '130 patent, entitled "Ice Delivery System for a Refrigerator," was filed on December 28, 1998 and issued on July 4, 2000. The '130 patent concerns refrigerators with ice dispensing systems. Specifically, the '130 patent discloses a refrigerator having a freezer compartment and a closure member for closing the access opening to the freezer compartment, where an automatic ice maker is disposed within the freezer compartment and an ice bin is mounted to the closure member. The ice bin may be transparent and may be removably mounted to the closure member. The ice bin has an auger that moves the ice through the bottom opening of the ice bin. The ice bin also may have an ice crushing region, through which the ice pieces must pass when the ice is being dispensed. The '130 patent names Jim J. Pastryk, Mark H. Nelson, Verne H. Myers, Daryl L. Harmon, Andrew M. Oltman, Gregory G. Hortin and Devinder Singh as the inventors. The claims of the '130 patent asserted in this investigation are claims 1, 2, 4, 6, 8, and 9. The '130 patent is assigned to Whirlpool.

LG Electronics USA, Inc.'s and LG Electronics Monterey Mexico, S.A. DE C.V.'s Submission Regarding Remedy, Public Interest, and Bonding (Dec. 30, 2009).

C. The Products at Issue

This investigation relates to certain refrigerators having a freezer compartment, an ice maker disposed within the freezer compartment, and an ice storage bin mounted to the freezer door and below the ice maker, so that the ice bin can receive ice from the ice maker. The accused products are LG's LG-branded and Kenmore-branded refrigerators that incorporate the LG SpacePlusTM ice storing system (hereinafter "accused products"). The accused products fall into two basic categories: (a) side-by-side refrigerators and (b) French door or multi-door refrigerators. *See,* RX-568C, Lee Direct Statement, Q. 86; CPX-13; CPX-12.

II. CLAIM CONSTRUCTION

In the infringement section of his RID, the ALJ implicitly interpreted certain claim limitations. Specifically, the limitations of concern are "the auger *moves* ice pieces from the ice storage bin *through the bottom opening*" ('130 patent, 12:61-63) (emphasis added) of claim 1, and "ice crushing region" of claims 6 and 8. As such, the Commission treats the ALJ's interpretation of these limitations as a claim construction issue.

Claim construction "begin[s] with and remain[s] centered on the language of the claims themselves." *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 830 (Fed. Cir. 2003); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*). The language used in a claim bears a "heavy presumption" that it has the ordinary and customary meaning that would be attributed to the words used by persons skilled in the relevant art. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002); *Phillips*, 415 F.3d at 1312-13.

While a court may rely heavily on the specification when construing claims, *Phillips*, 415 F.3d at 1317, the court must avoid reading limitations from the specification into the claims.

Phillips, 415 F.3d at 1317-23. Although "the distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim can be a difficult one to apply in practice," "the line between construing terms and importing limitations can be discerned … if the court's focus remains on understanding how a person of ordinary skill in the art would understand the claim terms." *Phillips*, 415 F.3d at 1323.

The Federal Circuit in *Phillips* explained that "the words of a claim 'are generally given their ordinary and customary meaning[,]'" and that "the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention[.]" *Phillips*, 415 F.3d at 1312-3. The court also noted that "[i]n some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314. Where, however, "the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent . . . because patentees frequently use terms idiosyncratically, the court looks to 'those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.'" *Id.* "Those sources include 'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.'" *Id.*

Claim 1 is the only independent claim asserted. The remaining claims at issue, claims 2, 4, 6, 8, and 9, depend directly from claim 1. Claim 1, with the relevant language underlined, reads as follows:

> 1. A refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening, the refrigerator comprising: an ice maker being disposed within the freezer compartment for forming ice pieces; an ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening; a motor mounted on the closure member; and an auger disposed within the ice storage bin and drivingly connected to the motor, wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin.

(emphasis added).

Dependent claims 6 and 8 also contain relevant language, and read as follows:

> 6. The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> the ice storage bin defines an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening, the ice crushing region having an inlet opening; the auger having a shaft portion passing through the ice crushing region; at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.
>
> 8. The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> an upper ice bin member having a bottom edge; a lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening; the auger having a shaft portion passing through the ice crushing region; at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

(emphasis added).

A. Construction of the claim phrase "auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin"

1. RID

In his analysis of whether the accused refrigerators infringe claim 1 of the '130 patent, the ALJ found that claim 1 is not infringed because "the ice storage bin on the LG refrigerator does not have an auger that moves the ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin." RID at 31. The ALJ noted that, "the LG auger moves ice horizontally . . . through a hole in the side of the ice storage area." *Id.* The ALJ found that because "[t]he LG auger does not extend across the entire width of the ice storage bin . . . a horizontal auger may not pass all the pieces of the ice through it successfully, as it is moving ice pieces in a circular motion horizontally, not around a vertical axis." *Id.* The ALJ further stated that "[t]he ice pieces will be moving horizontally when the auger is energized, however they will not always be moving down as a result of the movement of the auger[,]" and that "[o]nly when the ice reaches the end of the auger does it move continually [downward to be dispensed], and then through no motion or force of the auger, but solely due to gravity." *Id.* at 32. The ALJ also found that "[t]he movement of the auger has no effect on the ice at the point the ice leaves the storage area[,]" and therefore, that "gravity pulls the . . . ice out of the bottom opening of the bin." *Id.* In response to an argument from the IA that the "movement of the auger causes ice to pass through an opening in the lowest portion of the lower ice bin for dispensing[,]" the ALJ disagreed, finding that "[t]here is no 'causes the ice to pass through . . .' in the LG products[;] [t]he auger does not move the ice pieces through the bottom opening of the ice storage bin." *Id.* at 36.

2. Analysis

Although the ALJ does not explicitly construe the claim limitation, "the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin," he makes assumptions that amount to a construction of the limitation. First, the ALJ assumes that the claim language requires that the ice pieces must "always be moving down as a result of the movement of the auger." RID at 32. Second, the ALJ assumes that gravity may play no part in the passage of the ice pieces through the bottom opening when the auger is in a horizontal orientation as opposed to a vertical orientation. *Id.*

Neither assumption is justified based on the Commission's construction of "bottom opening" or based on the intrinsic evidence. In construing "ice storage bin having a bottom opening" to mean "an ice storage bin with an opening at a lowest portion of the ice storage bin," the Commission stated that "[t]he only limitation claim 1 places on the location [of] the 'bottom opening,' other than it be at the 'bottom' of the 'ice storage bin,' is that it be positioned such that an auger may move ice pieces through it for dispensing." Comm'n Op. at 22. The ALJ's characterization of the Commission's Opinion as implying that the bottom opening must be positioned such that the auger *directly* effects movement of ice through the bottom opening is overly broad. The Commission simply found that the explicit language of claim 1 requires that the "bottom opening" be positioned such that the auger moves ice pieces through it. Comm'n Op. at 22. The Commission's construction holds no broader implications for how *direct* the action of the auger must be in moving the ice pieces "from the ice storage bin through the bottom opening for dispensing from the ice storage bin." '130 patent, 12:62-63.

Nor does the Commission's construction of "bottom opening" place any limitations on

the significance that gravity might play in the process of moving the ice through the "bottom opening." In further discussing the relationship between the orientation of the auger and the "bottom opening" as specified by the claim language, the Commission stated that "we do not construe the elements recited in claim 1 as *needing* the assistance of gravity in dispensing ice from the ice storage bin." Comm'n Op. at 24 (emphasis added). Although the Commission indicated that it did not construe the claim to require the assistance of gravity in moving the ice through the bottom opening, the Commission did not indicate that action by gravity was prohibited. In other words, the claim neither requires nor prohibits assistance by gravity in the act of moving the ice through the bottom opening and ultimately dispensing the ice from the ice storage bin. Accordingly, the Commission did not construe the claim to include the limitation applied by the ALJ, which is that gravity may play no part in the dispensing process when the auger is in a horizontal orientation.

Likewise, the Commission's construction of "bottom opening" does not require that the ice pieces must "always be moving down as a result of the movement of the auger." RID at 32. The Commission's statement concerning the relationship between the auger and the bottom opening was made only in the context of refuting the ALJ's implicit limitation of the auger of claim 1 to a vertical orientation in his original ID (*see* ID at 21-24) and places no further limitation on the way in which the auger of claim 1 might effect the movement of ice through the bottom opening.

The intrinsic evidence also does not support the additional restrictions the ALJ placed on how "the auger moves ice pieces from the ice storage bin through the bottom opening." First of all, the claim language itself recites no directional limitation on the movement of the ice by the

auger, simply stating that "the auger moves the ice from the ice storage bin through the bottom opening." '130 patent, 12:61-63 (emphasis added). As is clear from the claim language, the only function the auger must perform is to move the ice from one place, "from the ice storage bin," to another, "through the bottom opening." The claim language places no further restriction on how the auger accomplishes this task or whether the auger must accomplish it without the assistance of any other forces, such as gravity. Moreover, while unasserted dependent claim 3 requires that the auger be in a vertical orientation, claim 1 has no such limitation. *Compare* '130, 12:59-60 to 13:4-6. While the vertical nature of the auger of claim 3 explicitly recites the preferred embodiment, in which "the ice pieces are free to move downwardly, under the urgings of gravity, through the lower ice bin member" (*Id.*, 9:65-10:1), the auger of claim 1 has no limitations on either its orientation or on the part in which gravity may or may not play as the auger moves ice through the bottom opening.

The specification of the '130 patent describes the function of the auger in the preferred embodiment as "[r]otation of the auger 172 *causes* the ice pieces to pass through the inlet opening 184 *and fall* into the ice crushing region 186." *Id.*, 10:42-44 (emphasis added). As is immediately apparent from the cited passage, the only direct action the auger performs in the preferred embodiment is to "cause[] the ice to pass through the inlet opening 184." The ice then "falls," presumably under the influence of gravity, "into the ice crushing region 186" before being "dispensed through the outlet opening 170."[2] *Id.*, 10:52-53, 63-64. Moreover, in the operation of the ice storage bin of the preferred embodiment, the ice reaches the "inlet opening 184" before it reaches the "outlet opening 170." *Id.*, 10:42-64. Therefore, even in the preferred

[2] In his original ID, the ALJ identified the outlet opening 170 as the bottom opening of

embodiment, in which the entire ice storage and dispensing system are vertical, the auger is described as only directly affecting the passage of the ice "through the inlet opening 184," which as can be seen in Figure 9 of the '130 patent, is a separate structure from the "outlet opening 170." *Id.*, Figure 9.

By placing a limitation on how directly the motion of the auger affects the movement of the ice from the ice storage bin through the bottom opening, such that the "motion or force of the auger" (RID at 32) must directly affect the entire process, the ALJ improperly read the preferred embodiment out of the claim. *Vitronics Corp. v. Conceptronic, Inc.* 90 F.3d 1576, 1583 (Fed. Cir. 1996) (finding that interpreting "a preferred . . . embodiment in the specification [such that it] would not fall within the scope of the patent claim . . . is rarely, if ever, correct").

Our construction, therefore, of the claim limitation "the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin" does not require that the auger move ice pieces from the ice storage bin through the bottom opening for dispensing in a continually downward direction or without the assistance of any additional force, such as gravity.

B. Construction of the claim phrase "ice crushing region"

1. RID

In his analysis of whether the accused refrigerators infringe claim 6 of the '130 patent, the ALJ found that claim 6 is not infringed because "[t]he LG designs do not require that ice pass through an ice crushing region after it leaves the ice storage bin." RID at 33. Additionally, the ALJ found that LG's design does not infringe claim 8 of the '130 patent because "the ice pieces

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the preferred embodiment. ID at 23.

do not have to pass through the ice crushing region, when the operator of the system wishes to have whole ice pieces, but around it." *Id.* at 43. The ALJ further found that "[i]n the LG design, the ice crushing region is defined by the circumference of the ice crushing blades, and the position of a flapper part that is movable." *Id.* at 44-45. The ALJ noted that, in LG's design, "if the operator of the freezer wants whole ice pieces, as opposed to crushed ice, the pieces cannot pass through the ice crushing region of the bin." *Id.* at 33. The ALJ stated that "[i]f the user has selected whole ice pieces, the ice will pass around the crushing region and out of the assembly" because "[a] movable plastic paddle or flapper allows the pieces to drop through the hold in the bottom of the ice storage bin without passing through the ice crushing region when the control is set for whole ice." *Id.* at 34 (emphasis in original). Contrasting the LG system with the preferred embodiment disclosed in the '130 patent, the ALJ found that, "in the Whirlpool design . . . [r]egardless of the setting the operator uses, the ice comes into contact with the ice crushing blades." *Id.* Specifically, the ALJ found that, in the system disclosed in the '130 patent, "the ice always passes within the circumference of the rotating ice crushing blades . . . ." *Id.* at 41.

2. Analysis

The ALJ required the "ice crushing region" to be "an area defined by the circumference of the rotating ice crushing blades." *See* RID at 41. This construction directly contradicts the language of claims 6 and 8 of the '130 patent. Claim 6 states that "the ice storage bin defines an ice crushing region" and claim 8 recites "the lower ice bin defining an ice crushing region." '130 patent, 13:18, 40-41 (emphasis added). In both instances, the claim language explicitly describes how the "ice crushing region" is to be delineated. Neither claim describes the "ice crushing region" in relation to the circumference of the ice crushing blades. Rather, in claim 6, the claim

language recites that the "at least one ice crusher blade" and the "at least one stationary blade" are situated "within the ice crushing region." '130 patent, 13:24-29 (emphasis added). Claim 8 recites the identical description of the "at least one ice crusher blade" and the "at least one stationary blade." *Id.*, 13:46-51.

As such, looking at the claim language alone, it is incorrect to conclude that "the circumference of the rotating ice crushing blades" somehow defines the region that the ice crushing blades are within. The claim language requires that the ice crushing blades are "within" a separately defined structure, not that they define the structure themselves. Moreover, claim 6 recites that the "ice crushing region" has "an inlet opening." *Id.*, 13:20-21. Again, it would not make sense to describe "an area defined by the circumference of the rotating ice crushing blades" as having "an inlet opening." It is far more reasonable to consider a structure having physical boundaries of some sort as having "an inlet opening."

The specification of the '130 patent supports this reasoning. The specification describes the "ice crushing region" of the preferred embodiment as being "defined by the cylindrical wall portion 166, the cover 182 and the bottom wall portion 166." *Id.*, 10:31-34. As such, during operation of the ice storage bin of the preferred embodiment, "[r]otation of the auger 172 causes the ice pieces to pass through the inlet opening 184 and fall into the ice crushing region 186." *Id.*, 10:42-44 (emphasis added). A plain reading of this language indicates that the "ice crushing region" is an area defined by physical structures and that it is an enclosed area such that there must be an opening into the region, in this case "an inlet opening."

The ALJ made much of the fact that, in the preferred ice storage bin of the '130 patent, "the ice always passes within the circumference of the rotating ice crusher blades[.]" RID at 41.

There is, however, no such requirement in the language of claims 6 or 8. Claims 6 and 8 require that "ice pieces must pass" through the "ice crushing region" "when [the] ice pieces are discharged through the bottom opening." Claims 6 and 8 also require that the "ice crushing region" have "within" it "at least one ice crusher blade" and "at least one stationary blade." There are no further limitations in the claim language for the interaction between the ice pieces passing through the "ice crushing region" and the ice crusher blades within the "ice crushing region." The only restrictions that the claim language places on the location of the ice crusher blades, other than that they must be "within the ice crushing region," is that the "at least one ice crusher blade [is] rotatably connected to the shaft portion [of the auger]" and that the "at least one stationary blade [is] mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade." Even in the description of the preferred embodiment, the specification of the '130 patent merely states that:

> Extending from the bottom shaft 176 [of the auger 172] are a plurality of ice crusher blades 188. The ice crusher blades 188 are connected to the bottom shaft for co-rotation therewith. A plurality of stationary blades 190 extend between the bottom shaft 176 and the cylindrical wall portion 166.

'130 patent, 10:35-41. There is nothing in this description that indicates that the ice crusher blades must take up the entire "ice crushing region" defined by the "ice storage bin" or "the lower ice bin member."

We, therefore, construe the claim limitation "ice crushing region" as "an area defined by the ice storage bin (claim 6) or the lower ice bin member (claim 8) through which ice pieces must pass before being dispensed from the ice storage bin." We note that the claims further require that the area have, with respect to claim 6, an inlet opening. Moreover, with respect to both claims 6 and 8, the area has within it a shaft portion of the auger, at least one stationary

blade rotatably connected to the shaft portion of the auger, and at least one stationary blade mounted within the area such that the ice crusher blade rotates past the stationary blade.

We note that the modified claim constructions affect the ALJ's findings related to infringement only. The ALJ's findings relating to validity and domestic industry are not affected. Accordingly, we adopt those findings with the modifications discussed in detail below.

III. VALIDITY

Under 35 U.S.C. § 103(a), a patent is valid unless "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). The ultimate question of obviousness is a question of law, but "it is well understood that there are factual issues underlying the ultimate obviousness decision." *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997). Once claims have been properly construed, "[t]he second step in an obviousness inquiry is to determine whether the claimed invention would have been obvious as a legal matter, based on underlying factual inquiries including: (1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art, and (4) secondary considerations of non-obviousness." *Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1354 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)).

"Secondary considerations," also referred to as "objective indicia of non-obviousness," such as "commercial success, long felt but unsolved needs, failure of others, etc.," may be used to understand the origin of the subject matter at issue, and may be relevant as indicia of

obviousness or non-obviousness. *Graham*, 383 U.S. at 17- 18. Secondary considerations may also include copying by others, prior art teaching away, and professional acclaim. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984), cert. denied, 469 U.S. 857 (1984). Evidence of "secondary considerations," must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. In order to accord objective evidence substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention, which is generally made out "when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent." *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995). But secondary considerations, such as commercial success, will not necessarily dislodge a determination of obviousness based on an analysis of the prior art. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007) (commercial success did not alter conclusion of obviousness). A court must consider all of the evidence under the *Graham* factors before reaching a decision on obviousness. *Richardson-Vicks*, 122 F.3d at 1483-84.

A. Claim 1: Hitachi '165 Reference

1. RID

In noting that the Commission instructed him to re-assess the validity of the asserted claims in light of its remand order, the ALJ stated that the ID's original construction properly limited the orientation of the auger to a vertical orientation "because no other embodiment was claimed, and because the patent seemed to specifically disclaim any horizontal auger as being well known in the prior art." RID at 3-4. The ALJ also mentioned the fact that "[o]ther exhibits

of the prior art also disclose horizontal augers . . . [and] there was also testimony from Whirlpool engineers that such augers were common knowledge in the industry in 1998." *Id.* at 5. Finally, the ALJ noted that "the abstract of the patent mentions only a vertical auger and nothing in the language of the claims or specification would suggest broader scope for the '130 patent." *Id.*

Turning to his evaluation of claim 1, the ALJ found that claim 1 was obvious in light of the Japanese Utility Model Application S51-21165 to Hitachi ("the Hitachi '165 reference") combined with other well known prior art. *Id.* at 6. The ALJ found that "[t]he [Hitachi] '165 reference lacks only the ice maker mounted in the freezer compartment for forming ice pieces" and therefore "does not disclose mounting the ice storage bin below the ice maker for receiving ice pieces from the ice maker." *Id.* at 7. The ALJ determined that "in light of *KSR*, all that is required to reach every element of claim 1 of the '130 patent is the mere application of a known technique to a piece of prior art ready for the improvement." *Id.* at 9.

The ALJ found that automatic ice makers were "well known by 1998[]" and that "adding [a] prior art ice maker would be a known technique to improve the Hitachi invention [the Hitachi '165 reference]." *Id.* The ALJ further found that the Hitachi '165 reference itself provides "[a] clear motive to combine the automatic ice maker with the Hitachi invention[.]" *Id.* Noting that the Hitachi '165 reference stated the need to open the freezer door to retrieve ice from a manual ice tray and the subsequent handling of the ice by hand are drawbacks, the ALJ found that "using an automatic ice maker that deposits the ice directly into the ice dispensing bin would have been obvious to one of ordinary skill, not only in 1998 but in the years prior." *Id.* at 10. The ALJ further noted that the '130 patent itself specifically states that automatic ice making systems were well known in the art at the time of the '130 invention. *Id.* (citing '130 patent, 1:10-22). The

ALJ, therefore, found that the Hitachi '165 reference, combined with either U.S. Patent Nos. 3,299,656 ("the '656 patent") or 4,942,979 ("the '979 patent"), both of which disclose automatic ice makers and are assigned to Whirlpool, "contains each and every limitation in claim one of the '130 [patent]." *Id.*

Whirlpool argued before the ALJ that an automatic icemaker could not be combined with the refrigerator of the Hitachi '165 reference because of the spatial limitations of the freezer compartment. *Id.* at 10-11. Specifically, Whirlpool argued that "the evidence that the ice bin was too high, that it is close to the top of the refrigerator, and that a 'bulky' ice maker would undermine the purpose of using the 'volume of the freezer chamber' more efficiently are enough to thwart the efforts of those of ordinary skill in the art." *Id.* at 11 (citing CFF 243). The ALJ rejected Whirlpool's argument, finding that manual ice trays would take up far more space and be far less efficient than an automatic ice maker. *Id.* The ALJ noted that, unlike in *KSR*, a conclusion of obviousness is even more apparent in this case where both the prior art and the asserted patent are within the same field and are concerned with solving the same problem. *Id.* at 11-12. The ALJ also found that:

> If our person of reasonable skill reads the patent, and knows the problem is a) it is not sanitary to touch ice, and b) it is inefficient to open the freezer compartment door too many times as it will lose cold air, it would be only natural to think of an automatic ice maker, a technology that was well know [*sic*] in the field for years, as it would further both those goals. A person of ordinary creativity, who knew that such ice makers existed, could not help but think of combining them. The problem of designing a shorter ice bin, or putting a lower lip on one to accommodate the ice maker would not be beyond such person's skills. To further suggest than an engineer in the field, as the person of ordinary skill in the art would be, could not resolve the pitch of the slope of a plastic ice receptacle, or lower the edge of the container is also not persuasive.

Id. at 12. Rather, the ALJ concluded, combining "the Hitachi ice bin, with its auger, mounted on the door" with an automatic ice maker is nothing more than a "combination of familiar elements according to known method [that] is likely to be obvious [as it] does no more than yield predictable results." *Id.* at 13.

The IA argued that the '130 patent was not obvious even under the Commission's claim construction because one of the inventors, Mr. Myers, testified that "there were numerous technical problems to be resolved" in moving the ice storage bin to the door. *Id.* at 13-14. The ALJ did not find the inventor's testimony persuasive because "the inventor was testifying about his own work . . . [and thus had] every motive to see the work as requiring great skill[.]" *Id.* at 14. The ALJ further found the testimony unpersuasive because "the Commission found that moving the ice maker from the cabinet to the door was not so inventive" (Comm'n Op. at 19-20), and because "the matters listed by [the IA] were not matters noted in the patent itself." *Id.* The ALJ noted that the '130 patent does not discuss the "problems" listed by Mr. Myers, such as "the size of the bin, the rate of ice delivery[] through the door or otherwise, and the manner of mounting it to the door[,]" indicating that they "can easily be resolved by one of ordinary skill in the art." *Id.* at 15. The ALJ also found that "the features such as a bin mounted on the door, a system for keeping the ice maker from delivering ice when the bucket was not underneath it, and making the bin transparent were all in the prior art." *Id.*

2. Analysis

As an initial matter, we note that the ALJ took the opportunity on remand to both elaborate on his analysis of invalidity and to correct an error in the original ID, namely evaluating whether or not an "automatic ice making system . . . would . . . have been obvious

when the [Hitachi] '165 application was filed in 1974." ID at 39. On remand, the ALJ properly refers to the 1998 filing date of the '130 patent, rather than to the 1974 filing date of the Hitachi '165 reference, in determining the obviousness of the '130 patent. RID at 9-10. The statute requires that in order for a patent to be invalid for obviousness, the invention must have been obvious *at the time the invention was made*. 35 U.S.C. § 103.

The ALJ found on remand that "[t]he '165 reference lacks only the ice maker mounted in the freezer compartment for forming ice pieces[,]" and thus "does not disclose mounting the ice storage bin below the ice maker for receiving ice pieces from the ice maker." RID at 7. As such, in the RID, the ALJ found that the Hitachi '165 reference discloses every other element of claim 1 of the '130 patent:

> (a) "A refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening";
>
> (b) "An ice storage bin mounted to the closure member (while not below the ice maker the storage bin has all the other elements) below the ice maker for receiving ice from the ice maker, the ice storage gin having a bottom opening";
>
> (c) "A motor mounted on the closure member"; and
>
> (d) "An auger disposed within the ice storage bin and drivingly connected to the motor, [w]herein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin."

RID at 7. Whirlpool did not contest the ALJ's conclusion that these elements of claim 1 of the '130 patent are found in the Hitachi '165 reference. Therefore, our analysis will focus on the automatic ice maker required by claim 1.[3]

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[3] The fact that the Commission's claim constructions do not limit the orientation of the claimed auger to a vertical orientation (*see* RID at 3-6) does not affect the ALJ's determination of invalidity, as it has no impact on the ALJ's analysis of whether or not the prior art discloses an

With careful reference to the relevant precedent, including *KSR*, the ALJ concluded that automatic ice makers were well known in the prior art by 1998, the filing date of the application leading to the '130 patent. RID at 9. The ALJ also found that "[t]he adding of the prior [automatic] art ice maker would be a known technique to improve the Hitachi invention." *Id.* Finally, the ALJ found that "[a] clear motivation to combine the automatic ice maker with the Hitachi invention is stated in the ['130] patent itself." *Id.* Again, Whirlpool did not challenge any of these conclusions. Rather, Whirlpool argued that because "major changes would have been needed" to combine the ice storage bin of the Hitachi '165 reference with an automatic ice maker, "a person of ordinary skill would not have had a reasonable expectation of success making the combination." Whirlpool's Pet. at 22. We will examine Whirlpool's arguments one at a time.

First, Whirlpool argues that "[a]n automatic icemaker simply cannot be combined with the Hitachi refrigerator because there is no room to put it." *Id.* at 23. Whirlpool's arguments and its experts' testimony focuses on the fit of the ice storage bin taught by the Hitachi '165 reference within the specific refrigerator disclosed in Figure 1 of the Hitachi '165 reference. *Id.* Whirlpool's focus is overly narrow. "A reference must be considered for everything it teaches by way of technology and is not limited to the particular invention it is describing and attempting to protect. On the issue of obviousness, the combined teachings of the prior art as a whole must be considered." *EWP Corp. v. Reliance Univ. Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985). The Hitachi patent does not contain any limitation on the size or type of freezer with which the ice

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automatic ice maker that can be combined with the ice dispensing system of the Hitachi reference. The Commission's reasons for modifying the construction of "bottom opening," which is the claim term having relevance to the auger's orientation, is provided in the

storage bin it teaches may be used. Hitachi does not teach a specific type of freezer-refrigerator combination. Rather, Hitachi discloses an ice storage bin having the specific features identified by the ALJ that are found in claim 1 of the '130 patent. RID at 7.

Furthermore, the evidence shows that several types of refrigerators other than a top-mount refrigerator, *e.g.*, side-by-side refrigerator models of the type at issue in this investigation, were known in the art before the filing date of the application leading to the '130 patent. *See* RFF-07.221; RX-169 at D-16. Whirlpool presumably would not expect the Commission to believe that the simple matter of placing the ice storage bin of Hitachi within, for example, a side-by-side unit, would not alleviate all of the space concerns that it raises or that such a simple replacement would not be within the purview of one of ordinary skill in the art as of 1998. *See* Whirlpool's Pet. at 23 (discussing space concerns in "Hitachi's top-mount freezer compartment"). As the Supreme Court stated in *KSR*, "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill." *KSR*, 550 U.S. at 401.

Whirlpool also argued that the inlet section of the ice storage bin disclosed in the Hitachi '165 reference would have taught away from using it with an automatic ice maker because the gradual slope of the inlet section would prevent ice from falling freely down to the auger system and suffer from ice build-up. Whirlpool did not, however, explain why this feature of the Hitachi bin has any bearing on the claimed ice storage bin of the '130 patent, which does not have anything similar to the inlet section of the Hitachi bin. One of the relevant inquiries in

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Commission's prior opinion. *See* Comm'n Op. at 24-25.

determining whether a claimed invention is obvious is "the differences between the *claimed* invention and the prior art." *Smiths Indus.*, 183 F.3d at 1354 (emphasis added). The ultimate question is whether "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious . . . ." 35 U.S.C. § 103(a). Whirlpool does not explain why it would be appropriate to determine the differences between a feature that is not even recited in claim 1 of the '130 patent with the prior art. Moreover, there is nothing in the Hitachi '165 reference disclosure to indicate the precise physical dimensions of the Hitachi bin. The ALJ was, therefore, perfectly justified in finding that the Hitachi '165 reference would not somehow handicap or restrict the abilities of one of ordinary skill in the art in combining the Hitachi bin with an automatic ice maker to come up with the "ice storage bin" of claim 1. RID at 12.

Furthermore, there are numerous examples in the prior art of record combining a door-mounted, through-the-door delivery, ice storage bin with an automatic ice maker. In particular, both U.S. Patent No. 3,747,363 to Grimm (1973) and U.S. Patent No. 4,227,383 to Horvay (1980) ("the Horvay patent") disclose the use of ice storage bins with automatic ice makers, where the ice storage bin has an inlet section similar in broad appearance to that of the ice storage bin of the Hitachi '165 reference. The use of automatic ice makers with these door-mounted, through-the-door ice delivery systems that far predate the '130 patent, indicate that the solution to any problems associated with such systems in use with automatic ice-makers was well-known by the time the application leading to the '130 patent was filed in 1998.

We note that the combination the ALJ relied on in finding claim 1 obvious, specifically the Hitachi '165 patent combined with either the '656 patent or the '979 patent, both assigned to

Whirlpool (RID at 10), was not suggested by LG's expert, Dr. Bessler. Since the '130 patent itself states that the '979 patent discloses a prior art ice making system, we find that it is proper to consider this reference. *See Valmet Paper Machinery, Inc. v. Beloit Corp.*, 105 F.3d 1409, 1412 (Fed. Cir. 1997) (noting that the patents-in-suit cite the asserted prior art references). It is not clear, however, why the ALJ relied on the '656 patent, which is not disclosed in the '130 patent, and does not appear to be an admitted exhibit. Dr. Bessler, however, specifically states that the ice bin of the Hitachi '165 reference could be combined with automatic ice bins disclosed in a number of other prior art patents in the record, specifically, U.S. Patent Nos. 5,056,688 (JX 26); 3,621,668 (JX 11); 3,602,441 (JX 29); and 3,308,632 (JX 28). RX-570C at QQ. 550-554. Therefore, the Commission finds that claim 1 is obvious over the Hitachi '165 reference in light of at least one of the '979 patent and the other references specified by Dr. Bessler.

We agree with the ALJ's rejection of the IA's argument that the '130 patent is not obvious because of the "numerous technical problems to be resolved" in moving the ice storage bin to the door. As the ALJ stated, the '130 patent does not claim any of the qualities that the inventor, Mr. Myers, indicated were problems to be solved. RID at 15. The Federal Circuit squarely addressed this issue in *In re Hiniker Co.*, where the inventor claimed that combining the specified prior art "would encounter such severe difficulty as to dissuade an artisan of ordinary skill from making the combination." 150 F.3d 1362, 1368 (Fed. Cir. 1998). The Court, in rejecting the inventor's argument, stated that "[a]lthough [the inventor's] submissions are extensive and its arguments are otherwise persuasive, neither is connected to the broad claims that [the inventor] seeks to secure . . . Although operational characteristics of an apparatus may

be apparent from the specification, we will not read such characteristics into the claims when they cannot be fairly connected to the structure recited in the claims." *Id.* Likewise, in this case, the claims of the '130 patent do not encompass the solutions to the technical challenges that Mr. Myers identified. Therefore, whether or not those challenges are overcome by the prior art is irrelevant.

Although the ALJ gave other reasons for rejecting the IA's technical challenges argument, we do not find them persuasive. Specifically, we are not convinced that the ALJ's finding that the inventor, Mr. Myers, was not credible because he was merely bragging about his own invention, is a sufficient reason alone for rejecting the inventor's testimony.

Furthermore, with respect to the ALJ's reason that "the Commission found that moving the ice maker from the cabinet to the door was not so inventive[,]" we disagree with the ALJ's characterization of the Commission's Opinion. In its opinion, the Commission stated that "the placement of the ice maker was not considered the 'novel aspect' of the invention[.]" Comm'n Op. at 19 (emphasis added). The Commission went on to conclude that "[w]ithout more evidence regarding the difficulty of mounting an automatic ice maker on a 'closure member,' we do not believe that the lack of disclosure in the '130 patent for such an embodiment leads to the conclusion that such an embodiment is not enabled." *Id.* at 20. As is apparent from the quoted language, the Commission's discussion of the position of the automatic ice maker within the freezer compartment of the '130 patent had nothing at all to do with whether or not moving the ice maker to the freezer door is inventive. Rather, the discussion merely concerned whether the '130 patent enables such an embodiment such that the claim language could cover that embodiment, which the Commission found that it does.

Based on the preceding discussion, we do not find that the ALJ erred in finding that claim 1 of the '130 patent is obvious over the Hitachi '165 reference combined with other well known prior art. The Commission, therefore, affirms the ALJ's determination with the above detailed modifications concerning the prior art references.

B. Claim 2: Hitachi '165 Reference and Gould Reference

1. RID

Claim 2 of the '130 patent recites:

> The refrigerator according to claim 1, further comprising:
>
> An ice discharge chute through the closure member below the bottom opening of the ice storage bin wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute.

'130 patent, 12:64 – 13:3 (emphasis added). The ALJ found that the recited "discharge chute" means "an inclined plane, sloping channel, or passage down or through which things may pass." RID at 16. The ALJ stated that this definition applies to the "discharge section 11 with an inclined surface 10" disclosed in the specification and figure 2 of the Hitachi '165 reference, and therefore, that claim 2 of the '130 patent is obvious in light of Hitachi and the prior art described above. *Id.*

The ALJ also found that claim 2 of the '130 patent is obvious over U.S. Patent No. 3,146,601 ("the Gould patent"). *Id.* at 17. The ALJ stated that "[t]he Gould patent discloses an automatic ice maker and an ice storage bin mounted on the fresh food door." *Id.* The ALJ stated that the Commission agreed with Whirlpool's argument that "it did not specifically disclaim a freezer compartment mounted on a fresh food door as part of the patent prosecution history because the history that clearly disclaims Gould was written by the patent examiner, and not a

Whirlpool representative." *Id.* (citing Comm'n Op. at 9). The ALJ concluded, therefore, that "as Gould is no longer disclaimed, then the Gould patent, combined with the Hitachi '165 reference, render the combination of the ice maker and motorized auger mounted on a fresh food closure member obvious." *Id.* at 20.

Because neither the Gould patent nor the Hitachi '165 reference, relied on by the ALJ, disclose the "ice discharge chute" limitation of claim 2, we recommended review of the ALJ's determination that claim 2 is obvious and requested further briefing on this issue. *Id.* at 45. Specifically, we asked the parties the following question:

> Does the prior art of record show an ice discharge chute, as recited in claim 2 of the '130 patent, that is separate from and below the bottom opening of the ice storage bin? Can this prior art be combined with the Hitachi reference, or any other prior art references that are currently in the record, to render claim 2 obvious?

74 *Fed. Reg.* 67250 (Dec. 18, 2009).

2. Analysis

Claim 2 of the '130 patent adds to "the refrigerator according to claim 1" the additional limitation of "[a]n ice discharge chute through the closure member *below the bottom opening of the ice storage bin* . . . ." '130 patent, 12:64 – 13:3 (emphasis added). As is clear from the italicized language, the "ice discharge chute" of claim 2 is part of the refrigerator, not a part of the "ice storage bin." The Federal Circuit has stated that the full context of a claim, including the words surrounding a disputed limitation, is critical in understanding the meaning of the claim. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (*en banc*). The claim language specifically recites that the "ice discharge chute" is "<u>below</u> the bottom opening of the ice storage bin." This language indicates that the "ice discharge chute" is not a part of the "ice storage bin,"

particularly since it is claimed as being a part of the refrigerator, itself.

Furthermore, claim 2 states that "the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute." The fact that the claim describes the auger moving the ice "*from*" the "ice storage bin" "*to*" the "ice discharge chute" is a further indication that the "ice storage bin" and "ice discharge chute" are not the same structure. Even if the "ice discharge chute" and "ice storage bin" need not be completely separate units, there is no indication in the claim language that they are meant to exist integrally in the same structure. We find, therefore, that the "ice discharge chute" cannot be both a part of the "ice storage bin" and "*below* the bottom [opening] of the ice storage bin."

The "ice storage bin" described in the Hitachi '165 reference has "discharge section 11 with an inclined surface 10," both of which are a part of the ice storage bin itself. RX-372 at Figs. 2-4. In addition, it is not clear that the "opening 20" of the Hitachi ice bin (RX-372, Fig. 2), which LG claims is the "bottom opening," is at the "lowest portion of the ice storage bin" as required by the Commission's claim construction of "bottom opening." Therefore, we do not find that the "inclined surface 11" of the Hitachi bin is below the "bottom opening" of the bin as required by claim 2.

The '130 patent itself, however, cites to two references that disclose the "ice discharge chute" of claim 2, namely U.S. Patent No. 4,084,725 to Buchser ("Buchser patent") (JX-15) and 4,176,527 to Linstromberg ("Linstromberg patent") (JX-17). Figures 2 and 3 of both patents illustrate an "ice discharge chute" that passes through the closure member and is located below the "bottom opening" of the ice storage bins of those patents. Specifically, the Buchser patent describes the "downwardly inclined chute 27" (col. 3, ll. 29-32) and the Linstromberg patent

describes the "chute 28" (col. 4, ll. 31-35, 62-68) as receiving ice from an ice storage area through an outlet opening in the ice storage area and delivering or dispensing the ice. Whirlpool argued that the Examiner found that the ice auger disclosed in the Buchser patent was not combinable with a door-mounted ice storage bin, such as that disclosed in the Horvay patent. Examiner's Interview Summary (JX-2 at 219). The Examiner's rejection based on the Buchser patent, however, was made with respect to the "ice storage bin" of claim 1, not the "ice discharge chute" of claim 2. The Interview Summary is, therefore, not applicable to claim 2.

Whirlpool cites to *Karsten Manufacturing Corp. v. Cleveland Golf Co.*, 242 F.3d 1376 (Fed. Cir. 2001), in arguing that the ice bin of the Hitachi '165 reference and the chute disclosed in the Buchser patent cannot be combined because their features are "fundamentally incompatible." In *Karsten*, the Federal Circuit stated that the "conflicting teachings" of one prior art club, which was designed to raise the club head's center of gravity, could not be combined with another prior art club, which was designed to lower the head's center of gravity. *Karsten*, 242 F.3d at 1385. Here, however, the specific technology concepts of the door mounted ice bin taught in the Hitachi '165 reference and the discharge chute taught in the Buchser and Linstromberg patents are not incompatible "conflicting teachings."

Although the ice bin of the Hitachi '165 reference does penetrate the door, we find that it is appropriate to accept the ALJ's reliance on the Hitachi '165 reference in that it discloses the door-mounted ice storage bin of claim 1. RID at 7. The specific structure of the ice bin of the Hitachi '165 reference is irrelevant in considering whether the reference as a whole discloses a particular claimed feature. "A reference must be considered for everything it teaches by way of technology and is not limited to the particular invention it is describing and attempting to protect.

On the issue of obviousness, the combined teachings of the prior art as a whole must be considered." *EWP Corp.*, 755 F.2d at 907. Thus, the door-mounted ice storage bin of Hitachi can be combined with the ice discharge chute of Buchser.

In its response to the Commission's notice of review of the ID, Whirlpool disputed the ALJ's definition of "discharge chute" as meaning "an inclined plane, sloping channel, or passage down through which things may pass." *See* RID at 16. Since Whirlpool did not argue against this definition in its petition for review of the RID, we find that Whirlpool has waived the argument. *See Broadcom Corp. v. Int'l Trade Comm'n*, 542 F.3d 894, 900-901 (Fed. Cir. 2008) (finding an argument not raised in a petition of review to the Commission waived).

In any event, Whirlpool's argument is not persuasive. Whirlpool asserted that, even though the ALJ's expansive definition of "discharge chute" included both "inclined plane" and "passage," the ALJ was incorrect in finding that the "inclined surface 11" of the Hitachi '165 reference teaches the "ice discharge chute" of claim 2. Rather, Whirlpool argued, the claimed "ice discharge chute" should mean only "passage." While we agree that the Hitachi '165 reference alone does not render claim 2 obvious, we do not find that the ALJ's error lay in finding that the "inclined surface 11" of the Hitachi '165 reference meets his definition of "discharge chute." Whirlpool pointed to nothing that would lead to the conclusion that the ALJ's definition of "discharge chute" is overly expansive. Whirlpool merely disagreed with the ALJ's application of the definition to the prior art he was analyzing, which in our view was proper.

Finally, we disagree with the ALJ's statement in his obviousness analysis that the Commission found that Whirlpool did not disclaim mounting an ice bin on a fresh food door in light of the Gould patent. RID at 17. In its opinion on remand, the Commission simply noted

that, under the Federal Circuit's admonition to the Commission in *Sorenson v. International Trade Commission*, the interview summary was not the most appropriate evidence of whether or not Whirlpool considered the "freezer compartment" and "freezer door" to be mutually exclusive components. 427 F.3d 1375 (Fed. Cir. 2005); Comm'n Op. at 9-10. Nevertheless, Whirlpool distinguished the Gould reference over the Examiner's rejection by explaining that the Gould reference "does not have a freezer compartment and a freezer door on which the ice bin is mounted," and thus explicitly disclaimed refrigerators having only a fresh-food compartment or having an ice storage bin mounted on the closure member of a fresh-food compartment. JX-02 at Interview Summary.

The fact of Whirlpool's disclaimer over the Gould reference, however, is irrelevant to the issue of whether the Gould reference is invalidating prior art, since the concepts of prosecution history disclaimer and invalidity are completely distinct. As discussed above, we find that the Gould reference does not disclose the "ice discharge chute" limitation of claim 2. Nonetheless, with the above detailed modifications concerning the prior art references, we affirm the ALJ's finding that claim 2 is obvious.

C. Claims 4 and 6

1. RID

Claim 4 of the '130 patent recites:

> The refrigerator according to claim 1 further wherein the ice storage bin is at least partially formed out of a transparent material such that the amount of ice pieces in the ice storage bin can be readily visually determined.

'130 patent, 13:7-10. The ALJ found that the use of transparent or partially transparent ice storage bins was known in the industry prior to the '130 patent based on testimony from several

of Whirlpool's witnesses. RID at 20. The ALJ noted that the testimony was unchallenged by Whirlpool, and that no evidence was offered to the contrary. *Id.* at 20-21. Although noting that patent law teaches that a fact finder should be wary of inventor testimony, the ALJ found that, where the inventors were testifying regarding the general state of the art in 1998, their testimony was reliable, particularly since the inventors were testifying against their own interest. *Id.* at 21.

Claim 6 of the '130 patent recites:

> The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> The ice storage bin defines an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening, the ice crushing region having an inlet opening;
>
> the auger having a shaft portion passing through the ice crushing region;
>
> at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
>
> at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

'130 patent, 13:16-29. The ALJ found the Hitachi '165 reference, including the disclosure and Figures 2 and 3, shows every element of claim 6 of the '130 patent. RID at 22. The ALJ further found that "[i]n addition to the Hitachi prior art, both augers and ice crushers were well known in other prior art, as was noted by several of the engineers' testimony." *Id.* at 23. The ALJ referred to the Linstromberg patent, finding that it "discloses an auger and ice crushing region as evidenced in Figures 4 and 5[.]" *Id.* at 24-25.

2. Analysis

The Commission agrees that claims 4 and 6 are obvious and affirms the ALJ's determination with respect to these claims.

D. Claim 8

1. RID

Claim 8 of the '130 patent recites:

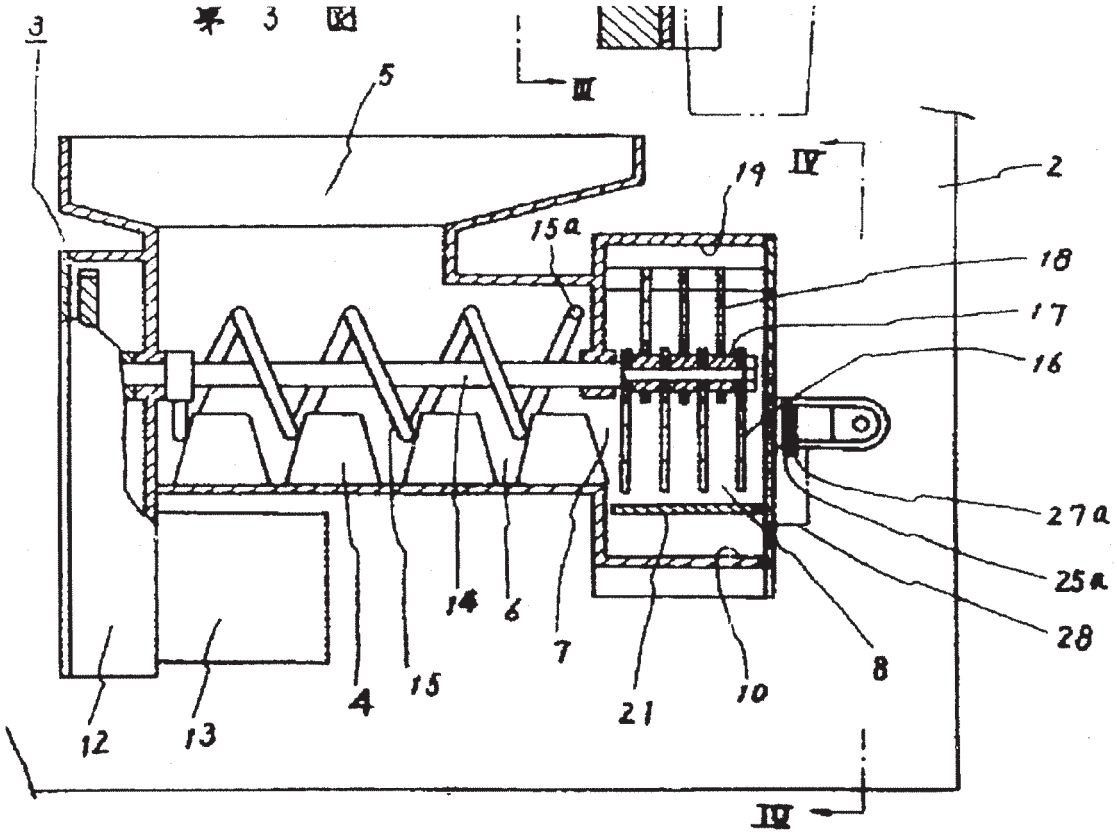
> The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> an upper ice bin member having a bottom edge;
>
> a lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharge through the bottom opening;
>
> the auger having a shaft portion passing through the ice crushing region;
>
> at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
>
> at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

'130 patent, 13:36-52. The ALJ found that "[i]n the prior art, the auger and ice crushing region are not below the ice storage compartment or bin, but are at the same level as the bottom of the ice storage bin." RID at 26. The ALJ noted, in the prior art, "the ice is moved horizontally towards the door, through the crushing region, and then gravity pulls it to the area where it is dispensed." *Id.* The ALJ concluded, therefore, that "[t]he ice crushing region in the prior art is not a 'lower ice bin through which the ice pieces must pass' nor is it connected to the bottom edge of the 'upper' ice bin member." *Id.*

2. Analysis

The ALJ concluded that the prior art does not disclose the elements of claim 8 because in the prior art "the auger and ice crushing region are not below the ice storage compartment or bin,

but are at the same level as the bottom of the ice storage bin." LG appeals to Figure 3 of the Hitachi '165 reference for support of its argument that claim 8 is obvious. Figure 3 shows the following:



Even if we were to accept LG's argument that the "ice storage section 5" in the figure is the upper bin member and that "conveyor section 6" is the lower bin member, the Hitachi '165 reference would still fail to disclose all of the features of claim 8. LG asserted that "ice storage section 5" has a bottom edge or a sloping floor. The Hitachi '165 reference, however, does not contain any description of a "sloping floor." If by "sloping floor" LG means the "inclined surface 10 leading to a discharge outlet 9," it is difficult to see how this structure is meant to somehow be a part of the "ice storage section 5."

The specification of the '130 patent indicates that the upper ice bin member 160 and the lower ice bin member 162 of the preferred embodiment are "rigidly *connected*" together. '130 patent, 9:54-55 (emphasis added). This would indicate that the two members are separate structures. Therefore, it is reasonable to conclude that the claim language reciting "an upper ice bin member having a bottom edge" and "a lower ice bin member *connected* to the lower edge of the upper ice bin member" means that the two members are, again, separate structures. There is nothing in the Hitachi '165 reference to indicate that the "ice storage section 5" is a separate structure that is "connected" to the "conveyor section 6," and more importantly, to the "crushed ice compartment 8."

The ALJ's conclusion that the bottom of "ice storage section 5" extends down to "conveyor section 6" is reasonable considering that the Hitachi '165 reference describes the operation of its ice dispensing system as follows: "[i]ce cubes 4 inside ice storage section 5 are fed in successive axial direction inside conveyor section 6 by rotating screw 15, and discharged from communicating hole 7 onto switch plate 21." Clearly conveyor section 6 and ice storage section 5 are cohabitating structures and are not separate as required by claim 8.

Finally, with respect to LG's argument that Whirlpool waived any assertions concerning the validity of claim 8 separate from the validity of claim 1, we note that the ALJ found that LG failed to make a *prima facie* case of obviousness. Therefore, Whirlpool had nothing to rebut. LG's assumption that the ALJ's failure to address its waiver argument means that the issue was upheld is incorrect. The ALJ's detailed discussion of the issue clearly indicates that he did not consider the issue waived. The Commission, therefore, affirms the ALJ's finding that claim 8 is not invalid for obviousness over the Hitachi '165 reference.

E. Claim 9

1. RID

Claim 9 of the '130 patent recites:

> The refrigerator according to claim 1 further wherein the ice storage bin is removable from the freezer compartment closure member.

The ALJ found that "[w]hile it is not apparent that the Hitachi '165 reference discloses a removable storage bin, virtually every ice storage bin in use has been removable." RID at 26. The ALJ also found that both the expert testimony and numerous prior art patents, including those cited as prior art in the '130 patent, disclose removable bins. *Id.* The ALJ thus found that "given the state of the technology at the time of the filing of the '130 patent, it would have been obvious to combine the refrigerator of claim 9 with one of the prior art references." *Id.*

2. Analysis

The record evidence shows that removable ice storage bins were well known in the art by the time the application leading to the '130 patent was filed. Although the ALJ cited to only a fraction of the available evidence in coming to his conclusion that claim 9 of the '130 patent is obvious, we see no reason to consider his finding ill-supported. Although the ALJ may have misspoken in stating that "it was obvious to combine the refrigerator of claim 9 with one of the prior art references" (RID at 26), the ALJ did not cite to the claims of disclosure of the '130 patent specification in finding that claim 9 was obvious. Rather, he looked to the prior art that was cited during the prosecution of the '130 patent, as well as the evidence of record in this investigation. Whirlpool has offered no satisfactory explanation as to why the ALJ's analysis was improper. We, therefore, affirm the ALJ's finding that claim 9 of the '130 patent is invalid for obviousness.

F. Secondary Considerations

1. RID

The ALJ, after evaluating Whirlpool's assertions concerning the commercial success of its product containing the claimed inventions, found that "the evidence of commercial success of the products does not overcome the evidence of obviousness in light of the prior art." RID at 27. The ALJ found that it was "difficult to attribute the commercial success of [Whirlpool's] top of the line refrigerator-freezers to the patented feature of the ice system." *Id.* Specifically, the ALJ noted that there are other features in Whirlpool's refrigerators that could account for their success, such as the presence of clear storage bins in other areas of the refrigerators, the type of shelving, the attractiveness of the overall design, etc. *Id.* The ALJ expressed reluctance to draw conclusions regarding the desirability of the patented features solely from the raw statistical data provided by Whirlpool. *Id.* at 27-28.

Regarding the customer survey conducted by LG that Whirlpool presented to show that consumers preferred LG's in-door ice dispenser ("IDI") models over General Electric's ("GE") non-IDI models, the ALJ found that the survey data did not account for any other differences that might drive consumer choice, such as consumer preference or consumer perception of brand quality. *Id.* at 28. Furthermore, the ALJ noted that he "is aware that what a consumer says they might do if they were purchasing a product and what they would actually do if they were making a purchase could vary." *Id.* The ALJ gave particular weight to survey data that showed that a consumer would be willing to pay $100 more for a KitchenAid brand IDI model than for a Whirlpool brand IDI model, concluding that something other than the IDI feature was driving consumer choice. *Id.*

Regarding evidence Whirlpool presented concerning "praise of others," the ALJ found that the evidence did not distinguish between "a new and novel function[] and the appearance of the ice system on the door." *Id.* at 29. The ALJ found that "[t]here is no evidence that the consumers knew the system was patented, or why it was." *Id.* The ALJ took note of a review from Consumer Reports that stated it liked Whirlpool's design because it offered more usable volume and a bin that is easily removable for cleaning. *Id.* The ALJ found, however, that "neither bins mounted on the door, nor removable bins are the patented features, and both were known in the prior art." *Id.* The ALJ stated that "[a]s the qualities that are being praised are not qualities of the patent, the evidence would weigh more in assuming that the design of the refrigerator, rather than the features of the patent, are driving consumer interest." *Id.*

The ALJ also found that statements by LG acknowledging that they would be likely to enter into a dispute with Whirlpool because of its IDI refrigerators was "not tantamount to acknowledging that the patent Whirlpool had is valid, or that LG's design infringes." *Id.* at 30. Specifically, the ALJ noted that "[i]f the person forming the conclusion had not studied the prior art, nor the features of the '130 patent that were alleged to be patentable, the opinion regarding the technology would be no more than fanciful speculation." *Id.* at 30-31. Lastly, the ALJ found that there was little evidence of copying of Whirlpool's design by LG. *Id.* at 31.

2. Analysis

In his original ID, the ALJ found that the evidence Whirlpool submitted concerning secondary considerations was consistent with his conclusion that the asserted claims of the '130 patent are not obvious. *See* ID at 42. It is worth noting that the ALJ merely recited the evidence regarding secondary considerations that Whirlpool presented without making any judgments

concerning the weight of that evidence. *Id.* The difference between the ID and the RID is that, in the ID, Whirlpool's evidence of secondary considerations was merely an additional reason that the ALJ found that LG had failed in its burden to show that the '130 patent is obvious. Now, however, Whirlpool's evidence must overcome the RID's finding that all of the asserted claims except for claim 8 are obvious. Accordingly, the ALJ found that Whirlpool's evidence of secondary considerations was insufficient to overcome his conclusion that most of the asserted claims of the '130 are invalid for obviousness. RID at 27. We agree.

Commercial success that is due to a feature that is unclaimed or known in the prior art is not pertinent to an analysis of secondary considerations. *Ormco Corp. v. Allesee Orthodontic Appliances, Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006); s*ee J.T. Eaton & Co. v. Atlantic Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) ("[T]he asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art."); *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1580 (Fed. Cir. 1983) (holding claims obvious despite a purported showing of commercial success when patentee failed to show that "such commercial success as its marketed system enjoyed was due to anything disclosed in the patent in suit which was not readily available in the prior art"). Therefore, the question is whether the features that Whirlpool credits for the commercial success of its IDI are unclaimed or in the prior art?

The ALJ found, and we agree, that at least the door-mounted ice bins and removable ice bins were known in the prior art. RID at 29. Therefore, neither of these features is relevant to Whirlpool's claims of commercial success. The ALJ states that "it is difficult to attribute the commercial success of the top of the line refrigerator-freezers to the patented feature of the ice

system." RID at 27. Although the ALJ did not consider either door-mounted ice bins or removable ice bins to be the novel features (*Id.* at 29), it is not entirely clear what he did consider to be the novel features. It is certain, however, that Whirlpool pinned the entirety of its commercial success contentions on the perceived popularity of precisely those features that the ALJ found were in the prior art. Without the ability to rely on those features, Whirlpool's claims of commercial success fail.

Whirlpool argued that the ALJ ignored the evidence it presented concerning the popularity and profitability of its IDI refrigerators. Far from ignoring this evidence, however, the ALJ came to the reasonable conclusion that the evidence Whirlpool presented has no nexus to any novel features. RID at 29. As such, he found that "the evidence presented made no distinction between a *new and novel function*, and the appearance of the ice system on the door." *Id.* We do not believe this finding demonstrates error. Likewise, the ALJ's finding that there was no nexus between any novel features and the results of LG's consumer survey or the evidence of favorable reviews by Consumer Reports or Appliance Manufacturer was reasonable because the evidence concerned praise of "a feature that was previously known in the art, which Whirlpool engineers acknowledged they did not invent." RID at 29-30. We also do not believe that this finding was in error.

As for the statements Whirlpool attributes to LG, specifically that the '130 patent is a "uniquely advanced technology" and that "[s]ince Whirlpool has the exclusive technology and rights in this area, a dispute is expected[,]" the ALJ found that LG's statements did not indicate that the '130 patent is valid or that LG intended to infringe it. *Id.* at 30. The context of LG's statements was elaborated by an LG engineer, Dr. Lee, who testified that the statement was taken

from a document concerning an analysis of the state of relevant technology to LG's IDI development project. Lee, Tr. 968:12-25. Dr. Lee further testified that LG looked at the '130 patent out of an abundance of caution to "avoid even the most . . . mundane sort of . . . disputes with Whirlpool." *Id.*, 970:11-22. Dr. Lee further indicated that LG's adoption of Hitachi's horizontal loading scheme and its decision to bring the ice maker to the door was in furtherance of this effort. *Id.*, 953:3 – 954:5. As the ALJ noted, nothing in LG's statement or Dr. Lee's testimony could be taken as an admission that "the Whirlpool design was novel under the law." RID at 30.

Moreover, Whirlpool presented no evidence that LG made an attempt to study the full scope of the prior art such that it would be able to make a determination as to whether the '130 patent was valid. *See id.*, 927:8-21 (Dr. Lee testifying that LG did not look into the full realm of competitor products, but focused on Whirlpool). As such, although we do not agree with the ALJ's conclusion that the person making the statement concerning the attributes of Whirlpool's technology was not familiar with the '130 patent, we do believe that the ALJ was justified in assuming that that person was not necessarily familiar with the full scope of the prior art. RID at 30-31. Furthermore, we find that LG's statements do not overcome the sheer weight of the prior art that shows that IDI bin technology was in the prior art long before the '130 patent.

With respect to Whirlpool's allegations of copying by LG, the ALJ made only the conclusory statement that "[t]here is very little evidence of copying of the Whirlpool design by the LG design." *Id.* at 31. This statement would seem to contradict the ALJ's assessment in the original ID that "the evidence of LG's efforts to design the accused products suggests that the technical problems posed by an in-door ice dispensing system were difficult, and that the

solutions were not obvious." ID at 42 (citing RX-568 (Lee W.S.)). The ALJ, however, never specified what these "technical problems" allegedly were or whether or not LG actually overcame these problems. In fact, Dr. Lee's testimony concerns only the technical challenges of moving the ice-maker to the door, not the ice storage bin, which he testified was "a relatively easy technology." RX-568 (Lee W.S.) at Q/A 147.

The Federal Circuit has stated that "evidence of copying is relevant to an obviousness determination[]" and that "where the copyist had itself attempted for a substantial length of time to design a similar device, and had failed" that evidence is particularly relevant. *Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1196-97 (Fed. Cir. 2003). Whirlpool's expert, Dr. Caligiuri, testified that he believed LG's design around attempts had failed because LG was dissatisfied with the side-loading ice bin of the Hitachi '165 reference, and favored a front-loading design. CX-265C (Caligiuri Rebuttal W.S.) at Q/A 110.

Dr. Lee, however, made clear that LG considered the location of the ice maker, not the location or style of the ice bin, to be the strength of its design around attempts. Lee, Tr. 970:11 – 971:3. He further emphasized that LG's design efforts concerning the bin were simply an extra step it took out of an abundance of caution. *Id.* Moreover, as the Commission noted in its prior opinion, the specific orientation of the auger, and hence the loading style of the ice bin, is not a claimed feature in any of the asserted claims. Comm'n Op. at 24-25. There is no indication that supposedly failed attempts to copy a non-claimed feature can have any bearing on whether the claimed invention is obvious. *See Advanced Display Sys. v. Kent State Univ.*, 212 F.3d 1272, 1285 (Fed. Cir. 2000) ("[A]n accused infringer's close copying of the 'claimed invention, rather than one in the public domain, is indicative of non-obviousness.'") (citations omitted).

Lastly, concerning Whirlpool's assertions of "long-felt need," the ALJ did not address this issue in the RID. Given the strength of the evidence that the '130 patent is obvious, we do not believe the ALJ's oversight is an incurable error. To be thorough, however, we examine Whirlpool's contention. Whirlpool asserted that LG's expert, Dr. Bessler, "acknowledged that increasing the amount of usable freezer space had been a long-felt need in the industry." Although Whirlpool is correct, Dr. Bessler did not testify, as Whirlpool contended, that Whirlpool was the first to come up with the technical solution to satisfy that long-felt need. In fact, Dr. Bessler testified exactly the opposite, stating that GE came up with a working system that put ice on the door of a refrigerator during the 1990s. Bessler, Tr. 1208:1-8. As to why GE never commercialized that technology, Dr. Bessler indicated that the reasons were likely more to do with business decisions than for technical reasons. *Id.*, 1210:18 – 1212:6. Likewise, LG's documents that Whirlpool cites for evidence of long-felt need merely indicate that Whirlpool was the first to "launch" an IDI system, not that Whirlpool was necessarily the first to develop that technology. *See* CFF 416.

Finally, although Whirlpool noted the amount and age of the prior art asserted against the patent, there is no indication that the prior art failed to solve the problem of a door-mounted ice bin. Rather, the prior art clearly discloses all of the elements of the asserted claims of the '130 patent. We, therefore, affirm that the ALJ's finding that the evidence of secondary considerations does not overcome the finding that claims 1, 2, 4, 6, and 9 are invalid for obviousness.

IV. INFRINGEMENT

A determination of infringement is a two-step analysis. "First, the court determines the

scope and meaning of the patent claims asserted." *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998) (*en banc*) (citations omitted). "[Second,] the properly construed claims are compared to the allegedly infringing device." *Id.*

A. Claim 1

1. LG's Side-by-Side Model

a. RID

The ALJ found that LG's accused side-by-side products do not infringe claim 1, literally or under the doctrine of equivalents. RID at 35. Applying the Commission's modified claim constructions, the ALJ found that LG's side-by-side models have "[a]n ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening" and "[a]n auger disposed within the ice storage bin and drivingly connected to the motor[.]" *Id.* The ALJ found, however, that the accused side-by-side models do not satisfy the limitation "wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin." *Id.*

The ALJ found that "[t]he LG auger moves ice horizontally through the storage bin, and the ice exits the bin through a hole in the side of the ice storage area." *Id.* at 31 (emphasis in original). Specifically, the ALJ found that the auger "passes ice through the side of the bin, not through a bottom opening." *Id.* at 33. The ALJ further found that "[t]he movement of the auger has no effect on the ice at the point the ice leaves the storage area" and that "gravity pulls the . . . ice out of the bottom opening of the bin." *Id.* at 32. The ALJ concluded that "[i]n neither the crushed ice mode or [*sic*] the whole piece mode does the auger, or the blades, move the ice downward for dispensing." *Id.* at 32-33.

The IA argued that "the movement of the auger causes ice to pass through an opening in the lowest portion of the lower ice bin for dispensing . . . ." *Id.* at 36. The ALJ dismissed this argument as being "factually wrong." *Id.* at 37. Specifically, the ALJ stated that the LG ice storage bin has "an upper transparent wall portion" which is "only a part of the area where the ice is stored prior to dispensing." *Id.* The ALJ noted that:

> The area where the ice is stored prior to dispensing also includes a white plastic section that comprises all the sides of the lower part of the bin, and about half of the upper part of the bin. Looking from the top into the ice storage area, there is no lower chamber; the lowest portion of this ice storage bin is the lowest portion of the ice storage unit. The ice is deposited in this chamber by the ice maker prior to activating the auger . . . . This chamber does not have a bottom hole; the ice sits at the lowest portion of the ice storage bin.

Id. (emphasis added). The ALJ contrasted LG's ice storage bin with the ice storage bin of the '130 patent, finding that in the '130 patent "the auger's motion moves the ice first through the bottom opening of the transparent, upper, region, where the ice sits until the auger is activated, and then, by the movement of the ice crushing blades, through a bottom hole in the ice crushing region, to be dispensed." *Id.* at 38.

b. Analysis

As stated in Section II. A., *supra*, our construction of the claim limitation "the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin" does not require that the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing in a continually downward direction or without the assistance of any additional force, such as gravity. The ALJ found that LG's accused ice storage bin as a

whole does have a "bottom opening"[4] (RID at 35), but that the auger does not cause ice to move through it, instead only moving ice through a side opening in the ice storage area. *Id.* at 33 Therefore, the only question we must consider is whether the auger moves ice through this "bottom opening."

The ALJ found that "in a broad sense the auger does 'cause' the ice to pass through the bottom[.]" *Id.* at 36. The ALJ, however, further found that "[t]here is no causes the ice to pass through [*sic*] . . ." in LG's accused products because "the ice falls due to gravity to the ice discharge [chute]." *Id.* Pursuant to our claim construction, however, the fact that gravity may play some part in the ultimate dispensing of the ice through the bottom opening of LG's ice storage bin does not, in and of itself, preclude infringement.

The ALJ noted that the IA described the operation of LG's accused ice storage bins as follows:

> There is an auger that, when rotated, moves ice horizontally through the upper ice bin until it falls into a lower ice bin, where it may or may not be crushed. In either event, the movement of the auger causes the ice to pass through an opening in the lowest portion of the lower ice bin for dispensing via an ice discharge chute.

Id. at 36-37. With the exception of the IA's description of the various sections of the accused ice bin as having an "upper ice bin" and a "lower ice bin," we generally agree with this description. The operation of the accused ice storage bins can be seen most clearly in the following images: RDX-070 and CDX-057.

RDX-070 shows the accused ice storage bin from a top-down vantage point. In the left-

[4] We note that LG's accused ice storage bins have an opening in the bottom wall of the bin, and therefore, they satisfy the limitation "bottom opening" under any of the parties' proposed constructions. This finding is consistent with the original ID. *See* ID at 29 (finding all

most image, the clear auger is toward the bottom of the image, and the "side opening" that the ALJ referred to is the dark wedge towards the middle of the image. The wedged shaped "side opening" is more easily seen in the right-most image. In CDX-057, which pictures the bottom of the accused ice storage bin, the opening labeled with the number "5" is the "bottom opening." In operation, the immediate direct action of the auger moves ice through the "side opening" pictured in RDX-070. Once the ice moves through the "side opening," it passes through the section of the accused ice storage bin that has the ice crushing blades (pictured in CDX-057) and falls through the "bottom opening" under the influence of gravity. As the ALJ correctly noted, the section of the accused ice storage bin that has the auger reaches all the way to the bottom of the bin. The section of the bin that contains the ice crushing blades and leads to the "bottom opening" is located to the side of the auger section, not below that section. *See* RID at 37.

The ALJ faulted the IA's characterization of the accused LG ice storage bins as having an upper and lower portion. *Id.* This analysis however is irrelevant to claim 1 of the '130 patent, which does not recite any "upper" or "lower" limitations for the ice storage bin. Rather, all claim 1 requires is that "the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin." '130 patent, 12:61-63 (emphasis added). We find that the accused LG ice storage bins operate in precisely that fashion.

When the auger is activated it pushes ice pieces from the section of the ice storage bin where the auger sits, which is the section of the bin where the ice maker deposits newly formed pieces of ice before the auger is activated, horizontally through the "side opening" into the section of the accused bin where the ice crushing blades are located. RID at 37. The ice pieces

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limitations of claim 1 met except for an ice maker "disposed within the freezer compartment").

then drop due to the force of gravity through the "bottom opening." *Id.* This operation is almost directly analogous to the operation of the ice bin of the preferred embodiment in the '130 patent, where "[r]otation of the auger 172 causes the ice pieces to pass through the inlet opening 184 and fall into the ice crushing region 186" and ultimately be "dispensed through the outlet opening 170." '130 patent, 10:41-64. As we stated previously, even in the preferred embodiment, the direct action of the auger is only to move the ice from the storage area, through the inlet opening to the ice crushing region. We agree with Whirlpool's characterization of the operation of the accused ice bins: "[w]hen the auger turns, ice is dispensed through the bottom opening. When the auger doesn't turn, ice is not dispensed."

The ALJ found that "a horizontal auger may not pass all the pieces of the ice through it successfully, as it is moving ice pieces in a circular motion horizontally, not around a vertical axis." RID at 31. A device does not need to operate perfectly to infringe. *Paper Converting Mach. Co. v. Magna-Graphics Corp.,* 745 F.2d 11, 20 (Fed. Cir. 1984). It is sufficient that the auger in LG's ice storage bins meets the claim limitation by moving ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin. We therefore reverse the ALJ's determination and find that claim 1 is infringed by the accused LG side-by-side refrigerators.

2. LG's French Door Model

a. RID

The ALJ found that LG's French door refrigerator does not infringe claim 1 of the '130 patent. RID at 38. Whirlpool argued before the ALJ that the portion of the fresh food door in LG's French door refrigerator where the ice storage system and ice maker are located is the

"freezer compartment." *Id.* The ALJ stated that "[w]hile the Commission determined that a 'closure member' could be part of a 'freezer compartment,' it is not the refrigerator cabinet under the claims [*sic*] construction of the Commission, or anywhere in the patent." *Id.* at 38-39. The ALJ found that the closure member is "separate and apart from the refrigerator cabinet[,]" and therefore, cannot be "a section of a refrigerator cabinet kept at a below-freezing temperature." *Id.* at 39.

The ALJ further found that the LG French door refrigerator does not infringe because "[i]f we considered the door, or closure member of the fresh food compartment to be the freezer compartment, or part of the freezer compartment, then the ice storage bin, ice maker, auger, and ice crusher are mounted not on the closure member as required by the patent, but on the freezer compartment." *Id.* The ALJ found that the "closure member" in Whirlpool's interpretation is a piece of thin plastic that has nothing mounted on it. *Id.* Moreover, the ALJ found that the LG fresh food compartment door is not a closure member to the freezer compartment of a refrigerator cabinet, but is rather, a closure member of a fresh food compartment. *Id.*

b. Analysis

We agree with the ALJ that LG's accused French Door refrigerator model does not infringe claim 1 of the '130 patent either literally or under the doctrine of equivalents. As the ALJ noted, the Commission's construction of the claim term "freezer compartment" is "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior and a closure member that allows access to the access opening." RID at 38 (emphasis added). Under this construction, the "freezer compartment" must be a part of the refrigerator cabinet. The ice box of LG's French Door model is not a part of the refrigerator

cabinet. It is mounted on the fresh food door. The fact that a portion of the ice box cavity may stick out into the space defined by the refrigerator cabinet does not make the ice box a part of the refrigerator cabinet. This is a different concept than whether the ice box would be considered part of the "fresh food compartment," as the Commission considers objects mounted to the freezer compartment closure member as part of the freezer compartment. Comm'n Op. at 8.

Furthermore, even if the ice box mounted on the fresh food door could be considered a "freezer compartment," then the "closure member" would be the thin partition door that separates the ice box from the fresh food compartment. *See* RID at 39. As the ALJ found, nothing is mounted on this thin partition door. *Id.* The fresh food door of the accused French door model does not close the access opening of the freezer compartment; rather it defines the back wall of the freezer compartment. Therefore, the explicit language of claim 1, which requires "an ice storage bin mounted to the closure member," is not satisfied by the LG French Door model refrigerators.

With respect to Whirlpool's doctrine of equivalents argument, although the ALJ did not address it, the record supports a finding that Whirlpool has not shown infringement under the doctrine of equivalents. The most straight-forward reason is that, in overcoming the patent examiner's rejection of claim 1 over the Gould reference, Whirlpool disclaimed a refrigerator that "does not have a freezer compartment and a freezer door on which the ice bin is mounted." JX-02 (Examiner's Interview Summary of February 22, 2000). The Commission's discussion of the Examiner's Interview Summary in its opinion was entirely focused on the proper construction of the term "freezer compartment," because the Commission disagreed with the ALJ that the Interview Summary could be taken as a statement by the patentees defining that

term in light of the Federal Circuit's admonition in *Sorensen v. International Trade Commission*, 427 F.3d 1375 (Fed. Cir. 2005). *See* Comm'n Op. at 9-10. The Commission's discussion had absolutely nothing to do with whether or not Whirlpool made any statements that might create prosecution history disclaimer.

In the Interview Summary, the examiner noted that Whirlpool "pointed out that Gould does not have a freezer compartment and a freezer door on which the ice bin is mounted." JX-02. Although the accused French Door model does have a freezer compartment, that is not where the ice box containing the ice storage bin and ice maker are located. The ice storage bin and ice maker in the French Door model are located in the fresh food compartment and are mounted on the fresh food door, neither of which fall within the purview of claim 1 in light of Whirlpool's statement during prosecution.

We also do not find that Dr. Caligiuri's conclusory statements concerning infringement under the doctrine of equivalents provides sufficient evidence. In its petition for review, Whirlpool only cites to Dr. Caligiuri's direct witness statement, which the ALJ stated Whirlpool could not rely on for evidence of infringement under the doctrine of equivalents. Prehearing Tr. 24:13 – 25:6. The Commission, therefore, affirms the ALJ's conclusion that the accused LG French Door model refrigerators do not infringe claim 1. Since we find that the accused French Door models do not infringe claim 1, the remaining asserted claims, which depend from claim 1, are likewise not infringed by the accused French Door models. The remainder of our infringement analysis will, therefore, focus on LG's accused side-by-side refrigerator models.

B. Claim 2

1. RID

Claim 2 of the '130 patent adds to claim 1 the limitation of "[a]n ice discharge chute through the closure member below the bottom opening of the ice storage bin wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute." '130 patent, 12:64 – 13:3. The ALJ found that the horizontal action of the auger and ice crushing blades of the accused ice storage bins "function[s] in the same fashion as virtually all of the prior art augers and ice crushing blades[.]" RID at 39-40. The ALJ therefore found that "claim 2 is not infringed since the auger does not move the ice pieces through a bottom opening." *Id.* at 39.

2. Analysis

Exhibit CDX-061 shows a chute through which the ice passes after it is dispensed from the ice bin in LG's side-by-side refrigerators. The chute goes through the freezer door, or "closure member." Based on this evidence, we find that the accused LG side-by-side refrigerators have the "ice discharge chute" of claim 2. The ALJ did not analyze whether the accused LG side-by-side refrigerators have "an ice discharge chute" as recited in claim 2. Furthermore, it is unclear from the ALJ's analysis of claim 2 of the '130 patent why he compares the claim limitations to the prior art. Although prior art limits the range of equivalents a patentee may claim in a doctrine of equivalents analysis, this analysis is for literal infringement. *See Marquip, Inc. v. Fosber America, Inc.*, 198 F.3d 1363, 1367 (Fed. Cir. 1999). Since we reverse the ALJ's finding that claim 1 is not infringed by LG's accused side-by-side models, we, therefore, reverse the ALJ's determination and find that claim 2 is infringed by the accused LG side-by-side refrigerators.

C. Claim 4

1. RID

Claim 4 adds to claim 1 the limitation "wherein the ice storage bin is at least partially formed out of a transparent material such that the amount of ice pieces in the ice storage bin can be readily visually determined." '130 patent, 13:7-10. The ALJ found that LG's accused ice storage bins are partially formed from transparent material. RID at 40.

2. Analysis

No party disputes the ALJ's finding that the accused LG ice storage bins are partially formed from a transparent material. Since we reverse the ALJ's finding that claim 1 is not infringed by LG's accused side-by-side models, we likewise reverse the ALJ's determination and find that claim 4 is infringed by the accused LG side-by-side refrigerators.

D. Claim 6

1. RID

Claim 6 of the '130 patent recites:

> The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> The ice storage bin defines an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening, the ice crushing region having an inlet opening;
>
> the auger having a shaft portion passing through the ice crushing region;
>
> at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
>
> at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

'130 patent, 13:16-29. The ALJ found that claim 6 is not infringed by the accused LG refrigerators because the ice pieces in the accused models are "not required to pass through the

ice crushing region[.]" RID at 41. The ALJ found that, in the LG designs, the ice only passes within the circumference of the rotating ice crusher blades if a flapper assembly in the accused ice storage bin is positioned such that it directs the ice into the circumference of the ice crushing blades. *Id.*

2. Analysis

As stated in Section V. A. 2, *supra*, we construe the limitation "ice crushing region" of claim 6 as meaning "an area defined by the ice storage bin through which ice pieces must pass before being dispensed from the ice storage bin." We, therefore, reject the ALJ's conclusion that only the area defined by the circumference of the ice crushing blades is the "ice crushing region."

Exhibit RDX-071 provides the clearest view of the portion of the accused LG ice storage bins in which the ice crushing blades are located. The image on the left shows the accused bin in whole ice dispensing mode, and the image on the right shows the accused bin in crushed ice dispensing mode. Taking the limitations of claim 6 individually, it is clear that this portion of the accused bin has an "inlet opening," which is the wedge-shaped opening through which the auger pushes the ice pieces from the storage portion of the accused bin. This portion of the accused bin also has a shaft portion of the auger that passes through it, the shaft being the cylindrical structure to which the rotating blades are attached. In addition to the "at least one ice crusher blade rotatably connected to the shaft portion" of the auger, this portion of the accused bin also has "at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade." Moreover, it is obvious that this portion of the accused bin is "an area having physical boundaries which are defined by the ice storage bin."

The only limitation of claim 6 that remains to be addressed is the requirement that ice pieces "must pass" through this portion of the accused bin "when ice pieces are discharge[d] through the bottom opening." As the ALJ found, in the accused LG ice storage bins, ice pieces will either pass through the stationary blades when the accused bin is in crushed ice mode or will pass around the ice crushing blades all together when the accused bin is in whole ice mode. RID at 41. The ALJ did not find that the ice pieces do not pass through the wedged-shaped inlet opening and through the portion of the accused ice storage bin having the auger shaft, the rotatably connected ice crusher blades, and the stationary blades. Neither did the ALJ find that the portion of the accused bins that has these features is not "an area having physical boundaries which are defined by the ice storage bin."

The ALJ's only issue with finding all of the limitations of claim 6 (as they are stated apart from claim 1) in the accused LG ice storage bins, is that the accused bins operate differently from the preferred embodiment disclosed in the '130 patent specification. *Id.* at 41. Specifically, the ALJ notes that, in the preferred embodiment, "the ice always passes within the circumference of the rotating ice crusher blades, however the motor powering the blades is reversible" such that in whole ice mode "the blades rotate in a manner that the ice reaches the hole in the bottom of the ice crushing region without reaching the stationary crusher blades" and in crushed ice mode "the blades rotate in the opposite direction, pushing the ice through the stationary blades before the ice passes over the bottom opening in the ice crushing region." *Id.* at 41-42. The ALJ further notes that, in the accused LG ice storage bins, a "flapper assembly" controls whether the ice pieces pass through the ice crushing blades or by-passes the blades. *Id.* at 41.

Claim 6 of the '130 patent, however, does not contain any functional limitations that require the ice storage bin to operate in any particular manner. The claim is purely structural, and as discussed above, all of the structural limitations are met by the accused LG ice storage bins. Furthermore, claim 6 contains the open-ended "comprises" language that precludes an interpretation that the ice bin as defined by claim 6 cannot have more elements than what are explicitly enumerated. *See Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1319 (Fed. Cir. 2009). Whether or not the accused LG bin uses a flapper assembly to direct the ice into or around the ice crushing blades is irrelevant. The salient point is that the accused bins have all of the structural features recited by claim 6.

Moreover, even if we were to follow the ALJ's more limited interpretation of "ice crushing region," the accused LG ice storage bins would still infringe in ice crushing mode. In that mode, as the ALJ found, the ice comes into contact with the ice crusher blades. RID at 33. LG's argument that claim 6 requires that the ice pieces (crushed and cubed) pass through the crushing region finds no support in the claim language. Claim 6 only states that "the ice storage bin defines an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening." '130 patent, 13:18-20 (emphasis added). The language of the claim does not specify what type of ice pieces, whole or crushed, are implicated. There is nothing in the claim language, therefore, that requires whole ice pieces to ever be dispensed from the claimed ice storage bin. Furthermore, the Federal Circuit has explicitly stated that "a product claim . . . may be found to infringe if it is reasonably capable of satisfying the claim limitations, even though it may also be capable of non-infringing modes of operation." *Hilgraeve Corp. v. Symantec Corp.*, 265 F.3d 1336, 1343 (Fed. Cir. 2001).

Since we reverse the ALJ's finding that claim 1 is not infringed by LG's accused side-by-side models, the Commission reverses the ALJ's determination and find that claim 6 is infringed by the accused LG side-by-side refrigerators.

E. Claim 8

1. RID

Claim 8 of the '130 patent recites:

> The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> an upper ice bin member having a bottom edge;
>
> a lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharge through the bottom opening;
>
> the auger having a shaft portion passing through the ice crushing region;
>
> at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
>
> at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

'130 patent, 13:36-52 (emphasis added). The ALJ found that the accused LG ice storage bins do not have "a lower ice bin member" as required by the claim language. RID at 42. Specifically, the ALJ found that the accused bins do not have an ice crushing region that is located below the ice storage region since the ice crushing region in the accused bin "is on the same level as the lower portion of the ice storage region, and does not extend below the ice storage region." *Id.* The ALJ also found that, similar to his conclusion concerning claim 6, the ice pieces in the accused bins "do not have to pass through the ice crushing region, when the operator of the

system wishes to have whole ice pieces[.]" *Id.* at 43.

Furthermore, the ALJ found that the accused bins do not have "[a]n upper ice bin member having a bottom edge" or "[a] lower ice bin member connected to the lower edge of the upper ice bin member . . . ." *Id.* The ALJ found that, for LG's side-by-side models, "the ice bin has no distinct upper and lower regions, but the ice is stored in the bin, down to the lowest surface of the two part bin, and the ice crushing region is at the same level, set closer to the outside surface of the door." *Id.* at 45.

2. Analysis

Exhibit RDX-073 provides an exploded view of the accused LG ice storage bins. As can be seen from the top-rightmost image, the auger is oriented horizontally. Furthermore, as can be seen from the bottom-right image, the ice storage portion of the accused bin stretches the entire vertical length of the accused bin. There is nothing below the ice storage portion of the accused bin. Rather, as the ALJ found, the ice crushing region of the accused bin is situated in front of, or horizontally with respect to, the ice storage portion of the accused bin. RID at 45.

The ALJ did not provide a definition of the claim terms "upper" or "lower." Using the same source as the ALJ used to define the term "defining" (*Id.* at 44), we find that "upper" means "higher in physical position" and that "lower" means "relatively low in position." *Merriam-Webster Online Dictionary* (retrieved November 16, 2009, from http://www.merriam-webster.com/dictionary/upper); *Merriam-Webster Online Dictionary* (retrieved November 16, 2009, from http://www.merriam-webster.com/dictionary/lower). As the Commission noted in examining claim 8 to determine the meaning of "bottom opening," because claim 8 refers to the "upper ice bin member" as having both a "bottom edge" and a "lower edge," we must conclude

that the patentees intended no distinction in meaning between "bottom" and "lower." Comm'n Op. at 23. Furthermore, "bottom" means both "the underside of something" and "the lowest part or place." *Id.* (citing *Merriam-Webster Online Dictionary* (retrieved June 11, 2009, from http://www.merriam-webster.com/dictionary/bottom)).

Taking the meaning of the language of claim 8 as a whole, we find that the "bottom edge" and "lower edge" of the "upper ice bin member" mean the lowest part of the "upper ice bin member." It is this portion of the "upper ice bin member" at which the "lower ice bin member" must be connected. It is undisputed that "upper ice bin member" is the section of the accused bin where the ice is stored. As is apparent from RDX-073, the lowest part of the ice bin member that stores ice is the portion of the accused bin that sits on the table in the picture. As the ALJ found, there is nothing below that section; rather the ice crushing region is "at the same level" as the ice storage section. RID at 45. We do not find convincing Whirlpool's argument that, simply because the top-most portion of the ice crushing region in the accused bins is lower compared to the top-most portion of the ice storage region, that it is the claimed "lower ice bin member." As we noted when determining the meaning of "bottom opening," "bottom" means "the lowest part" not simply a lower part. Comm'n Op. at 25. Because the claim language describes the edge where the upper and lower ice bin members connect as both the "lower edge" and the "bottom edge" of the upper ice bin member, to save the claim from ambiguity, we find that "lower" and "bottom" should be construed consistently to mean "lowest." Thus, the accused LG bins do not meet the claim limitation "a lower ice bin member connected to the lower edge of the upper ice bin member" and do not infringe claim 8 of the '130 patent.

Although the dependency of claim 8 on claim 1 decides the issue of infringement for the

accused LG French Door model refrigerators, we note that the ice storage bins of the French Door model also do not infringe claim 8 for reasons similar to the ice storage bins of the accused side-by-side. We, therefore, affirm the ALJ finding that the accused LG side-by-side refrigerators and French Door model refrigerators do not infringe claim 8 of the '130 patent.

F. Claim 9

1. RID

Claim 9 adds to claim 1 the additional requirement that "the ice storage bin is removable from the freezer compartment closure member." '130 patent, 13:53-55. The ALJ found that the accused LG ice storage bins are removable from the freezer compartment closure member. RID at 46.

2. Analysis

No party contests the ALJ's finding that the accused LG refrigerators satisfy the requirement of claim 9 that "the ice bin is removable from the freezer compartment closure member." Because we reverse the ALJ's finding that claim 1 is not infringed, we likewise find that claim 9 is infringed by the accused LG side-by-side refrigerators.

V. DOMESTIC INDUSTRY

In order to prove a violation of Section 337 in a patent-based action, a complainant must demonstrate that a domestic industry exists or is in the process of being established. 19 U.S.C. § 1337(a)(2). *See Certain Microsphere Adhesives, Process For Making Same, And Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, USITC Pub. 2949, Comm'n. Op. at 8 (Jan. 1996). This requirement consists of a "technical prong" and an "economic prong." The technical prong requires that a complainant practice at least one claim in

each asserted patent. The economic prong relates to whether a complainant's investments are significant or substantial, and it can be satisfied by establishing that there is (A) a significant investment in plant and equipment, (B) a significant employment of labor or capital, or (C) a substantial investment in its exploitation, including engineering, research and development, or licensing. 19 U.S.C. § 1337(a)(3). Because these three factors are listed in the disjunctive, a complainant need only establish one factor in order to satisfy the economic aspect of the domestic industry requirement. *Certain Variable Speed Wind Turbines and Components Thereof,* Inv. No. 337-TA-376, USITC Pub. 3003, Comm'n Op. at 15 (Nov. 1996).

A. RID

The ALJ found that the Commission's remand order did not address any matters that would impact the finding in the original ID that Whirlpool has satisfied the economic prong of the domestic industry requirement. RID at 49; *see* ID at 49-50. The ALJ also found that the Commission's modified claim constructions, likewise, do not affect the original ID's conclusion that Whirlpool products practice claim 1 of the '130 patent. RID at 50.

In the original ID, the ALJ noted that, in its originally filed Complaint, Whirlpool asserted its older model refrigerator, model number ED5FHAXSQ01 ("old model"), as its domestic industry product. The ALJ further noted that, in its amended Complaint, Whirlpool inserted a new model refrigerator, model number ED5PBAXVY00 ("new model"), as its domestic industry product. ID at 45. The ALJ found that Whirlpool's old model practices claim 1 of the '130 patent, and since the domestic industry existed when the original Complaint was filed and continues to exist (as of the issuing of the original ID), Whirlpool has satisfied the technical prong of the domestic industry requirement. *Id.* at 46. The ALJ also found that,

although Whirlpool's new model does not literally practice claim 1 of the '130 patent, it does practice claim 1 under the doctrine of equivalents; therefore, Whirlpool's new model also satisfies the technical prong of the domestic industry requirement. *Id.* at 47-48.

B. Analysis

In his original ID, the ALJ found that both Whirlpool's old and new model refrigerators practice claim 1 of the '130 patent. ID at 46-48. LG's argument that Whirlpool waived any argument concerning the doctrine of equivalents is incorrect. The ALJ apparently found no waiver of this issue, since he explicitly adopted his findings concerning the doctrine of equivalents from the original ID. RID at 50. We see no reason to disturb the ALJ's finding on this point since LG has presented no other argument challenging the ALJ's finding that Whirlpool's new model practices claim 1 of the '130 patent. The Commission, therefore, affirms the ALJ's determination. As for whether Whirlpool may properly assert its old model when it filed an Amended Complaint that specifies only the new model and not the old model, since the ALJ found that the new model satisfies the domestic industry requirement, we do not need to reach this issue. *Beloit Corp. v. Valmet Oy, TVW*, 742 F.2d 1421 (Fed. Cir. 1984).

VI. CONCLUSION

For the reasons discussed above, the Commission's construction of the claim limitation "the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin" does not require that the auger move ice pieces from the ice storage bin through the bottom opening for dispensing in a continually downward direction or without the assistance of any additional force, such as gravity. We also construe the claim limitation "ice crushing region" as "an area defined by the ice storage bin (claim 6) or the lower ice bin member

(claim 8) through which ice pieces must pass before being dispensed from the ice storage bin." We reverse the ALJ's determination of non-infringement in part and find that the accused side-by-side models infringe claims 1, 2, 4, 6, and 9 of the '130 patent.

The Commission affirms the remainder of the ALJ's findings. Specifically, we affirm the ALJ's finding that the accused side-by-side model refrigerators do not infringe claim 8 of the '130 patent. We also affirm the ALJ's finding that the accused French Door model refrigerators do not infringe any of the asserted claims of the '130 patent. We further affirm the ALJ's finding that claims 1, 2, 4, 6, and 9 of the '130 patent are invalid for obviousness with several modifications to the analysis concerning claims 1 and 2, and his finding that claim 8 is not invalid for obviousness. We also affirm the ALJ's finding that there is a domestic industry. Finally, we affirm his determination that there is no violation of Section 337.

By Order of the Commission.

Marilyn R. Abbott
Secretary to the Commission

Issued: March 11, 2010

CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **337-TA-632 (Remand)**

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **COMMISSION OPINION ON REMAND** has been served by hand upon the Commission Investigative Attorney, Lisa Murray, Esq., and the following parties as indicated, on March 11, 2010.

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(✓) Via Overnight Mail
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On Behalf of Respondents LG Electronics, Inc., LG Electronics, USA, Inc., and LG Electronics Monterrey:

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PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of	**Inv. No. 337-TA-632**
CERTAIN REFRIGERATORS AND COMPONENTS THEREOF	**REMAND**

INITIAL DETERMINATION ON REMAND REGARDING PATENTS

Administrative Law Judge Theodore R. Essex

(October 9, 2009)

I. Background

The ALJ issued an Initial Determination (ID) in this investigation on February 26, 2009. On July 8, 2009, the Commission gave notice of its decision and order to remand part of this investigation to the ALJ for further proceedings and findings in light of certain determinations made by the Commission.[1]

In its review of the ID, the Commission reversed on several of the claim constructions that had been made by the ALJ. The Commission changed 3 claim constructions as follows:

1. "freezer compartment" means "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior and a closure member that allows access to the access opening;"

2. "disposed within the freezer compartment" means "placed within the freezer compartment, including elements mounted on the closure member," and

[1] *See* Notice of Commission Decision to Modify certain Claim Constructions Made in a Final Initial Determination and to Remand the Investigation to the ALJ; Extension of Target Date. (July 8, 2009).

3. "ice storage bin having a bottom opening" means "an ice storage bin with an opening at the lowest portion of the ice storage bin."

The Commission further ordered the ALJ to make findings regarding infringement, validity, and domestic industry that are consistent with the Commission's claim constructions, and to issue a final remand ID on violation and a recommended determination on remedy and bonding. On July 20, 2009, the ALJ issued Order No. 22: Initial Determination Extending Target Date to February 9, 2010, extending the deadline for issuing the recommended determination by one-month to October 9, 2009. On August 7, 2009, the Commission issued a notice of decision not to review the initial determination.[2]

Only issues of law, not fact, were reviewed by the Commission that led to this remand.[3] As an extensive factual record has already been made in this investigation, the ALJ did not reopen the record or order any further discovery or taking of evidence in this investigation. On August 21, 2009, the ALJ issued Order No. 22 regarding the remand. The ALJ permitted the parties[4] to present their cases and affirmative defenses through initial and reply briefs on the remand issues on the basis of the factual record already presented in the investigation. The parties' briefs were limited to changes in light of the Commission's claim construction regarding three claims

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[2] *See* NOTICE OF COMMISSION DECISION NOT TO REVIEW AN INITIAL DETERMINATION EXTENDING THE TARGET DATE.

[3] *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) ("the interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court"), *aff'd*, 517 U.S. 370 (1996).

[4] The parties include Complainants Whirlpool Patents Company, Whirlpool Manufacturing Corporation, Whirlpool Corporation, and Maytag Corporation (collectively "Whirlpool"); Respondents LG Electronics, Inc. and LG Electronics ,USA, Inc. ("LG"); and the Commission Investigative Staff ("Staff").

constructions:

1. "freezer compartment" means "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior and closure member that allows access to the access opening;"

2. "disposed within the freezer compartment" means "placed within the freezer compartment, including elements mounted on the closure member," and

3. "ice storage bin having a bottom opening" means "an ice storage bin with an opening at a lowest portion of the ice storage bin."

On August 07, 2009, Whirlpool, LG, and the Staff filed their initial remand briefs. On August 24, 2009, the parties filed their reply remand briefs. The Administrative Law Judge hereby determines that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain Refrigerators and Components thereof in connection with claims 1, 2, 4, 6, 8 and 9 of U.S. Patent No. 6,082,130 ("the '130 patent").

II. Validity

In its opening brief on remand, Whirlpool stated that "[t]he Commission's order does not affect the ALJ's initial determination of validity." However, re-assessing validity in light of the new claims construction was specifically ordered by the Commission, and in light of those constructions new issues of validity are raised. The original construction applied in the ID limited the construction of claim 1 of the patent, and any other claim regarding the orientation of the auger, to one that was vertical. The ALJ did so because no other embodiment was claimed, and because

the patent seemed to specifically disclaim any horizontal auger as being well known in the prior art:

> Automatic ice making systems for use in a home refrigerator are well known…[c]onveying means, *conventionally in the form of horizontally arranged augers disposed within the ice storage receptacle*, have been used for transferring ice pieces from the ice storage bin through an opening provided in the freezer compartment door such that ice pieces may be automatically dispensed. ('130 Patent Column 1:10-32) (emphasis added)
>
> . . .
>
> Illustratively, U.S. Pat. No. 4,084,725, to Buchser, discloses an ice dispensing apparatus for use in a domestic refrigerator having an ice maker and an ice storage receptacle mounted within a freezer compartment….As illustrated, *a wire auger is horizontally positioned within the bottom of the ice storage receptacle* and is selectively rotated by a motor when ice dispensing is desired. Ice cubes are delivered from the storage receptacle to an external service area in the freezer door by means of a rotatable tubular drum having an internal helical auger blade. The tubular drum is mounted to the end of the wire auger. When the wire auger and tubular drum are rotated, ice pieces are moved horizontally forward in the ice storage receptacle to fall into a chute for passing the ice pieces through the freezer door to the service area.
>
> Another ice dispensing apparatus is illustrated in U.S. Pat. No. 4,176,527, to Linstromberg et al., which discloses an ice dispensing apparatus for use in a domestic refrigerator... The ice storage receptacle extends across the freezer compartment and has a front end adjacent the freezer door. *The transfer means comprises a rotatable wire auger horizontally disposed within the bottom of the ice storage receptacle.* The wire auger has mounted at its distal end an auger blade. A motor is supported along the back wall of the freezer compartment and is drivingly connected to the wire auger. When the motor is energized, the wire auger conveys ice pieces horizontally forward toward the auger blade such that ice pieces are supplied into a delivery chute wherein ice pieces are passed through the freezer door to the external service area. An ice crushing system may be selectively engaged such that the ice pieces may be crushed prior to delivery to the chute. (*Id.* at Column 1:33-2:3) (emphasis added)
>
> . . .
>
> Another disadvantage of prior art ice making and delivery systems is that a relatively large motor is required to rotate the ice conveying auger which is

> commonly provided. The motor size is related to the force necessary to break up frozen ice and move ice pieces *horizontally forward within the ice receptacle*. (*Id.* at Column 2:14-20.) (emphasis added).

Other exhibits of the prior art also disclose horizontal augers, such as RX-372, the Hitachi prior art reference. There are other prior art references disclosed in the patent with horizontal augers, but these four seem enough to give an understanding that horizontal augers were not included in the embodiments of the invention. In addition to the prior art references to horizontal augers, there was also testimony from Whirlpool engineers that such augers were common knowledge in the industry in 1998. (*See* RDX-001C-004C; RDX-0007C-0008C.) In addition, the abstract of the patent mentions only a vertical auger and nothing in the language of the claims or specification would suggest broader scope for the '130 patent.

However, the remand order applied the doctrine of claim differentiation to reach a different conclusion:

> Unasserted claim 3, which depends from claim 1, recites that "the auger is supported in a vertical orientation within the ice storage bin." 13:4-6. It is precisely this vertical orientation of the auger that is disclosed in the 130 patent's specification such that rotation of the auger would allow gravity to affect the dispensing of the ice from the ice storage bin. *Id.,* Figure 3; Figure 9; 10:25-67.
>
> Since this embodiment of a vertical auger, with all the limitations thereby implied, is explicitly recited in dependent claim 3 we read claim 1 as being broader. Since claim 1 does not contain any limitations on the orientation of the auger, we do not construe the elements recited in claim 1 as needing the assistance of gravity in dispensing ice from the ice storage bin. This means, not only allowing the auger to have a non-vertical orientation, but also that the "bottom opening" is free to be an opening in either "the underside" or "the lowest part" of the ice storage bin.

(Comm'n Op. at 24-25.)

Of course the doctrine of claims differentiation does not require an independent claim to be

broader in scope than a dependant claim, but as the remand order has so defined it, we must view validity in light of a construction that includes horizontal augers, such as those referenced above, and found in the LG products. (*See Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538, 19 U.S.P.Q.2D (BNA) 1367, 1371 (Fed. Cir. 1991) (quoting *Autogiro Co. of Am. v. United States*, 181 Ct. Cl. 55, 384 F.2d 391, 404, 155 U.S.P.Q. (BNA) 697, 708 (Ct. Cl. 1967); *Laitram Corp. v. Morehouse Indus.*, 143 F.3d 1456, 1463 (Fed. Cir. 1998).) In light of the claims construction provided to the ALJ, he finds the '130 Patent is invalid due to obviousness.

A. Hitachi

1. Claim 1

The Japanese Utility Model Application S51-21165 to Hitachi, ("the '165 reference" or "Hitachi invention") combined with other well known prior art contains each and every element of the '130 patent. The '165 reference was granted for an ice dispensing system, one that did not include ice making. (RX-372) The '165 reference was filed on 5 August, 1974. The reference discloses 1) an ice storage bin (called an ice storage section by Hitachi), the ice is discharged through a bottom opening, as is depicted in Figure 2 of the reference; and 2) the storage bin and motor are mounted on the inner door of the freezer compartment, and the ice is moved from the storage area by a screw (in the words of the reference, which is in fact what a true auger is) to an area where the ice can be crushed, if the operator desires, by both rotating and stationary blades, and finally the ice is dispensed through a hole in the bottom. (*See* RX-372.)

In claim 1 of the '130 patent, Whirlpool claims:

> 1. A refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening, the refrigerator comprising:

> An ice maker being disposed within the freezer compartment for forming ice pieces;
> An ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening;
> A motor mounted on the closure member; and
> An auger disposed within the ice storage bin and drivingly connected to the motor,
> Wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin.

The '165 reference lacks only the ice maker mounted in the freezer compartment for forming ice pieces. As a consequence, the '165 reference does not disclose mounting the ice storage bin below the ice maker for receiving ice pieces from the ice maker. Otherwise, the reference has each element of claim 1 of the '130 patent. There is a) "A refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening;" b) "An ice storage bin mounted to the closure member (while not below the ice maker the storage bin has all the other elements) below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening;" c) "A motor mounted on the closure member; and" d) "An auger disposed within the ice storage bin and drivingly connected to the motor, Wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin."

Obviousness is grounded in 35 U.S.C. § 103, which provide, *inter alia*, that:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negative by the manner in which the invention was made.

35 U.S.C. § 103(a). Under 35 U.S.C. § 103(a), a patent is valid unless "the differences between the

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). The ultimate question of obviousness is a question of law, but "it is well understood that there are factual issues underlying the ultimate obviousness decision." *Richardson-Vicks Inc.*, 122 F.3d at 1479; *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 863 (Fed. Cir. 1993).

Once claims have been properly construed, "[t]he second step in an obviousness inquiry is to determine whether the claimed invention would have been obvious as a legal matter, based on underlying factual inquiries including: (1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art; and (4) secondary considerations of non-obviousness" (also known as "objective evidence"). *Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1354 (Fed. Cir. 1999), citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

The Federal Circuit case law required that, in order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that there is a "teaching, suggestion, or motivation to combine. The Supreme Court has rejected this "rigid approach" employed by the Federal Circuit in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), 127 S.Ct. 1727, 1739. The Supreme Court stated:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its

> actual application is beyond his or her skill. Sakraida and Anderson's-Black Rock are illustrative–a court must ask whether the improvement is more than the predictable use of prior art elements according to their established function.
>
> Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicitly. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusions of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

Turning to the '165 reference, in light of *KSR*, all that is required to reach every element of claim 1of the '130 patent is the mere application of a known technique to a piece of prior art ready for the improvement. The prior art discloses that the automatic ice maker has been known before 1974 and was well known by 1998. (*See*, for example, U.S. Pat No. 4,649,717 (1985) and U.S. Pat. No.3,276,225 (1965).) The adding of the prior art ice maker would be a known technique to improve the Hitachi invention. A clear motive to combine the automatic ice maker with the Hitachi invention is stated in the patent itself. The '165 reference states that:

> A conventional freezer refrigerator is used by storing ice cubes made inside a freezer compartment in an ice storage box, and opening the door to remove the ice cubes from the ice storage box as required. 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…The present proposal eliminates the drawbacks discussed earlier, and provides a freezer

> refrigerator capable of discharging either ice cubes or crushed ice as required, and satisfying the demands discussed earlier. (RX-372 at ¶¶ 1-2.)

Given the goals of keeping the freezer compartment closed as much as possible and not handling the ice, using an automatic ice maker that deposits the ice directly into the ice dispensing bin would have been obvious to one of ordinary skill, not only in 1998 but in the years prior. In 1998, there were a number of automatic ice makers available that would work in combination with the Hitachi system, including U.S. Pat. No. 3,299,656, invented by Linstromberg at al. and assigned to Whirlpool. That ice making systems were well known in the art is stated specifically in the '130 patent;

> Automatic ice making systems for use in a home refrigerator are well known. Typically, ice making systems include an ice maker mounted within the freezer compartment of the refrigerator and an ice storage receptacle or bin supported beneath the ice maker for receiving the formed ice from the ice maker. The ice maker is commonly mounted within the freezer compartment adjacent the side or rear wall of the freezer compartment such that water and power can be readily supplied to the ice maker. The ice storage receptacle is generally supported by a shelf structure beneath the ice maker within the freezer compartment. U.S. Pat. No. 4,942,979, to Linstromberg et al. is an example of a prior art ice making system. ('130 Patent at Col. 1.)

The '165 reference, combined with either the 3,299,656 or the 4,942,979 patent, contains each and every limitation in claim one of '130. The motivation to combine them as a whole is readily apparent. With the elements of the '130 listed above, the addition of the ice maker to the '165 reference would be apparent to one of ordinary skill in the art.

Whirlpool has argued that an automatic icemaker simply cannot be combined with the Hitachi refrigerator because there is no room to put it in the freezer compartment. They suggest the evidence that the ice bin was too high, that it is close to the top of the refrigerator, and that a

"bulky" ice maker would undermine the purpose of using the "volume of the freezer chamber" more efficiently are enough to thwart the efforts of those of ordinary skill in the art. (*See* CFF 243).

The ALJ finds these arguments unpersuasive, for a variety of reasons. Forming ice cubes in trays that would take up room on the shelves of the freezer would be a far less efficient use of freezer space than using an automatic ice maker. Whirlpool was touting how the movement of the ice bucket to the door, with the ice maker over it freed up valuable freezer shelf space, and if it did so in the Whirlpool products, it would have done so in a product such as the Hitachi dispensing system as well. The Supreme Court in *KSR* has given us insight in what we might expect a person of ordinary skill in the art to be able to do with the Hitachi design:

> The second error of the Court of Appeals lay in its assumption that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem. Ibid. The primary purpose of Asano was solving the constant ratio problem; so, the court concluded, an inventor considering how to put a sensor on an adjustable pedal would have no reason to consider putting it on the Asano pedal. Ibid. Common sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. Regardless of Asano's primary purpose, the design provided an obvious example of an adjustable pedal with a fixed pivot point; and the prior art was replete with patents indicating that a fixed pivot point was an ideal mount for a sensor. The idea that a designer hoping to make an adjustable electronic pedal would ignore Asano because Asano was designed to solve the constant ratio problem makes little sense. A person of ordinary skill is also a person of ordinary creativity, not an automaton.

KSR Int'l Co., 550 U.S. at 420-421 (emphasis added).

In this case, the obvious answer is even more apparent than in *KSR*, as it lies within the field itself, and in solving the same problem. If our person of reasonable skill reads the patent, and knows the problem is a) it is not sanitary to touch ice, and b) it is inefficient to open the freezer

compartment door too many times as it will lose cold air, it would be only natural to think of an automatic ice maker, a technology that was well know in the field for years, as it would further both those goals. A person of ordinary creativity, who knew that such ice makers existed, could not help but think of combining them. The problem of designing a shorter ice bin, or putting a lower lip on one to accommodate the ice maker would not be beyond such person's skills. To further suggest that an engineer in the field, as the person of ordinary skill in the art would be, could not resolve the pitch of the slope of a plastic ice receptacle, or lower the edge of the container is also not persuasive.

KSR spells out further how we should examine the prior art and known elements:

> *Graham* provided an expansive and flexible approach to the obviousness question that is inconsistent with the way the Federal Circuit applied its TSM test here. Neither § 103's enactment nor *Graham*'s analysis disturbed the Court's earlier instructions concerning the need for caution in granting a patent based on the combination of elements found in the prior art. See *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, 152, 71 S. Ct. 127, 95 L. Ed. 162, 1951 Dec. Comm'r Pat. 572 Such a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. See, *e.g., United States* v. *Adams*, 383 U.S. 39, 50-52, 86 S. Ct. 708, 15 L. Ed. 2d 572, 174 Ct. Cl. 1293 When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, § 103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill. A court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions. Following these principles may be difficult if the claimed subject matter involves more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. To determine whether there was an apparent reason to combine the known elements in the way a patent claims, it will often be necessary to look to interrelated teachings of multiple patents; to the effects of demands known to the

> design community or present in the marketplace; and to the background knowledge possessed by a person having ordinary skill in the art. To facilitate review, this analysis should be made explicit. But it need not seek out precise teachings directed to the challenged claim's specific subject matter, for a court can consider the inferences and creative steps a person of ordinary skill in the art would employ.

KSR, 167 L. Ed. 2d 705, 711-712 (Syllabus). If you took an ice maker, put it above the Hitachi ice bin, with its auger, mounted on the door, you could have your ice supply, untouched, with no need to ever open the door to obtain ice. This certainly fits the formula: "combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." It is difficult to see, if not impossible, how a person of ordinary skill in the art would not recognize that it would improve similar devices in the same way. The person would also be creative enough to believe that even if the combination might not fit in a given freezer of a given height, it may work in a taller one, or with a shorter ice bucket. These are not problems likely to stump such a person of ordinary skill in the art.

The Staff brief argued that the Whirlpool '130 patent was not obvious in light of the prior art, even with the new claims construction. They cited several reasons, such as one of the inventors, Mr. Myers, testifying [redacted]

[redacted]

While this inventor's testimony does suggest there were many problems to be overcome by Whirlpool, the ALJ found very little of such testimony persuasive. First, as he is testifying about his own work, the inventor has every motive to see the work as requiring great skill, in viewing it as a crowning accomplishment. As it happens he also worked for the complainant, and so has every reason to see matters from their perspective. When an inventor is praising his invention, there is every reason to consider the bias he may have, and the weight that should be given to his testimony. [redacted], the Commission found that moving the ice maker from the cabinet to the door was not so inventive. (Comm'n Op. at p. 19-20.) In weighing the testimony, the ALJ also noted that the matters listed by the Staff were not matters noted in the patent itself, and indeed the patent notes that "[t]he ice maker is a conventional ice piece making apparatus which forms crescent shaped ice pieces." And "[t]he ice maker disclosed in U.S. Pat. No. 4,649,717, herein incorporated by reference, is illustrative of the type of ice maker used in the present invention." ('130 patent at column 4:16-25.) [redacted]

[redacted] The '130 patent does not disclose making the components smaller so they took up less space than prior ice-making systems. In addition, there is little evidence in the record that these were problems that required inventive insight rather than routine engineering details that a person of ordinary skill in the art could work out. Thus, while there were engineering issues to be resolved, the evidence presented does not demonstrate that any one of them, or all of them, required any more ability to solve than an ordinary person skilled in the art, with knowledge of the prior art would have. Placing an ice storage bin, with an auger, which moved ice pieces to discharge chute in the door, with the ability to deliver crushed or whole ice pieces were well known in the prior art. Combining a common commercial ice maker, and making the bin removable and clear all involved technologies well known in the art as well. (*See* US Patent 3,747,363) Once the claims are read to include horizontal augers, it is clear that claim 1 of the'130 patent obvious.

2. Claim 2

Hitachi also discloses each and every element of claim 2 of the '130 patent. The '130 patent, claim 2 is as follows:

2. The refrigerator according to claim 1, further comprising:

> An ice discharge chute through the closure member below the bottom opening of the ice storage bin wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute. ('130 Patent at Column 12:64-67 13:1-3.)

The '165 reference, RX-372, ¶ 2, reads as follows:

> Reference number 1 is a freezer refrigerator having an ice discharge device 3 attached to the inner side of a door 2 of a freezer compartment. The ice discharge device 3 comprises an ice storage section 5 open at the top for ice cubes 4, a conveyor section 6 arranged on the floor, a crushed ice compartment 8 communicating with the conveyor section 6 through a communicating hole 7, and a discharge section 11 with an inclined surface 10 leading to a discharge outlet 9 in the door 2.

There is no evidence that the '130 patent used anything but the ordinary meaning for the words "discharge chute." The on line Merriam-Webster dictionary finds that chute means the following:

> **1 a :** FALL 6b **b :** a quick descent (as in a river) : RAPID
> **2 :** an inclined plane, sloping channel, or passage down or through which things may pass **:** SLIDE
> **3 :** PARACHUTE
> **4 :** SPINNAKER

The best definition to apply to the "discharge chute" of the invention appears to be the second one, "an inclined plane, sloping channel, or passage down or through which things may pass." As this definition applies to the "discharge section 11 with an inclined surface 10," as evidenced by both the words and the drawing figure 2 of the Hitachi reference, claim 2 of the '130 patent is obvious in light of the prior art.

B. Gould patent

Claim 2 of the '130 patent is also obvious in light of the Gould patent. The Gould patent discloses an automatic ice maker and an ice storage bin mounted on the fresh food door. (JX-7.) Whirlpool has argued that it did not specifically disclaim a freezer compartment mounted on a fresh food door as part of the patent prosecution history because the history that clearly disclaims Gould was written by the patent examiner, and not a Whirlpool representative.[5] The Commission agreed. (Comm'n Op. at 9.)

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5 While this does appear to be a correct reading of the law as it stands currently before the Federal Circuit Court it, seems that the logic of the cases supporting this conclusion is flawed. The language at issue is:

> It was pointed out that Gould does not have a freezer compartment and a freezer door on which the ice bin is mounted. However, other patents such as Horvay '383 do have a freezer door with an ice bin mounted thereon. It was also pointed out that several problems would occur in trying to mount the prior art auger such as taugh(t) in Buchser in a bin that is mounted on a freezer door. For example, wiring, spacing location of the motor and auger, and the weight of the motor and auger on the door are some of the problems. Thus, it was agreed that nothing directly in Buchser would lead one skilled in the art to solve these problems by combining an ice auger with a bin mounted on a freezer door. Moreover, (sic) the problems discussed above would lead one skilled in the art away from combining and Buchser with a bin mounted on a freezer door.

The Commission came to the conclusion that the above language was only that of the examiner, and hence not that of the inventor's representative and cited *Sorensen V. Int'lTrade Comm'n* 427 F. 3rd 1375 (Fed. Cir. 2005) for support. (Comm'n Op. at 10.) While the result in *Sorensen* was that the remarks of the examiner could not be attributed to the inventor, in reading that case there was no evidence to indicate that the inventor, or his representative, ever agreed with the interpretation of the examiner, or that the inventor's representative ever received a copy of the remarks, or had an opportunity to rebut them. That is not the case with the '130 patent, and based on statutory and case law, I believe it is proper under the APA to attribute the remarks to the inventors and their representative.

When an agent of the government performs his or her official acts, there is a presumption that the agent did so properly:

> The "presumption of regularity" supports official acts of public officers. In the absence of clear evidence to the contrary, the doctrine presumes that public officers have properly discharged their official duties. The doctrine thus allows courts to presume that what appears regular is regular, the burden shifting to the attacker to show the contrary.

Butler v. Principi, 244 F.3d 1337, 1340 (Fed. Cir. 2001) (internal citations omitted); *see also United States v. Chemical Foundation, Inc.*, 272 U.S. 1, 14-15 (1926).

> By Judge Rader: The "presumption of regularity" supports official acts of public officers. In the absence of clear evidence to the contrary, the doctrine presumes that public officers have properly

discharged their official duties. *United States v. Chem. Found., Inc.*, 272 U.S. 1, 14-15, 71 L. Ed. 131, 47 S. Ct. 1 (1926); *In re Longardner & Assocs., Inc.*, 855 F.2d 455, 459 (7th Cir. 1988) ("in this case, in which notice was properly addressed, stamped and mailed, there is a presumption that Bunn received it"). The doctrine thus allows courts to presume that what appears regular is regular, the burden shifting to the attacker to show the contrary. *United States v. Roses, Inc.*, 706 F.2d 1563, 1567 (Fed. Cir. 1983).

The procedures of the PTO for the interviews are set out in MPEP section 713.04:

713.04 Substance of Interview Must Be Made of Record [R-3]

A complete written statement as to the substance of any face-to-face, video conference, electronic mail or telephone interview with regard to the merits of an application must be made of record in the application, whether or not an agreement with the examiner was reached at the interview. See 37 CFR 1.133(b), MPEP § 502.03 and § 713.01.

37 CFR 1.133 Interviews.

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(b) In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office actions as specified in §§ 1.111 and 1.135.

37 CFR 1.2 Business to be transacted in writing.

All business with the Patent and Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the U.S. Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, except where the interview was initiated by the examiner and the examiner indicated on the "Examiner Initiated Interview Summary" form (PTOL-413B) that the examiner will provide a written summary. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary form PTOL-413 for each interview where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. If applicant initiated the interview, a copy of the completed "Applicant Initiated Interview Request" form, PTOL-413A (if available), should be attached to the Interview Summary form, PTOL-413 and a copy be given to the applicant (or applicant's attorney or agent), upon completion of the interview. If the examiner initiates an interview, the examiner should complete part I of the "Examiner Initiated Interview Summary" form, PTOL-413B, in advance of the interview identifying the rejections, claims and prior art documents to be discussed with applicant. The

examiner should complete parts II and III of the "Examiner Initiated Interview Summary" form at the conclusion of the interview. The completed PTOL-413B form will be considered a proper interview summary record and it will not be necessary for the examiner to complete a PTOL-413 form. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in MPEP § 812.01, or pointing out typographical errors in Office actions or the like, are excluded from the interview recordation procedures below. Where a complete record of the interview has been incorporated in an examiner's amendment, it will not be necessary for the examiner to complete an Interview Summary form.

The Interview Summary form PTOL 413 shall be given an appropriate paper number, placed in the right hand portion of the file, and listed on the "Contents" list on the file wrapper. For Image File Wrapper (IFW) processing, see IFW Manual. In a personal interview, the duplicate copy of the Interview Summary form along with any attachment(s) is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephonic, electronic mail or video conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. In addition, a copy of the form may be faxed to applicant (or applicant's attorney or agent) at the conclusion of the interview. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Interview Summary form should be mailed promptly after the telephonic, electronic mail or video conference interview rather than with the next official communication.

The PTOL-413 form provides for recordation of the following information:

(A) application number;

(B) name of applicant;

(C) name of examiner;

(D) date of interview;

(E) type of interview (personal, telephonic, electronic mail or video conference);

(F) name of participant(s) (applicant, attorney, or agent, etc.);

(G) an indication whether or not an exhibit was shown or a demonstration conducted;

(H) an identification of the claims discussed;

(I) an identification of the specific prior art discussed;

(J) an indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). (Agreements as to allowability are tentative and do not restrict further action by the examiner to the contrary.);

(K) the signature of the examiner who conducted the interview;

(L) names of other U.S. Patent and Trademark Office personnel present.

The PTOL-413 form also contains a statement reminding the applicant of his or her responsibility to record the substance of the interview.

Therefore, as Gould is no longer disclaimed, then the Gould patent, combined with the '165 reference, render the combination of the ice maker and motorized auger mounted on a fresh food closure member obvious.

C. Claim 4 is obvious in light of the prior art

Claim 4 of the '130 patent is as follows:

> 4. The refrigerator according to claim 1 further wherein the ice storage bin is at least partially formed out of a transparent material such that the amount of ice pieces in the ice storage bin can be readily visually determined. ('130 Patent Column 13:7-10.)

Once more the witness testimony offered on cross-examination from several of the Whirlpool witnesses demonstrated that the use of transparent or partially transparent ice storage bins was known in the industry prior to the '130 patent. (*See* RDX-001C, RDX-0002C, RDX-005C; *see also* RX-188.) This testimony was unchallenged by Whirlpool, and no evidence

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MPEP section 713.04.

In reviewing the PTOL-413 in the '130 patent file wrapper, each and every requirement set out in 713.04 is met, including providing the inventor's representative with a copy of the document. As the document asserts that the inventor's representative was present, and reached a complete agreement with the examiner, absent any evidence to the contrary we should accept the document on its face. If this were not the case, the purpose of the PTO rules and the examination process itself could be easily thwarted by an inventor's representative that acquiesced in all that the examiner said and did, but simply did not sign the agreement. The regulation provides for the inventor's representative to supplement the notes if he had a disagreement with the examiner. The representative did not file any supplement to this document in the present case.

The case law regarding settlements before a court is useful regarding the requirement that a party sign an agreement. While it is true that the inventor's representative did not sign the document, nor any other document that memorialized the agreement, there is no requirement in law that a settlement [before a court] be signed by a party to it, only that agreement was reached. *Omega Eng'g, Inc. v. Omega, S.A.*, 432 F.3d 437, 448 (2d Cir. Conn. 2005) *Bourguignon v. Lantz*, 2009 U.S. Dist. LEXIS 3750 (D. Conn. Jan. 21, 2009) *Brandt v. MIT Dev. Corp.*, 552 F. Supp. 2d 304, 319 (D. Conn. 2008) I believe this reasoning applies to the Patent office document as well.

Given the unambiguous nature of the PTO-413, the presumption of validity for official actions, and the absence of any evidence that the inventor or his representative did not agree, file any paper disputing the PTO-413 or raise the issue of its validity of the PTO-413 with either the PTO or during these proceedings, it is clear that the

was offered to the contrary. While there are strong teachings in patent law to be wary of inventor testimony, (in fact, in this case, the ALJ found difficulty giving weight to the inventor testimony regarding the difficulty of the issues they solved with the invention. In that case, however, he was speaking consistent with his own interest) when such testimony is used to demonstrate the state of the art in 1998, there is every reason to find the testimony reliable on the points regarding what was known to one of ordinary skill in the art. First, their statements that the transparent ice bin was known in the art at that time cuts against their interest as inventors. Where a party is making an admission that cuts against his or her interest, it is generally thought to be reliable, and more weight is attached to such a statement than to one supporting his cause. As there is no evidence in the record to the contrary, and I find the witnesses were creditable, combining the refrigerator according to claim 1, with an ice storage bin that is at least partially formed out of a transparent material such that the amount of ice pieces in the ice storage bin can be readily visually determined is obvious in light of the prior art.

D. Claim 6 is obvious in light of Hitachi and Linstromberg U.S. Patent 4,176,527

Claim 6 of the '130 patent is as follows:

> 6. The refrigerator according to claim 1 further wherein the ice storage bin comprises:
> the ice storage bin defines an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening, the ice crushing region having an inlet opening;
> the auger having a shaft portion passing through the ice crushing region;
> at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
> at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade. ('130 Patent at Column 13:16-30.)

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substance of the PTO-413 ought to be binding on Whirlpool.

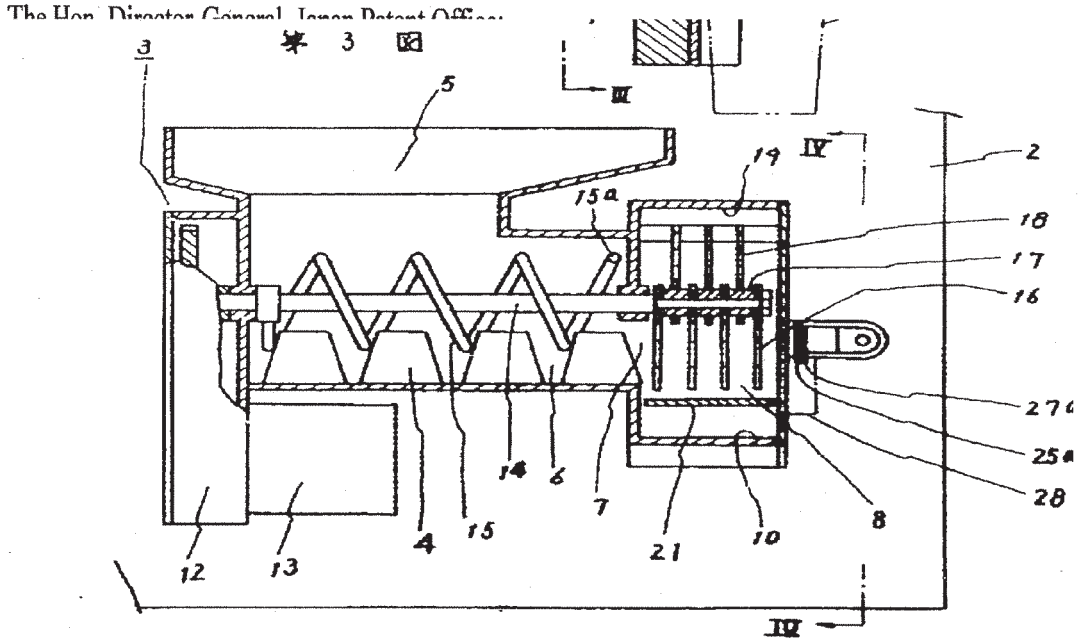
Once more, a reading of the '165 reference, and a view of figure 2 and 3 of the '165 reference demonstrate it meets each an every element of the claim.

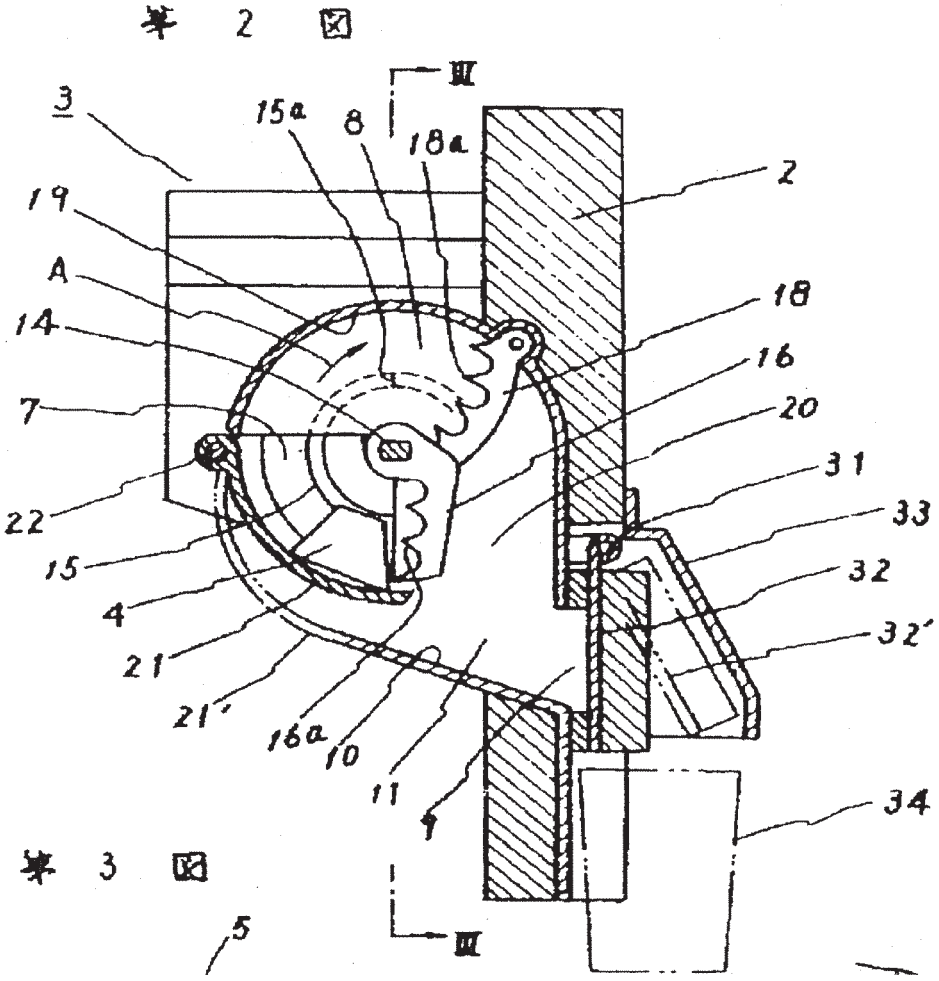
> Shaft 14 driven to rotate by motor 13 through speed reducer 12 passes through the conveyor section 6 to the crushed ice compartment 8. Screw 15 (the auger) is attached to shaft 14 inside the conveyor section 6, and several rotating blades 16 are attached inside the crushed ice compartment 8 so as to rotate with shaft 14 at a specific spacing created by spacers 17. Several stationary blades 18 are separated at a specific spacing inside the crushed ice compartment, with the one end fixed to the outer wall 19 of the crushed ice compartment 8 and the other end freely engaging the spacers 17. Rotating blades 16 can rotate passing between stationary blades 18. Rotating blades 16 and stationary blades 18 have been formed with several points 16a and points 18a with protrusions forming sharp saw-teeth. Outer wall 19 of crushed ice compartment 8 is cylindrical, and an opening 20 communicating with the discharge section 11 has been made in part of the wall. (RDX-372C.)

See also figures 2-3 below:

UTILITY MODEL REGISTRATION APPLICATION 1

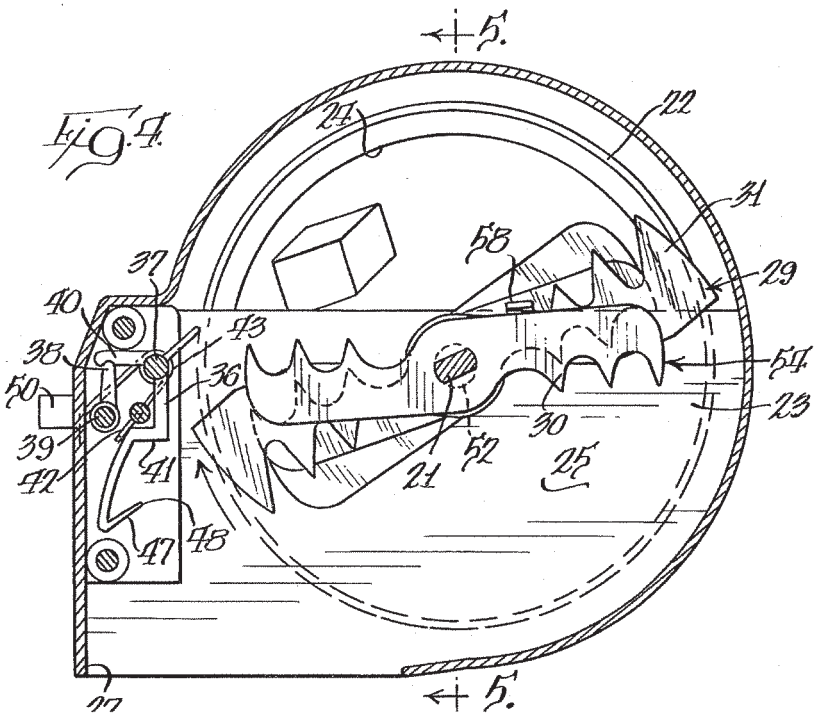
August 5, 1974

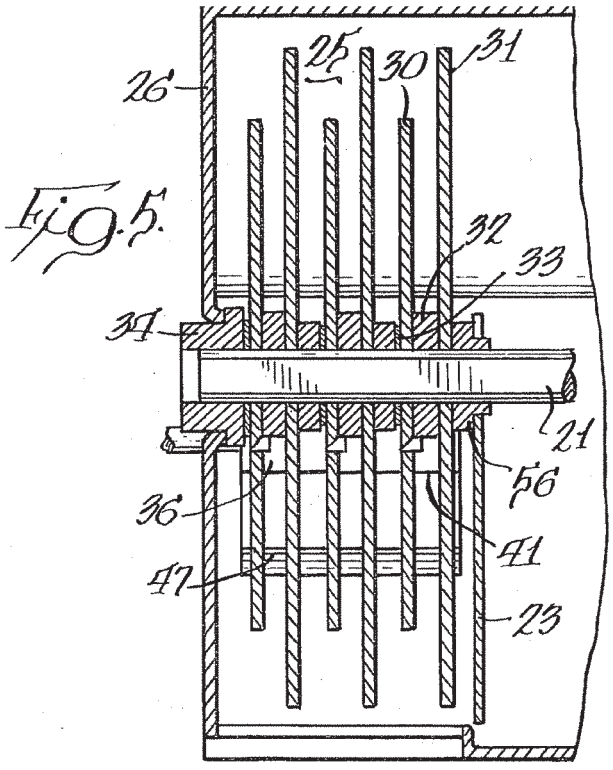




In addition to the Hitachi prior art, both augers and ice crushers were well known in other prior art, as was noted by several of the engineers' testimony. (*See* RDX-001C, RDX-002C, RDX-003C, RDX-004C, RDX-007C, RDX-008C.)

U.S. Patent 4,176,527 (JX-17) discloses an auger and ice crushing region as evidenced in Figures 4 and 5:





Apparatus for delivering ice from an ice body supply to an ice delivery area

> selectively in ice body form or as crushed ice, comprising;
> housing means defining an inlet portion for receiving ice bodies from said delivery area;
> a rotatable shaft disposed within said shaft for rotation coaxially therewith;
> second crusher arm means coupled to said shaft for releasable rotation coaxially therewith; and
> selector means movable carried in said housing and selectively positionable in a first position out of the path of rotation of said second crusher arm means allowing unhindered rotation of said outlet portion, and in a second position in the path of rotation of said second crusher arm means preventing rotation of said second crusher arm means to cause the ice bodies to be crushed between said first and second crusher arm means as a result of rotation of said first crusher arm means

(JX-17 at claim 1.) These patents have the elements of a) a refrigerator according to claim 1 further wherein the ice storage bin comprises: b) the ice storage bin defines an ice crashing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening, the ice crushing region having an inlet opening; c) the auger having a shaft portion passing through the ice crushing region; d) at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and e) at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

E. Claim 8 is not rendered obvious by the prior art.

Claim 8 of the '130 Patent reads as follows:

> 8. The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> An upper ice bin member having a bottom edge;
> A lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharge [sic] through the bottom opening;
> the auger having a shaft portion passing through the ice crushing region;
> at least one ice crusher blade rotatably connected to the shaft portion for rotation

within the ice crushing region; and
at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade. ('130 Patent at Column 13:34-52.)

In the prior art, the auger and ice crushing region are not below the ice storage compartment or bin, [redacted] of the prior art examples, the ice crushing region is in front of the ice storage bin as one stands in front of the refrigerator facing it, and the ice is moved horizontally towards the door, through the crushing region, and then gravity pulls it to the area where it is dispensed. The ice crushing region in the prior art is not a "lower ice bin through which the ice pieces must pass" nor is it connected to the bottom edge of the "upper" ice bin member.

F. Claim 9 is obvious in light of the prior art

Claim 9 of the '130 patent is as follows:

9 The refrigerator according to claim 1 further wherein the ice storage bin is removable from the freezer compartment closure member. ('130 Patent Column 13:52-55.)

While it is not apparent that the'165 reference discloses a removable storage bin, virtually every ice storage bin in use has been removable. (*See* RDX-001C, RDX-002C, RDX-004C, RDX-007C, RDX-008C.) In addition to the expert testimony, numerous prior art patents claim removable bins, including those that were cited as prior art in the '130 Patent, such as U.S. Patent 3,635,043 (JX-12), U.S. Patent 3,308,632 (JX-28), and U.S. Patent 3,545,217. Thus, given the state of the technology at the time of the filing of the '130 patent, it would have been obvious to combine the refrigerator of claim 9 with one of the prior art references.

G. Secondary Considerations

In determining whether a patent is obvious the court should consider "secondary considerations" that may be relevant to the conclusion. Whirlpool emphasizes the commercial success of the product containing their invention as proof of non-obviousness. In reviewing all of the facts regarding this alleged commercial success however, it is difficult to attribute the commercial success of the top of the line refrigerator-freezers to the patented feature of the ice system. While Whirlpool points out the success in the sale of the products having the patented feature, both in sales and in the profit margin of the models having those features, there are difficulties in such direct comparisons that Whirlpool skims over. In addition to the ice system in the refrigerators, in general there were other differences between the refrigerators with the patented feature and those that were sold without it. While the patented ice system may have added to the attractiveness of the products to consumers, so too might the clear storage bins in other parts of the refrigerators, the type of shelving, etc. In light of the fact that the data presented does not control for other factors in the products that might have contributed to commercial success, and that the evidence of obviousness is compelling, the evidence of the commercial success of the products does not overcome the evidence of obviousness in light of the prior art.

In addition, it is difficult to evaluate the features attractiveness due to a clean, visually pleasing appearance from the functions Whirlpool claims for the design. For example there is no evidence how much weight consumers gave to the refrigerator due to appearance, the fact it was in a "top of the line" product, or other considerations. As the desirability of the feature was demonstrated solely with statistics, the ALJ is cautious about drawing conclusion from the raw

data alone. Whirlpool's brief acknowledges that "other features may distinguish these refrigerators…" '[w]hile other features may distinguish these refrigerators, the major difference was IDI.." (Complainants' Opening Brief on Remand at p. 17.) This may ultimately be the case, however, the evidence presented at the hearing did not prove it. In each example that Whirlpool provided, it tells the price difference between a product with the IDI feature, and one without, but there was no indication that all of the other features in the models were the same.

[redacted] (Whirlpool Br. at p. 15-16.) There is no evidence regarding the other differences in the refrigerators, or the consumer's brand preferences (for example if the brand "KitchenAid" was considered of higher quality, or more reliable, or more desirable than GE), or perception of quality of the companies. In other words, there was no control for the other variables that go into consumer choice. The ALJ is also aware that what a consumer says they might do if they were making a purchase could vary. For example, for a person not actually in the market for a product to state that they would pay 100 dollars more for a particular feature does not make it true [redacted]

Whirlpool also claims that the praise of others also provides evidence of non-obviousness. While this is true, the evidence presented made no distinction between a new and novel function, and the appearance of the ice system on the door. For example, "consumers on Whirlpool's product with Ice-bank mounted on the door had 'favorable reviews' of the same" tells us that consumers liked them, but it would suggest that the favorable factors had more to do with the appearance than the function. (Whirlpool Br. at p. 19.) It is doubtful that "consumers" would be people of skill in the art, such that they might think a vertical auger a new concept, or that the clear ice bucket was an innovation. They would know it looked good, and that it was a design appealing for appearance. There is no evidence that the consumers knew the system was patented, or why it was. Consumer Reports likes the design as it gives more usable volume and the bin can easily be removed to clean it. (Whirlpool Br. on Remand at p. 19.) But neither bins mounted on the door, nor removable bins are the patented features, and both were known in the prior art. As the qualities that are being praised are not qualities of the patent, the evidence would weigh more in assuming that the design of the refrigerator, rather than the features of the patent, are driving consumer interest. This is true in many areas of consumer products; from cars and motor bikes and appliances, often the appearance to the eye will drive choices as much as the features that are part of the design. While Consumer Reports' praise may have addressed an ice bin on the door, the inventors testimony acknowledges that there have been ice bins on the door that were removable prior to the '130 patent. (RDX-001). Similarly, the June 2004 Appliance Manufacturer article that praised the moving of the ice to the door in the Whirlpool design was praising a feature that was

previously known in the art, which Whirlpool engineers acknowledged they did not invent. (RDX-001, RDX-002, RDX-004,)

Although the statements made by LG would carry greater weight than those of others, again caution must be used when reviewing the evidence. [redacted] ice maker technology is unrelated to the '130 patent as the '130 patent works with ice makers that have existed for years. The ice maker is not in dispute here, so Whirlpool's lead in a technology that the '130 patent disclaims does not provide evidence of non-obviousness. *See* the '130 patent, column 4:16-24:

> The ice maker 32 is a conventional ice piece making apparatus which forms crescent shaped ice pieces. The ice maker 32 includes an ice mold body 36, an ice stripper 38, a rotatable ejector (not shown) and a housing 40. The housing surrounds a drive motor and drive module (not shown) which operate to rotate the ejector (not shown) when ice harvesting is necessary. The ice maker disclosed in U.S. Pat. No. 4,649,717, herein incorporated by reference, is illustrative of the type of ice maker used in the present invention.

[redacted]. If the person forming the conclusion had not studied the prior art, nor the features of the '130 patent that were alleged to be patentable, the opinion regarding the technology would be no more than

fanciful speculation. Without knowing who within LG made the statement, and the state of their knowledge regarding the field, the ALJ gives very little weight to such evidence.

There is very little evidence of copying of the Whirlpool design by the LG design. (CPX-13, CPX-12, CPX-05 CPX-11 CPX-01).

III. Infringement Analysis

The ALJ finds that under the Commission's revised claims construction, the LG refrigerators do not infringe the '130 patent.[6] The LG ice storage bins differs from that of the Whirlpool patent is several ways. First, the ice storage bin on the LG refrigerator does not have an auger that moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin. The LG auger moves ice horizontally through the storage bin, and the ice exits the bin through a hole in the side of the ice storage area. The LG auger does not extend across the entire width of the ice storage bin, but the portion that moves the ice pieces extend less than halfway across the bin. If the opening through which a piece of ice must pass is on the lowest portion of the ice storage bin, then a horizontal auger may not pass all the pieces of ice through it successfully, as it is moving ice pieces in a circular motion horizontally, not around a vertical axis. In the LG products, the auger moves the ice pieces through a hole in the side wall of the ice bin, and once the ice pieces are no longer in contact with the auger, gravity pulls them downward and they

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6 In the ID in places after finding non-infringement of the accused product in question, the ID indicated that "the remaining limitations of claim 1 are present in the accused product." This was done with regard to the accused French door model (ID page 30) and with the side-by-side models (page 29). Once the Commission changed the claims construction, those conclusions that the accused products met the remaining limitations of the claims were subject to review as well as the conclusion that the products did not infringe under the construction of the claim that the ALJ used.

As the Commission has ordered a review of validity, infringement and remedy, where the review has lead to different conclusions the ALJ has found himself bound not by the findings of the ID, but the instructions of the Commission. To the extent that the ALJ has reached different conclusions in this RID than the initial ID, it is due to that

are dispensed. (*See* RX-582C; CDX-057.) The ice pieces will be moving horizontally when the auger is energized, however they will not always be moving down as a result of the movement of the auger. Depending on where the ice piece is along the length of the auger, it will be moving horizontally and down, or horizontally and up. Only when the ice reaches the end of the auger does it move continually down, and then through no motion or force of the auger, but solely due to gravity. As the LG auger does not extend fully across the ice bin, and pushes ice pieces through a hole in the side of the bin, it does not, and cannot move ice downward to be dispensed. (*See* RX-582C.) So, in the LG products, the auger moves the ice horizontally, and both up and down, but it does not move the ice downward to be dispensed; only gravity does that. (CPX-13, CPX-12, CPX-05, CPX-03.)

If crushed ice is desired, the operator of the LG refrigerator will select crushed ice by pushing a button on the door prior to the energization of the motor. This will move a lever, or plastic arm, (this arm was called a "flapper" by one of the LG witnesses, Dr. Bessler. (Tr. at 1121 22-25) located just outside of the ice storage area of the bin, and the position of the arm will cause the ice to be directed into the crushing blades, or around them. If directed around the crushing blades, gravity takes over and the ice falls downward. The movement of the auger has no effect on the ice at the point the ice leaves the storage area. If the ice is directed through the crushing region, the movable blade's rotation will carry the ice up, and to the top of the arc of its rotation. From the high point, the ice falls against the stationary blades, and as the rotating blade continues through its circular motion, gravity pulls the crushed ice out of the bottom opening of the bin. (Tr. 1121-1122.) In neither the crushed ice mode or the whole piece mode does the auger, or the blades, move the ice

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review, and the conclusions compelled by further review of the case.

downward for dispensing.[7]

The auger in the LG ice dispenser does not practice the Whirlpool patent because it is horizontal, not vertical as required by the claims and because it passes ice through the side of the bin, not through a bottom opening. (*See* CPX-13, CPX-12, CPX-05, CPX-03.)

Furthermore, as claim 6 requires the ice pieces to pass through an ice crushing region to be discharged through the bottom opening the LG design does not infringe claim 6 of the patent. The LG designs do not require that ice pass through an ice crushing region after it leaves the ice storage bin. In fact, if the operator of the freezer wants whole ice pieces, as opposed to crushed ice, the pieces cannot pass through the ice crushing region of the bin. As the ice leaves the ice storage area in the LG design, it will pass through an ice crushing region of the assembly only if the user, prior to energizing the motor, has selected crushed ice. If that is the case, the ice will only be able to pass through a circular region in the ice storage bin that has movable ice crushing blades on the same

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7 The use of a horizontal auger was well known in the prior art, as evidenced by the inventors of the '130 patent in their patent:

> Illustratively, U.S. Pat. No. 4,084,725 to Buchser, discloses an ice dispensing apparatus for use in domestic refrigerator having an ice maker and an ice storage receptacle mounted within a freezer compartment and has a front end adjacent the freezer door. As illustrated, a wire auger is horizontally positioned within the bottom of the ice storage receptacle and is selectively rotated by a motor when ice dispensing is desired. Ice cubes are delivered from the storage receptacle to an external service area in the freezer door by means of a rotatable tubular drum having an internal helical auger blade. The tubular drum is mounted to the end of the wire auger. When the wire auger and tubular drum are rotated, ice pieces are moved horizontally forward in the ice storage receptacle to fall into a chute for passing the ice pieces through the freezer door to the service area.

Another ice dispensing apparatus in illustrated in U.S. Pat. No. 4,176,527, to Linstromberg et al., which discloses an ice dispensing apparatus for use in a domestic refrigerator having an ice maker and an ice storage receptacle wherein ice pieces are delivered by a delivery means from the ice storage receptacle to an external service area either in the form of crushed ice or integral whole ice pieces. As shown therein, the ice maker and ice storage receptacle are mounted within the freezer compartment of the refrigerator. The ice storage receptacle extends across the freezer compartment and has a front end adjacent the freezer door. The transfer means comprises a rotatable wire auger horizontally disposed within the bottom of the ice storage receptacle. The wire auger has mounted at its distal end an auger blade. A motor is supported along the back wall of the freezer compartment and is drivingly connected to the wire auger. When the motor is energized, the wire auger conveys ice pieces horizontally forward toward the auger blade such that

axle as the auger, and those blades will force the ice pieces against a set of stationary blades, and then out of the bin and the crushed ice will dispense. The motor of the LG freezer turns only in one direction, if the blades engage the ice, the ice will be crushed. If the user has selected whole ice pieces, the ice will pass around the crushing region and out of the assembly. A movable plastic paddle or flapper allows the pieces to drop through the hole in the bottom of the ice storage bin without passing through the ice crushing region when the control is set for whole ice. (CDX-057.) The ice will go through the ice crushing region or bypass it depending on the position of a plastic arm in the ice storage bin, and that position is determined by the individual operating the ice system prior to energizing it.

In contrast, in the Whirlpool design, the auger is attached to a reversible motor. If the operator wishes whole ice, the auger will turn on one direction, and the ice will pass out of the storage bin, into the ice crusher region, and the blades that are movable will turn in a direction that allows the ice to reach a hole in the bottom of the ice crushing region prior to going through the area with the fixed ice crushing blades, thus dispensing whole ice pieces. If the operator energizes the motor for crushed ice, the auger and blades move in the opposite direction, so that once the ice piece drops through the hole in the bottom of the ice storage compartment, the movable blades will push the ice into the stationary ice crushing blades, which crushes the ice, and then out of the hole in the ice crushing region. Regardless of the setting the operator uses, the ice comes into contact with the ice crushing blades.

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ice pieces are supplied into a delivery chute wherein ice pieces are passed.

A. Claim 1

1. A refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening, the refrigerator comprising:
An ice maker being disposed within the freezer compartment for forming ice pieces;
An ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening;
A motor mounted on the closure member; and
An auger disposed within the ice storage bin and drivingly connected to the motor,
Wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin.

If Claim 1 is determined to be valid, applying the proper claim construction, LG's side-by-side accused products, represented by LG model LSC27931, do not infringe claim 1, literally or under the doctrine of equivalents. Previously the ALJ found these did not infringe because the ice maker of the LG product was not "disposed within the freezer compartment [.]" (*See* '130 Patent at 12:52-53). While the Commission's construction of claim1 now compels the conclusion that the ice maker is within the freezer compartment, a careful review of the claim and the LG products accused still requires a finding of non-infringement. The LG products do have "[a]n ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening" and "[a]n auger disposed within the ice storage bin and drivingly connected to the motor," however, upon energization of the motor, the auger in the LG products does not, and cannot, move ice pieces from the ice storage bin *through the bottom* opening for dispensing from the ice storage bin.

The LG ice bin has an auger that is mounted in a horizontal orientation in respect to the ground. (CPX-13, CPX-12, CPX-05, CPX-03.) When its motor is activated, the ice pieces are moved horizontally away from the refrigerator cabinet towards the outer surface of the closure

member. The ice pieces leave the ice storage area via a hole in the side wall of the ice storage area, which is approximately an inch above the bottom of the lowest portion of the ice storage bin. Prior to the energization of the motor, the operator has to determine if crushed or whole ice is desired. If the operator has set the setting on whole ice, the ice pieces will fall due to *gravity* to the dispensing area, with no further involvement with the auger, or ice bin. If the operator selected crushed ice, the "flapper" arm of the ice bin will be in a position to force the ice through the ice crushing region of the ice storage unit. When this happens, the rotating ice crushing blades will first lift the ice in an upward arc, and then the ice will fall down onto the stationary ice crushing blades. The rotating ice crushing blades will then continue in their circular motion, and as they pass between the stationary blades, the ice is crushed, and *gravity* pulls it downward to the dispensing area. The auger does not move the ice "through the bottom opening for dispensing from the ice storage bin", but rotates horizontally, while gravity pulls the ice downward.

The Staff reached a different conclusion, that the "movement of the auger causes ice to pass through an opening in the lowest portion of the lower ice bin for dispensing..." (Staff Brief at p. 20.) While in a broad sense the auger does "cause" the ice to pass through the bottom, the auger must move ice pieces from the ice storage bin through the side opening of the ice storage bin, then the ice falls due to gravity to the ice discharge suit. There is no "causes the ice to pass through..." in the LG products. The auger does not move the ice pieces through the bottom opening of the ice storage bin.

The Staff stated in its brief that:

> There is an auger that, when rotated, moves ice horizontally through the upper ice bin until it falls into a lower ice bin, where it may or may not be

> crushed. In either event, the movement of the auger causes the ice to pass through an opening in the lowest portion of the lower ice bin for dispensing via an ice discharge chute.

(Staff Brief at P. 19; RDX-043, "Drawings of Augers and Dispense system"; RDX-071). This description of what happens in the LG refrigerator is factually wrong. The LG ice storage bin is constructed differently than that of the Whirlpool ice storage bin, and the difference is important in understanding why the LG system does not infringe the Whirlpool patent. While there is an upper transparent wall portion of the LG storage bin, it is only a part of the area where the ice is stored prior to dispensing. (CPX-13, CPX-12, CPX-05, CPX-03.) The area where the ice is stored prior to dispensing also includes a white plastic section that comprises all the sides of the lower part of the bin, and about half of the upper part of the bin. Looking from the top into the ice storage area, there is no lower chamber; the lowest portion of this ice storage bin is the lowest portion of the ice storage unit. The ice is deposited in this chamber by the ice maker prior to activating the auger. The chamber has a clear plastic front piece, which is affixed to the white plastic portion by the side and bottom, forming one chamber, not an upper and lower chamber. This chamber does not have a bottom hole; the ice sits at the lowest portion of the ice storage bin. When the auger is activated, the ice does not move to a lower portion of the bin, but moves horizontally to an area where it will leave the ice storage system, either passing through the ice crushing region, if the control is set for crushed ice, or by-passing the ice crushing region, and dropping by gravity to the dispensing chute. This section is not located below the bottom of an upper ice bin, and does not form a lower ice bin. The front portion of the ice storage unit has no bottom, but is open. Any ice that gets to that area falls by gravity: the auger does not move it to a bottom opening, as the ice storage bin has none.

The Whirlpool ice storage system, which Whirlpool claims practices claim 1 of the '130 patent, is constructed in a different manner. (CPX-11, CPX-01.) The top, transparent portion of the ice storage region is the entire area where the ice is contained prior to dispensing. It is joined to a white plastic section below it, which has a round, center portion that contains the auger and ice crushing blades. In the Whirlpool design, and '130 patent, this ice crushing region is below the ice storage region, and the auger's motion moves the ice first through the bottom opening of the transparent, upper, region, where the ice sits until the auger is activated, and then, by the movement of the ice crushing blades, through a bottom hole in the ice crushing region, to be dispensed.

a) Additional reasons that the LG French Door models to not infringe claim 1

The Commission's construction of the term "Freezer Compartment" is as follows:

> 1. "freezer compartment" means "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior and a closure member that allows access to the access opening;"

Whirlpool's argument for inclusion of the LG's French door refrigerator in violation of the '130 patent is unsustainable. First, Whirlpool argues that the LG ice box (referring to the section of the fresh food door where the ice storage system and ice maker are located) is "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior and a closure member that allows access to the access opening." (Complaint's brief at p. 5.)

While the Commission determined that a "closure member" could be part of a "freezer compartment," it is not part of the refrigerator cabinet under the claims construction of the

Commission, or anywhere in the patent. The closure member, in each and every reading, is separate and apart from the refrigerator cabinet, and so it is not, and cannot be, "a section of a refrigerator cabinet kept at a below-freezing temperature."

If, however, Whirlpool were to prevail and convince someone that the closure member of the fresh food compartment of a refrigerator is part of the refrigerator cabinet, then the LG French door refrigerator still does not infringe. If we considered the door, or closure member of the fresh food compartment to be the freezer compartment, or part of the freezer compartment, then the ice storage bin, ice maker, auger, and ice crusher are mounted not on the closure member as required by the patent, but on the freezer compartment. (CPX-12, RX-582C) The "closure member" to this "freezer compartment" is thin plastic, and has nothing mounted on it. If everything is mounted on a closure member, the LG French door does not infringe because if the area of the LG fresh food compartment door is considered a closure member, it is not to the freezer compartment of a refrigerator cabinet, but the closure member of a fresh food compartment. Regardless of how the meaning is stretched of the various components, they do not fit the terms of the '130 patent.

B. Claim 2

Claim 2 is as follows:

> 2. The refrigerator according to claim 1, further comprising:
> An ice discharge chute through the closure member below the bottom opening of the ice storage bin wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute. ('130 Patent Column 12:64-67 13:1-3.)

The LG auger, shaft and ice crushing blades do not impart a downward force on the crushed

ice, but a circular force that allows gravity to take the ice downward through the bottom of the ice storage bin. This auger and ice crushing blades function in the same fashion as virtually all of the prior art augers and ice crushing blades, from the Hitachi patented design, to the prior art cited in the '130 patent, including patent Linstromberg 4,176,527. The use of horizontal ice crushing blades was well known in the industry in 1998. Therefore, even if the '130 patent is determined to be valid, and claim 1 infringed, claim 2 is not infringed since the auger does not move the ice pieces through a bottom opening. When the LG storage bin is dispensing whole ice pieces, the auger only touches the ice in the actual ice storage bin, forcing the ice pieces to move horizontally to a hole in the side, not bottom of the ice storage bin. The pieces make no further contact with the auger, or ice crushing blades, but fall due to gravity into the discharge chute.

C. Claim 4

Claim 4 is as follows:

> 4. The refrigerator according to claim 1 further wherein the ice storage bin is at least partially formed out of a transparent material such that the amount of ice pieces in the ice storage bin can be readily visually determined. '130 Patent Column 13:7-10

The evidence in the hearing proved that the use of transparent storage bins for ice was well know in the art prior to the '130 patent, and that this claim is obvious. If the claim should survive the challenge of obviousness and meet all the limitations of claim 1, the evidence in the form of the ice bin from the LG refrigerators, (CPX-13, CPX-12 and CPX-05) supports that the LG products meet the limitations of claim 4 as part of the ice storage bin is formed from transparent material.

D. Claim 6

Claim 6 is as follows:

> 6. The refrigerator according to claim 1 further wherein the ice storage bin comprises:
> the ice storage bin defines an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening, the ice crushing region having an inlet opening;
> the auger having a shaft portion passing through the ice crushing region;
> at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
> at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade. ('130 Patent Column 13:16-30.)

Claim 6 is not infringed by the LG accused products. In the LG products, there is a flapper arm located within the ice storage bin that is activated by the operator. If the operator desires whole ice, as opposed to crushed ice, the flapper assembly is positioned such that the ice does not pass through the ice crushing region. In the LG designs, the auger only rotates in one direction. If the ice were to pass into the ice crushing region, it will go through the stationary blades, and be served as crushed ice. LG addressed the issue of providing crushed or whole ice by use of the flapper arm that allows the ice to pass beyond the circumference of the rotating ice crusher blades. (CDX-057, CPX-05.) Thus, the ice pieces are not required to pass through the ice crushing region in the LG products.

This is very different than the solution Whirlpool used in the '130 patent. In the Whirlpool design, the ice always passes within the circumference of the rotating ice crusher blades, however the motor powering the blades is reversible. If the operator sets the controls on the refrigerator door for whole ice, the blades rotate in a manner that the ice reaches the hole in the bottom of the ice crushing region without reaching the stationary crusher blades. If the operator desires crushed

ice, the blades rotate in the opposite direction, pushing the ice through the stationary blades before the ice passes over the bottom opening in the ice crushing region. In the Whirlpool ice bin, the ice must be moved by the rotating ice crushing blades, and be in contact with them regardless of which type of ice is selected.

E. Claim 8

Claim 8 is as follows:

> 8. The refrigerator according to claim 1 further wherein the ice storage bin comprises:
> An upper ice bin member having a bottom edge;
> A lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharge [sic] through the bottom opening;
> the auger having a shaft portion passing through the ice crushing region;
> at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
> at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade. ('130 Patent Column 13:34-52.)

Claim 8 is not infringed by the LG accused products. The LG ice bins that are accused in this case do not have "[a] lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharge [sic] through the bottom opening;"

The LG ice bins (CPX-05, CPX-12 and CPX-13 CPX-113A) do not have an ice crushing region that is located below the ice storage region. As the auger in the LG ice bin is oriented horizontally, the ice crushing region is on the same level as the lower portion of the ice storage region, and does not extend below the ice storage region. It is mounted, or molded to the ice storage region so that when the ice storage bin is in its proper place in the freezer, the ice crushing

region is not a lower region of the assembly, but one that is closer to the outside surface of the door. In addition, in the LG design, the ice pieces do not have to pass through the ice crushing region, when the operator of the system wishes to have whole ice pieces, but around it. The LG model does have an auger having a shaft portion passing through the ice crushing region, at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region, and at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

In addition the LG storage bins do not have "[a]n upper ice bin member having a bottom edge" or "[a] lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharge [sic] through the bottom opening;"

In the Whirlpool ice storage bins, the entire upper portion of the bin is made of transparent plastic, and it is affixed to the ice crushing, lower portion of the bin by the lower edge of the transparent bin. This is not the case in the LG ice storage bins. There are no upper and lower sections, with the lower ice bin member defining an ice crushing region. In the LG ice storage units, there is transparent plastic that is part of the upper front portion of the unit, and this plastic on the front surface extends higher than the white plastic that forms the rest of the unit in the French door models. The transparent portion's higher top is not to store additional ice, but is there in the compartment to assist in the ducting of freezing air. (The portion of the ice bin that is higher than the rear portion fits against the ice maker itself, and so no ice can be stored at that level.) (CPX-05.) This transparent plastic is higher than the white plastic only on the front surface, and

the curved corners of the front of the ice bin. (CPX-05.) The transparent portion of the ice bin continues on the sides, at the same height as the white plastic, which forms the back portion of the ice storage bin, and the entire lower portion of it. The white plastic forms the entire lower portion of the ice storage unit, including that portion of the ice bin where ice is deposited and remains until it is dispensed, the ice crushing area, and the area beyond the ice crushing area where the ice is directed if the operator wants whole ice pieces. The white plastic rear portion (the side that is closest to the outer surface of the closure member when the freezer compartment is closed) is the same height as two of the three surfaces of the transparent panel of the ice bin, and the rear forms part of the upper portion of the ice bin. The bin is designed so that ice can only be stored up to the level of the white rear section of the bin, and the two lower sides of the transparent portion of the bin. The two plastics are attached by both the bottom edge of the transparent portion of the bin, but also by the two rear sides of it. Together the white plastic and transparent plastic form the upper ice bin member, without either there is no upper ice bin.

In addition, in the LG ice storage bin, the "lower" ice bin member is not defining an ice crushing region. Merriam-Webster Online Dictionary the term "defining" has 3 possible meanings:

> **1 a :** to determine or identify the essential qualities or meaning of **b :** to discover and set forth the meaning of (as a word) **c :** to create on a computer
> **2 a :** to fix or mark the limits of **:** DEMARCATE <rigidly *defined* property lines> **b :** to make distinct, clear, or detailed especially in outline <the issues aren't too well *defined*>
> **3 :** CHARACTERIZE, DISTINGUISH

Of the three definitions, the second seems to cover "defining an ice crushing region" best. In the LG design, the ice crushing region is defined by the circumference of the ice crushing blades, and

the position of a flapper part that is movable. The white portion of the ice bin forms part of the area where ice is stored prior to dispensing, and part of the upper portion of the ice storage bin, its top edge defining the highest portion of the bin that can actually store ice. This is different than the Whirlpool ice storage bin, where the lower, white plastic portion of the bin joins the transparent section at the bottom edge, and defines the ice crushing region.

The LG ice bin that is used on the side-by-side models is shaped differently than that used on the French door model. (RDX-073, CPX-113 CPX-03) These ice storage bins have a transparent front panel that is no higher than the white plastic portion of the ice bin. It is attached by the bottom edge and sides to the white portion, and where the white plastic and transparent plastic meet, they are the same height. The ice bin has no distinct upper and lower regions, but the ice is stored in the bin, down to the lowest surface of the two part bin, and the ice crushing region is at the same level, set closer to the outside surface of the door. So there is a front portion of the ice storage unit, with a transparent panel and white plastic back and bottom, and a rear, ice crushing area, and a rear area through which ice pieces pass for whole ice. There is no "lower ice bin member connected to the lower edge of an upper ice bin member" since the upper portion of the ice bin is made of a front piece and rear piece, connected at the sides and lower portion of the front piece. The front piece is not an "upper portion" but at the same level as the back piece where they meet. (CPX-13, CPX-05.)

F. Claim 9

Claim 9 is as follows:

9 The refrigerator according to claim 1 further wherein the ice storage bin is removable

from the freezer compartment closure member. ('130 Patent Column 13:52-55.)

The LG accused products do have ice storage bins removable from the freezer compartment closure member.[8]

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8 The construction provided by the Commission defining the "freezer compartment" as "a section of the refrigerator cabinet kept at below-freezing temperature, having an opening that provides access to the interior and a closure member that allows access to the access opening;" creates several problems in reading the patent as a whole. One of the problems is with the prior art as identified in the patent at column 2 lines 6-9. This section states that the ice bin takes up a large amount of "freezer compartment space". Just prior to that, the patent identified the problem of "freezer compartment shelf space, but went on to state that taking up "freezer compartment space" was also a problem. If the closure member is part of the freezer compartment, this identified problem is not solved. Ice, and the bin containing ice, will occupy a certain volume of space for each given quantity. If the bin takes up 1 cubic foot of space, it will take up one cubic foot of freezer compartment space whether it is mounted on the door of the freezer compartment, or on the self of the freezer compartment. While the patent also mentions freezer shelf space being freed, to the extent that it describes the patent as providing more freezer compartment space, this construction renders those sections meaningless, or false. Ordinarily claim construction should avoid rendering portions of the patent meaningless.

There are other troubling aspects of the claim construction as presented here. The construction provided to us on remand correctly states that different words should have different meanings, with regard to "disposed within" (Merriam-Webster Online Dictionary (See remand order at P 13) and "mounted to". While this is true, nothing in the original ID suggested these words had the same meaning. Disposed within gave a general, not specific location of the ice maker, and later claims gave more specificity as to its location. However, regardless of the level of specificity, the words chosen denote a location, either in detail or general. So to, when stating "mounted on" the patent is providing a location, and more detail, the manner of being attached. But the concept that different words should generally have different meaning is violated when the claim is construed to find different words "closure member" and "freezer compartment" have the same meaning. If this construction is correct, then the inventors in distinguishing one from the other throughout the course of the written patent performed unnecessary work. In as much as the basis of the patent was putting the bin on the closure member, rather than in the freezer compartment, the claims construction seems difficult to sustain.

In part of the remand order, claim 10 and claim 18 were used to determine the meaning of some of the terms in the asserted claims. While this is a proper method of construction, using unasserted claims to assess the meaning of terms in disputed claims, in this case examining the language of those claims **in full** would seem to lead in the opposite direction, not in finding the closure member is part of the "freezer compartment".

Claim 10 recites:

> 10. A refrigerator including a cabinet defining a freezer compartment having top wall and an access opening, the refrigerator comprising:
> a closure member for closing the access opening;
> an ice maker being disposed within the freezer compartment adjacent the top wall for forming ice pieces:
> an ice storage bin removably mounted to the closure member below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening;
> An ice discharge chute forming an opening through the closure member below the bottom opening of the ice storage bin;
> A motor mounted on the closure member; and
> An auger vertically disposed within the ice storage bin and drivingly connected to the motor,

> Wherein upon energization of the motor, the auger moves the ice pieces from the ice storage bin thought the bottom opening to the ice discharge chute.

Again if the closure member is part of the freezer compartment, the language in lines 1-3 is unclear as to meaning, but there is a greater problem.

In claim 10, there is additional language with regard to the definition of "freezer compartment", and this language bears on construing claim 1. Claim 10 states it covers "[a] refrigerator including a cabinet for defining a freezer compartment having a top wall and an access opening, the refrigerator comprising:" According to this language, the cabinet defines a freezer compartment. It is clear from the next line in Claim 10 that the freezer compartment of the first paragraph does not include the closure member:

> "A refrigerator including a cabinet for defining a freezer compartment having a top wall and an access opening, the refrigerator comprising:
> a closure member for closing the access opening;"

As claim 10 distinguishes the freezer compartment and the closure member, to read them as parts of the same thing is to read the meaning out of the second paragraph, since closure member was already covered under the current construction, of "freezer compartment". The '130 patent clearly distinguishes the closure member from the refrigerator cabinet under either parties proposed construction. Further examination of the phrase "a cabinet for defining a freezer compartment" is necessary. Turning to Merriam-Webster Online Dictionary the term defining has 3 possible meanings:

> **1 a :** to determine or identify the essential qualities or meaning of **b :** to discover and set forth the meaning of (as a word) **c :** to create on a computer
> **2 a :** to fix or mark the limits of **:** DEMARCATE <rigidly *defined* property lines> **b :** to make distinct, clear, or detailed especially in outline <the issues aren't too well *defined*>
> **3 :** CHARACTERIZE, DISTINGUISH

Of the three definitions, the second seems to cover "a cabinet for defining a freezer compartment" the best. If the refrigerator cabinet defines the freezer compartment, it seems clear that the closure member is not a part of the freezer compartment. Again, if the inventors really meant the closure member was part of the freezer compartment, the first sentence of Claim 10 is wrong.

> The same is true of claim 18:
>
> 18. A refrigerator including a cabinet defining a freezer compartment having an access opening, the refrigerator comprising:
> A door hingedly mounted to the cabinet for closing the access opening, the door including an inner liner, a outer wrapper and a foam material there between;
> A mounting plate connected to the inner liner;
> An ice discharge chute extending through the door adjacent the mounting plate;
> A support member connected to the inner liner below the mounting plate;
> An ice storage bin removably mounted to the mounting plate for receiving ice pieces, the storage bin having a bottom opening;
> A motor supported by the support member below the ice storage bin, the motor having a drive shaft extending from the support member to the mounting plate; and an auger rotatably disposed within the ice storage bin for coupling with the drive shaft wherein upon energization of the motor the auger moves ice pieces from the ice storage receptacle through the bottom opening to the ice discharge chute.

Claim 18 contains the same language that the cabinet defines the freezer compartment, but it further contains language

that clearly tells us the door is not part of the cabinet. If the cabinet defines the freezer compartment, and the door is not part of the cabinet, it follows that the door cannot also be part of the freezer compartment. While you may need both to keep the freezer compartment below zero, they are two separate things. Reading of the separate claims is to be done so that they are consistent both within themselves, and within the patent. This cannot be done if the door was meant to be part of the "freezer compartment".

The remand notice also stated the specification of the '130 patent provides the correct interpretation of the disputed terms. The specification discloses:

> An ice making assembly 22 is *disposed within* the freezer compartment 16. The ice making assembly 22 is *mounted to* the inside surface of the wall 24 of the freezer compartment 16. An ice dispensing system 26, *mounted to* the freezer door 20, is provided below the ice making assembly 22 for receiving ice pieces therefrom.

(*Id.*, 4:1-6) (emphasis added.) While the order correctly concludes disposed and mounted are distinct concepts, it is notable that for the ice maker it is both mounted and disposed within the *freezer compartment* and its location is never on the door. The inventors use different language to state where one can locate the ice dispensing system, which would suggest that, "freezer door", means something different than the language telling us the location of the ice maker namely the "freezer compartment". While the ice maker is disposed within and mounted in the freezer compartment, it is never alternatively on the freezer door. So also, the ice dispensing system, though mounted on the freezer door is never in the freezer compartment.

The specification provides further information that supports the construction used in the initial determination. It describes the drawings of the first preferred embodiments

> In the illustrative embodiments of the invention as shown in FIGS. 1-3, a refrigerator 10, comprising a side-by-side fresh food/freezer configuration, is provided having a cabinet 12 forming an above freezing fresh food compartment 14 and a below freezing freezer compartment 16. Both the fresh food compartment 14 and the freezer compartment 16 are provided with access openings. A fresh food closure member or door 18 and a freezer closure member or door 20 are hingedly mounted to the cabinet 12 for closing the access openings, as is well known." ('130 Patent column 3 lines 55-67.)

There is nothing in the language that suggest the words have specialized meaning, and the final phrase "as is well known" confirms that the words are intended in the plain and ordinary meaning. This portion of the specification again states that it is the refrigerator cabinet that forms the freezer compartment, not a freezer compartment formed by the cabinet and the door. In addition, the phrase "[b]oth the fresh food compartment 14 and the freezer compartment 16 are provided with access openings" tells us that the door is not part of the compartment. A person using the freezer of the refrigerator accesses the door and items stored on it by opening it, and taking the items from the shelves thereon. If the door is open, you have access to the items on it, such as the ice bucket, without using the "access opening" as defined by the specification and the patent. If the door is part of the "freezer compartment", then the use of "access opening" in referring to a freezer compartment is misleading, and wrong. To give meaning to these words in the patent, the door should be separate from the "freezer compartment". In addition, if the door is part of the freezer compartment, the following portion of the specification is rendered meaningless:

> a refrigerator 10, ... is provided having a cabinet 12 forming an above freezing fresh food compartment 14 and a below freezing freezer compartment 16. Both the fresh food compartment 14 and the freezer compartment 16 are provided with access openings. A fresh food closure member or door 18 and a freezer closure member or door 20 are hingedly mounted to the cabinet 12...

The freezer compartment here is stated as being formed by the cabinet, and having an access opening. The door is separate, and attached hingedly to the cabinet. The specification does not support a conclusion that the door is a part of the freezer compartment, which is formed by the refrigerator cabinet. The door is instead attached to the refrigerator

IV. Domestic Industry

The domestic industry requirement consists of both an economic prong (*i.e.,* there must be an industry in the United States) and a technical prong (i.e., that industry must relate to articles protected by the patent at issue). *See Certain Ammonium Octamolybdate Isomers,* Inv. No. 337-TA-477, Comm'n Op. at 55, USITC Pub. 3668 (Jan. 2004). The complainant bears the burden of proving the existence of a domestic industry. *Certain Methods of Making Carbonated Candy Products,* Inv. No. 337-TA-292, Comm'n Op. at 34-35, USITC Pub. 2390 (June 1991).

The Commission's remand order did not address any matters that impact the economic prong of the ID, and that portion of the ID is not challenged here. What is at issue is the technical prong of the domestic industry requirement, and whether given the Commission's claim

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cabinet.

The language of the patent cited in the remand order from Column 2:5-13 would seem to support a construction that the closure member or door must be considered separate and apart from the freezer compartment. The language of 2:5-13:

> conventional ice making and dispensing systems...occupy a relatively large amount of freezer shelf space. In particular, the ice storage bin extends across the freezer compartment and occupies a large amount of freezer compartment space. This is perceived as a disadvantage by many consumers who generally prefer to have more available shelf space. Accordingly, *it would be an improvement to provide an ice making system which occupied less freezer space.* [emphasis in original remand order] (Comm'n Or. At P. 18

It is important to note that the invention is not directed to making a smaller ice bucket, or to make an ice storage system that holds a lesser quantity of ice. (See generally '130 Patent) If the closure member is considered part of the freezer compartment, then the ice, and its container, will occupy the same relative volume regardless of where it is placed. If the storage receptacle is designed to hold 1 cubic foot of ice, it must be of certain dimensions that can hold that volume. So, if the door is part of the freezer compartment, then the invention cannot solve the problem as stated in the patent namely occupying less freezer space. One cubic foot of freezer compartment space is occupied regardless of where the ice bin is mounted, on the door or the shelf. While the invention will free up freezer *shelf space*, that is not all that the patent is directed to as it must solve the problem caused by the ice storage bin extending across the freezer compartment and occupying a large amount of freezer compartment space. When mounted on the door, with the claim construction adopted by the remand order, the ice storage bin, for a given volume of ice, must occupy the exact same volume of freezer compartment space as the prior art bins. This claim construction would have the invention unable to solve the problem it addresses.

construction, Whirlpool's products meet the technical prong of the Domestic Industry requirement. The ALJ finds that the Commission's remand order does not effect his analysis of the technical prong of the domestic industry requirement, *i.e.* the Whirlpool products practice claim 1 of the '130 patent, and the ALJ hereby incorporates his analysis of Whirlpools products in the original ID.

V. Conclusions of Law

1. The accused products literally do not infringe the asserted claims of the '130 Patent
2. The accused products do not infringe the asserted claims of the '130 Patent under the doctrine of equivalents.
3. Claims 1, 2, 4, 6 and 9 of the '130 Patent are invalid under 35 U.S.C. § 103 for obviousness.
4. Claim 8 of the '130 Patent is not invalid under 35 U.S.C. § 103 for obviousness.
5. A domestic industry exists, as required by section 337.

VI. Remedy and Bonding:

A. Limited Exclusion Order

In the original ID, the ALJ recommended that if a violation of Section 337 is found, that the Commission issue a limited exclusion order directed to the infringing products of the named LG Respondents. Nothing in this remand has changed the reasoning supporting that conclusion.

B. Cease and Desist Order

In the ID, the ALJ found no evidence in the case that LG Respondents maintained a significant inventory in the US to warrant such an order. The evidence presented in hearing only stated that [redacted] (ID P. 54) The ID found that;

> [redacted] Accordingly, Staff did not believe that a cease and desist order would be an appropriate remedy, even if LG is found in violation of Section 337. LG agreed that there was no evidence that the cease and desist order was appropriate. (ID P. 54-55)

Whirlpool has renewed its request for a Cease and Desist Order on remand, offering the suggestion that neither LG nor Staff identified the existence of a "commercially significant inventory" as a contested issue in the pre-hearing briefing, and that the alleged failure of proof was raised by the Staff "(not by LG) for the first time in the post-hearing briefs. (Complainants'

Opining Brief on Remand p. 27) Whirlpool then cited a deposition that was not presented as evidence in the hearing, for proof of a supply of refrigerators in the U.S., and offered it as evidence on the issue now. (Whirlpool Br at P. 27.)

First, as the evidentiary record was not re-opened to take new evidence on remand, the proffer is untimely and rejected. Second, Whirlpool seems to have mistaken the issues on burden of proof. The Commission rules state the burden is on the party that is the proponent of the issue:

> TITLE 19--CUSTOMS DUTIES
>
> CHAPTER II--UNITED STATES INTERNATIONAL TRADE COMMISSION
>
> PART 210_ADJUDICATION AND ENFORCEMENT—
> Table of Contents
>
> Subpart F_Prehearing Conferences and Hearings
>
> Sec. 210.37 Evidence.
>
> (a) Burden of proof. The proponent of any factual proposition shall be required to sustain the burden of proof with respect thereto.

In as much as Whirlpool did not present any evidence as to the inventory kept in the warehouses, and they had the burden to prove that there was a commercially significant number of refrigerators in the country, they failed to carry their burden. Therefore, as in the ID and based on the evidence before me, and the failure to meet the burden of proof, the ALJ recommends that no cease and desist order be issued.

C. Bond During Presidential Review Period

The original recommendation on bonding during the period of presidential review was a bond of 100%. Nothing in the Commissions remand order, or in the briefs leads to a different

conclusion on bonding, and the recommendation of the ID remains the same.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office a copy of this document with red brackets indicating any portion asserted to contain confidential business information. The parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

Theodore R. Essex
Administrative Law Judge

IN THE MATTER OF CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **Inv. No. 337-TA-632**

PUBLIC CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **INITIAL DETERMINATION ON REMAND REGARDING PATENTS** has been served by hand upon, the Commission Investigative Attorney, **Lisa Murray, Esq.**, and the following parties as indicated on **November 4, 2009.**

Marilyn R. Abbott, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112A
Washington, D.C. 20436

COMPLAINANTS WHIRLPOOL PATENTS COMPANY, WHIRLPOOL MANUFACTURING CORPORATION, WHIRLPOOL CORPORATION, MAYTAG CORPORATION:

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IN THE MATTER OF CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **Inv. No. 337-TA-632**

CERTIFICATE OF SERVICE - PAGE 2

RESPONDENTS LG ELECTRONICS, INC, LG ELECTRONICS, USA, INC and LG ELECTRONICS MONTERREY

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IN THE MATTER OF CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **Inv. No. 337-TA-632**

CERTIFICATE OF SERVICE - PAGE 3

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of **CERTAIN REFRIGERATORS AND COMPONENTS THEREOF**	**Investigation No. 337-TA-632**

NOTICE OF COMMISSION DECISION TO MODIFY CERTAIN CLAIM CONSTRUCTIONS MADE IN A FINAL INITIAL DETERMINATION AND TO REMAND THE INVESTIGATION TO THE ALJ; EXTENSION OF TARGET DATE

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to modify certain claim constructions made in a final initial determination ("ID") issued in the above-captioned investigation and to remand the investigation to the presiding administrative law judge ("ALJ").

FOR FURTHER INFORMATION CONTACT: Megan M. Valentine Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-2301. Copies of the ALJ's IDs and all other non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at *http://www.usitc.gov.* The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov.* Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: On February 21, 2008, the Commission voted to institute this investigation, based on a complaint filed by Whirlpool Patents Company of St. Joseph, Michigan; Whirlpool Manufacturing Corporation of St. Joseph, Michigan; Whirlpool Corporation of Benton Harbor, Michigan, and Maytag Corporation of Benton Harbor, Michigan (collectively, "Whirlpool"). The complaint, as supplemented, alleges violations of section 337 based upon the importation into the United States, the sale for importation, and the sale within the United States after importation of certain refrigerators and components thereof that infringe certain claims of U.S. Patent Nos. 6,082,130 ("the '130 patent); 6,810,680 ("the '680 patent");

6,915,644 ("the '644 patent"); 6,971,730; and 7,240,980. Whirlpool named LG Electronics, Inc.; LG Electronics, USA, Inc.; and LG Electronics Monterrey Mexico, S.A., De, CV (collectively, "LG") as respondents. The complaint, as supplemented, further alleges that an industry in the United States exists as required by subsection (a)(2) of section 337 and requested that the Commission issue an exclusion order and cease and desist orders.

On September 11, 2008, Whirlpool and LG filed a joint motion seeking termination of this investigation with respect to the '680 patent and the '644 patent on the basis of a settlement agreement. On September 25, 2008, the ALJ issued an ID, Order No. 10, terminating the investigation, in part, as to the '680 and '644 patents. No petitions for review were filed. On October 27, 2008, the Commission determined not to review Order No. 10.

On October 17, 2008, Whirlpool filed a motion for summary determination that it had satisfied the importation requirement. On November 20, 2008, the ALJ issued the subject ID, Order No. 14, granting complainant's motion for summary determination of importation. No petitions for review were filed. On December 15, 2008, the Commission issued notice that it had determined not to review Order No. 14.

On July 24, 2008, Whirlpool filed a motion seeking leave to amend the complaint and notice of investigation to (1) remove references to patents that had been withdrawn from this investigation; (2) add a reference to a non-exclusive license that relates to two patents at issue; and (3) update the current state of the domestic industry. On November 25, 2008, the ALJ issued Order No. 15, in which he granted Whirlpool's motion as to (1) and (3) above and denied it with respect to (2). No petitions for review were filed. The Commission determined not to review the subject ID on December 15, 2008.

On February 26, 2009, the ALJ issued a final ID, in which he found no violation of Section 337. On March 11, 2009, Whirlpool filed a petition for review, and LG filed a contingent petition for review. Whirlpool, LG and OUII filed responses. On April 27, 2009, the Commission determined to review the final ID in its entirety. 74 *Fed. Reg.* 20345-6 (May 1, 2009). The Commission asked the parties to address the following questions:

> 1. Do the ordinary and customary meanings of the following terms differ from the meanings ascribed to them by the inventors' testimony: "freezer compartment," "disposed within," "mounted on," "having an access opening and a closure member for closing the access opening," and "ice storage bin having a bottom opening." Please discuss with reference to dictionary definitions and expert testimony.
>
> 2. Are the phrases "mounted on" and "disposed within" mutually exclusive in the context of claim 1 of the '130 patent? Are either or both of these terms synonymous with "installed"?

3. How does the prosecution history inform the claim construction, in terms of disclaimer and interpretation?

4. Would one of ordinary skill in the art understand a space defined by a cabinet having an access opening but not having a closure member to mean a "freezer compartment," given that temperatures within such a compartment cannot be reduced to freezing?

5. In construing claim 1, the parties dispute whether the "closure member" is part of the freezer compartment. What conclusions can be drawn from the term "freezer compartment closure member" appearing in dependent claim 9? What conclusions, if any, can be drawn from a comparison of claim 1 and independent claim 10, the latter clearly identifying the closure member as part of the refrigerator.

6. To what extent should the Commission consider inventor testimony when construing the claims? See *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1580 ("Markman requires us to give no deference to the testimony of the inventor about the meaning of the claims.").

7. For parties proposing additional or different meanings on claim construction, do these point to a different result for infringement, validity, or domestic industry? Please explain with regard to each relevant refrigerator model. Responses should rely on evidence of record.

8. Specifically, with respect to infringement, respond to the following: Does the closure member have to be the closure member to the access to the freezer compartment? If so, can a self-contained ice maker within a fresh-food compartment qualify as a freezer for which there is a closure member within the meaning of claim 1? Does it matter if both the ice maker and the storage unit are in the closure member?

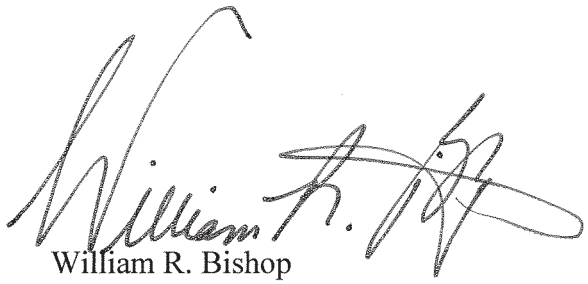
The parties filed initial submissions on May 8, 2009 and reply submissions on May 15, 2009.

Having examined the record of this investigation, including the ALJ's final ID, the Commission has determined to modify the final ID's claim constructions of the terms "freezer compartment," "disposed within the freezer compartment," and "ice storage bin having a bottom opening." The Commission has determined to affirm the final ID's construction of the term "ice maker." The Commission has further determined to remand the investigation to the ALJ to make findings regarding infringement, validity, and domestic industry that are consistent with the Commission's claim constructions, and to issue a final remand ID on violation and a recommended determination on remedy and bonding.

The target date of the investigation is extended by two months to September 7, 2009.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in section 210.42-46 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.42-46).

By order of the Commission.
Marilyn R. Abbott, Secretary



William R. Bishop
Acting Secretary

Issued: July 8, 2009

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of **CERTAIN REFRIGERATORS AND COMPONENTS THEREOF**	**Investigation No. 337-TA-632**

ORDER: REMAND OF INVESTIGATION

The Commission instituted this investigation on February 26, 2008, based on a complaint filed by Whirlpool Patents Company of St. Joseph, MI; Whirlpool Manufacturing Corporation of St. Joseph, MI; Whirlpool Corporation of Benton Harbor, MI; Maytag Corporation of Benton Harbor, MI (collectively "Whirlpool"). 73 *Fed. Reg.* 10285 (February 26, 2008). The respondents named in the Notice of Investigation were LG Electronics, Inc. of South Korea; LG Electronics, USA, Inc. of Englewood Cliffs, NJ; and LG Electronics Monterrey of Mexico (collectively "LG'). *Id.*

The complaint, as supplemented, alleged violations of Section 337 in the importation into the United States, sale for importation, and sale within the United States after importation of certain refrigerators and components thereof by reason of infringement of certain claims of U.S. Patent Nos. 6,810,680; 6,915,644; 6,971,730; 7,240,980, and the '130 patent. The complaint, as supplemented, further alleged that an industry in the United States exists as required by subsection (a)(2) of Section 337 and requested that the Commission issue an exclusion order and cease and desist orders.

On February 26, 2009, the ALJ issued his final ID, in which he found that no violation of Section 337 of the Tariff Act had occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of the accused refrigerators and components thereof by reason of infringement of one or more of claims 1, 2, 4, 6, 8, and 9 of the '130 patent. On April 27, 2009, the Commission determined to review the final ID in its entirety and asked the parties to address several questions. 74 *Fed. Reg.* 20345-6 (May 1, 2009).

Upon consideration of this matter, the Commission hereby ORDERS that:

1 The claim terms at issue are construed as follows:

a. "freezer compartment" means "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior and a closure member that allows access to the access opening;"

b. "disposed within the freezer compartment" means "placed within the freezer compartment, including elements mounted on the closure member," and

c. "ice storage bin having a bottom opening" means "an ice storage bin with an opening at a lowest portion of the ice storage bin."

d. the ALJ's construction of the term "ice maker" is affirmed

2. The investigation is remanded to the presiding administrative law judge ("ALJ"), Judge Theodore R. Essex, to make findings regarding infringement, validity, and domestic industry that are consistent with the Commission's claim constructions, and to issue a final initial remand determination ("RID") on violation and a recommended determination ("RD") on remedy and bonding.

3. The ALJ shall issue an ID within 30 days of this Order extending the target date as he deems necessary to accommodate the remand proceedings.

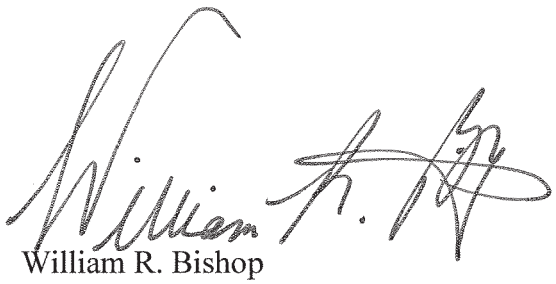
4. The RID and RD will be processed in accordance with Commission rules 210.42, 210.43-.46, and 210.50. Any petitions for review will be due 12 days after service

of the RID and RD. Responses to any petition for review will be due 8 days after service of the petition. The RID will become the Commission's final determination 60 days after issuance unless the Commission orders review.

5. The administrative law judge may otherwise conduct the remand proceedings as he deems appropriate, including reopening the record.

6. Notice of this Order shall be served on the parties to this investigation.

By order of the Commission
Marilyn R. Abbott, Secretary



William R. Bishop
Acting Secretary

Issued: July 8, 2009

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of **CERTAIN REFRIGERATORS AND COMPONENTS THEREOF**	**Investigation No. 337-TA-632**

OPINION

The Commission instituted this investigation on February 26, 2008, based on a complaint filed by Whirlpool Patents Company of St. Joseph, MI; Whirlpool Manufacturing Corporation of St. Joseph, MI; Whirlpool Corporation of Benton Harbor, MI; Maytag Corporation of Benton Harbor, MI (collectively "Whirlpool"). 73 *Fed. Reg.* 10285 (February 26, 2008). The respondents named in the Notice of Investigation were LG Electronics, Inc. of South Korea; LG Electronics, USA, Inc. of Englewood Cliffs, NJ; and LG Electronics Monterrey of Mexico (collectively "LG'). *Id.*

The complaint, as supplemented, alleged violations of Section 337 in the importation into the United States, sale for importation, and sale within the United States after importation of certain refrigerators and components thereof by reason of infringement of certain claims of U.S. Patent Nos. 6,810,680 ("the '680 patent); 6,915,644 ("the '644 patent"); 6,971,730 ("the '730 patent"); 7,240,980 ("the '980 patent); and 6,082,130 ("the '130 patent"). The complaint, as supplemented, further alleged that an industry in the United States exists as required by subsection (a)(2) of Section 337 and requested that the Commission issue an exclusion order and cease and desist orders.

In the course of the investigation, the issues regarding the '680, '644, '730, and '980 patents were resolved leaving only the '130 Patent issues to be resolved in the final ID. *See* Order No. 8 (granting Whirlpool's motion to terminate U.S. Patent Nos. 6,971,730 and 7,240,980) (June 9, 2008) (unreviewed) and Order No. 10 (granting joint motion to terminate U.S. Patent Nos. 6,810,680 and 6,915,644) (September 25, 2008) (unreviewed).

On February 26, 2009, the ALJ issued his final ID, in which he found that no violation of Section 337 of the Tariff Act had occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of the accused refrigerators and components thereof by reason of infringement of one or more of claims 1, 2, 4, 6, 8, and 9 of the '130 patent. On April 27, 2009, the Commission determined to review the final ID in its entirety and asked the parties to address several questions concerning claim construction. 74 *Fed. Reg.* 20345-6 (May 1, 2009). The parties filed initial briefs in response to the Commission's notice on May 8, 2009, and reply submissions on May 15, 2009. The Commission has determined to modify the ALJ's claim construction as set forth in detail below.

Claim construction "begin[s] with and remain[s] centered on the language of the claims themselves." *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 830 (Fed. Cir. 2003); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*). The language used in a claim bears a "heavy presumption" that it has the ordinary and customary meaning that would be attributed to the words used by persons skilled in the relevant art. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002); *Phillips*, 415 F.3d at 1312-13. Moreover, the language is read in the context of the entire patent, including the specification. *Phillips*, 415 F.3d at 1313-14. To help inform the court of the ordinary meaning of the words, a court may consult

the intrinsic evidence, including the claims themselves, the specification, and the prosecution history, as well as extrinsic evidence, such as dictionaries and treatises and inventor and expert testimony. *Phillips*, 415 F.3d at 1314. While extrinsic evidence, such as inventor testimony, may be useful in determining the meaning of the claim language, that testimony should be discounted where it is "clearly at odds" with the intrinsic evidence. *Phillips*, 415 F.3d at 1318.

The court may rely heavily on the specification when construing claims. *Phillips*, 415 F.3d at 1317. The court must, however, avoid reading limitations from the specification into the claims. *Phillips*, 415 F.3d at 1323. Although "the distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim can be [] difficult [] to apply in practice," "the line between construing terms and importing limitations can be discerned … if the court's focus remains on understanding how a person of ordinary skill in the art would understand the claim terms." *Id.*

The Federal Circuit in *Phillips* explained that "the words of a claims 'are generally given their ordinary and customary meaning[,]'" and that "the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention[.]" *Phillips*, 415 F.3d at 1312-3. The court also noted that "[i]n some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314. Where, however, "the meaning of a claim term as understood by persons of skill in the art is [] not immediately apparent, [] because patentees frequently use terms idiosyncratically, the court looks to 'those sources available to the public that show what a

person of skill in the art would have understood disputed claim language to mean.'" *Id.* "Those sources include 'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.'" *Id.*

"Ice Maker"

Claim 1 of the '130 Patent refers to "an ice maker being disposed within the freezer compartment for forming ice pieces." ('130 Patent at 12:52-53). The ID finds that the term "ice maker" means "a device that creates ice automatically, without user intervention." ID at 9. No party petitioned for review, but the Commission determined to review the ID in its entirety. The Commission hereby affirms the ID's construction of the term "ice maker."

"Freezer Compartment"

The first phrase the Commission must construe in claim 1 of the '130 patent is "freezer compartment," or in its complete context, "[a] refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening." Both Whirlpool and LG agree that a "freezer compartment" is an area within a refrigerator cabinet kept at a freezing temperature, and that the freezer compartment has an access opening. ID at 13. The parties differ, however, as to whether the "closure member" is part of the "freezer compartment." The claim language is somewhat ambiguous and could support either interpretation since it is not readily apparent whether the "closure member" is meant to be a part of the "freezer compartment" or a part of the refrigerator separate and apart from the "freezer compartment." The Commission does not find the words of the claim at issue to have a specialized meaning. Therefore, under Federal Circuit precedent we may consider the definitions provided by general

purpose dictionaries in attempting to discern the meaning of the claim terms. Since no party disputes the meaning of the terms "refrigerator," "access opening," or "closure member," the term we must focus on is "freezer compartment."

Whirlpool argues that a "freezer compartment," in the context of refrigerators, is the part of the refrigerator that is responsible for maintaining ice and/or food at below freezing temperatures. The Commission investigative attorney ("IA") asserts that the ordinary meaning of the phrase "freezer compartment" in the '130 patent is "one of the sections or spaces into which [the refrigerator] is subdivided[,]" specifically the subdivision "that maintains a subfreezing temperature for the rapid freezing and storing of perishable food."[1] Both definitions are consistent in that both require that a "freezer compartment" ***maintain*** a below-freezing temperature.

The IA is correct that it is the refrigerator as a whole that lowers temperatures within the compartment to freezing, using many components that are not part of the freezer compartment. But the pertinent question is, what is required to allow the "freezer compartment" to *maintain* a below-freezing temperature, not merely which components are necessary to reduce the temperature in the compartment to below freezing. Maintaining a below-freezing temperature is clearly served by the "closure member," which according to the language of claim 1, is "for closing the access opening" of the "freezer compartment." The IA's example of doorless freezers in grocery and convenience stores is unhelpful, since the '130 patent is indisputably directed toward refrigerators, and specifically home refrigerators, that have doors. *See* '130 Patent, 1:6-8

[1] LG did not submit a proposed definition for "freezer compartment," arguing that simply listing dictionary definitions apart from the intrinsic evidence will not assist in the correct construction of the claims and will likely cause confusion and increase the possibility of error.

("[t]he invention relates to an ice making system for a refrigerator and more particularly to an ice delivery system mounted to a refrigerator closure member or door") (emphasis added); 1:11-12, 1:33-35, 1:49-51 (referring to "home refrigerators" or "domestic refrigerators").

The Federal Circuit held in *Phillips* that "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term...[b]ecause claim terms are normally used consistently throughout the patent...." *Phillips*, 415 F.3d at 1314. Unasserted independent claims 10 and 18 recite "[a] refrigerator including a cabinet" which defines "a freezer compartment" having "an access opening," where the refrigerator comprises: "a closure member for closing the access opening" (claim 10) or "a door hingedly mounted to the cabinet for closing the access opening...." (claim 18). Although both claims explicitly define the "closure member" or "door" as being a part of the refrigerator, both claims also explicitly define the purpose of "closure member" or "door" as being "for closing the access opening" of the "freezer compartment." Therefore, even claims 10 and 18 recognize that the "closure member" of the refrigerator does not exist in isolation, but is present and required for the purpose of closing the access opening of the "freezer compartment."

The ALJ found that, throughout the claims and the patent specification, the "closure member" is distinguished from the "freezer compartment." ID at 14. The language that the ALJ initially points to, however, is the ambiguous language of the claim or the language of the Summary of the Invention, which mirrors the language of claim 1, and is thus similarly lacking in clarity. ID at 14-15. The other portion of the specification that the ALJ cites describes the refrigerator cabinet as forming both an "above freezing fresh-food compartment 14" and a "*below freezing* fresh-food compartment 16." ID at 15; '130 Patent, 3:60-64. That portion of the

specification also describes that "a freezer closure member or door 20" is "mounted to the cabinet 12 for closing the access openings...."). '130 Patent, 3:64-67. Therefore, the specification describes the "closure member" as having a specific purpose: "closing the access openings."

Whirlpool also points to the brief description of Figure 2 of the '130 patent, which "illustrat[es] the ice storing and dispensing system within the freezer compartment of the refrigerator apparatus with the freezer door open[.]" '130 Patent, 3: 12-15. Figure 2 of the '130 patent clearly shows the ice dispensing system 26 as being mounted onto the inside of the freezer door 20. *Id.*, Figure 2. This figure and the accompanying brief description support the conclusion that the freezer door, or at least the inside of the freezer door, is to be considered as a part of the "freezer compartment." LG argues that, when interpreted to support the notion that the "freezer compartment" is not isolated from the "closure member," the brief description of Figure 2 is inconsistent with the "Detailed Description" in the specification and with what is actually shown in Figure 2. Furthermore, LG argues, the brief description of Figure 2 is internally contradictory since, when the door is open, the ice storing and dispensing system cannot be "within the freezer compartment."

As an initial matter, LG points to no case law which states that we are to ignore any portion of the specification when attempting to construe the proper scope of the claims, regardless of where the relevant discussion happens to be located in the specification. As such, all we can do is to assume that the specification is, in fact, internally consistent, and to read the specification in that light. Examining the specification within that framework, it is clear that the brief description of Figure 2 is consistent with the rest of the specification and with the claims.

The issue here is not to determine whether or not the ice dispensing system is "within the freezer compartment" when the door is open, it is to determine whether or not the asserted claims of the '130 patent require that the "freezer compartment" be considered separate and distinct from the "closure member."

As discussed previously, claim 1 does not clearly make the distinction one way or the other. Claims 10 and 18 make the distinction, but then explicitly link the "closure member" to the "freezer compartment" by requiring that it be "for closing the access opening" of the "freezer compartment." The majority of the specification does not explicitly state whether or not the two parts are to be considered separate and distinct from one another. Where the "freezer compartment" and "freezer door" are described together, however, the "freezer door" is identified as being present for the purpose of "closing the access opening" of the "freezer compartment." There is, therefore, only one portion of the specification that explicitly describes the relationship between the "freezer compartment" and the "closure member," *i.e.*, the brief description of Figure 2, which states that at least the inside of the "closure member" is to be considered a part of the "freezer compartment."

Contrary to LG's assertion, it is irrelevant whether or not, when the freezer door is open, the ice dispensing system, as illustrated in Figure 2, is "within the freezer compartment." With the door open, the ice dispensing system is hanging outside of the refrigerator cabinet. But this would be true even if, for instance, one could unhinge the top of the refrigerator cabinet such that the top wall of the freezer compartment could be opened up. If this were done, then anything mounted on the top wall of the freezer compartment would, likewise, no longer be "within the freezer compartment." But even LG has not argued that the top wall of the "freezer

compartment" is somehow not a part of the "freezer compartment." Similarly, consistent with the specification, the inner portion of the "closure member," as illustrated in Figure 2, is not somehow separated from the "freezer compartment" simply because the door is open.

The IA argues that, because claim 1 is an apparatus claim and is directed to the structural components of a refrigerator, it is irrelevant whether or not the "closure member" contributes to the function of the "freezer compartment." It is true that claim 1 is an apparatus claim. As the Federal Circuit stated in *Phillips*, however, "the claims themselves provide substantial guidance as to the meaning of particular claim terms" and "the context in which a term is used in the asserted claim can be highly instructive." *Phillips*, 415 F.3d at 1314. The claims, and indeed the specification, of the '130 patent consistently describe that the "closure member" is "for closing the access opening" of the "freezer compartment."

LG also argues that the prosecution history of the '130 patent leads to the conclusion that the "freezer compartment" and "freezer door" are mutually exclusive elements because Whirlpool overcame the prior art Gould reference by explaining to the examiner that the Gould reference "does not have a freezer compartment and a freezer door on which the ice bin is mounted...." *See* JX-02 at Interview Summary. The Federal Circuit has emphasized the appropriateness of consulting the prosecution history of a patent in determining the meaning of the claims. *Phillips*, 415 F.3d at 1317 ("...the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise by.").

It is, therefore, important to note that the language LG cites was not written by the

Whirlpool inventors, but by the examiner, and as such, is not necessarily the best indicator of "how the inventor understood the invention" or whether the inventor somehow "limited the invention." The Federal Circuit reversed the Commission for just such a reliance on an examiner's summary in *Sorensen v. Int'l Trade Comm'n*, 427 F.3d 1375 (Fed. Cir. 2005). In *Sorensen*, the examiner allowed claims directed toward injection molding only after numerous amendments to the claims. *Id.* at 1380. The examiner summarized the final amendments as "...further pointing out that the first and second plastic materials have *different characteristics*." *Id.* (emphasis added). The ALJ presiding over the Commission investigation interpreted the language "different characteristics" as referring only to plastics that have different molecular properties, not simply different colors of the same material. *Id.* at 1378. The Commission subsequently determined not to review the ALJ's claim construction and ultimate finding of no infringement. The court reversed the ALJ's finding that the claims required materials with different molecular properties, stating that "it is the applicant, not the examiner, who must give up or disclaim subject matter that would otherwise fall within the scope of the claims." *Id.* at 1379-1380. In this case, all that we can tell from the cited portion of the Interview Summary, is that a refrigerator that falls under the claims of the '130 patent must have at least a "freezer compartment" as well as "a freezer door on which the ice bin is mounted." This language, in and of itself, does not indicate whether or not the "freezer door" must be considered as a separate element from the "freezer compartment."

Therefore, consistent with the claims and the specification of the '130 patent, the Commission construes the term "freezer compartment" in claim 1 of the '130 patent to mean "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that

provides access to the interior, and a closure member that allows access to the access opening." Although we include the "closure member" in the definition of "freezer compartment," we note that it is the interior face of the "closure member," not the exterior face, that is part of the "freezer compartment." For the purposes of determining infringement, however, this distinction is not critical, since there are no structures on the exterior of the accused refrigerators that are at issue in this investigation.

The extrinsic evidence is not inconsistent with our proposed construction of "freezer compartment." The Federal Circuit has stated that it is appropriate to consider extrinsic evidence "in its sound discretion" because "extrinsic evidence can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean." *Phillips*, 415, F.3d at 1319. The court cautioned, however, that "extrinsic evidence…is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* The ALJ found that the extrinsic evidence showed that the inventors specifically intended to draw a distinction between the freezer compartment and the freezer door in the '130 patent because several of the inventors distinguished between the freezer "compartment" and the freezer "door" in their deposition testimony. ID at 16. When examined in the context of the intrinsic evidence, however, the inventors' testimony merely emphasizes the explicitly claimed location of the ice storage bin rather than drawing any particular distinction between the "freezer compartment" and the "freezer door."

In accordance with the preceding discussion, the Commission construes the phrase "[a] refrigerator including a freezer compartment having an access opening and a closure member for

closing the access opening" in claim1 of the '130 patent to mean "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior, and a closure member that allows access to the access opening."

"Disposed within the freezer compartment"

The ALJ found that "disposed within the freezer compartment" does not encompass the closure member, primarily because he found that the freezer compartment and the closure member should be considered to be separate assemblies. ID at 17. We disagree with the ALJ's conclusion that the "freezer compartment" and "closure member" are necessarily mutually exclusive components of the refrigerator claimed in claim 1 of the '130 patent. A close examination of the language of the claims and the specification lends further merit to this conclusion and likewise illustrates that the phrase "disposed within the freezer compartment" in claim 1 does encompass the interior of the closure member.

Claim 1 recites "an ice maker being *disposed within* the freezer compartment[.]" '130 Patent, 12:53-54 (emphasis added). Claim 1 also recites "an ice storage bin *mounted to* the closure member below the ice maker for receiving ice from the ice maker[.]" *Id.*, 12:55-56 (emphasis added). Whirlpool asserts that "disposed" refers to where an object is located, while "mounted" refers to how an object is attached. The IA contends that an ice maker "disposed within the freezer compartment" is an ice maker that has been put inside the freezer compartment, while an ice storage bin "mounted to the closure member[,]" is a bin affixed to the door in some manner. LG argues that we should not look at the phrases "disposed within" or "mounted to" in isolation, but within the context of full disputed phrases.[1] Although we agree

[1] LG did not submit proposed definitions of the phrases "an ice maker being *disposed within* the freezer compartment," or "an ice storage bin mounted to the closure member below the ice maker

with LG that the phrases "disposed within" and "mounted to" should not be considered strictly in isolation, an examination of the use of those phrases within claim 1, the other claims of the '130 patent, and the specification of the '130 patent are instructive.

Under the principles of claim construction, as LG itself points out, two different terms in the same claim should not be construed as having the same meaning. *See Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1579 (Fed. Cir. 1996). Furthermore, "[d]ifferences among claims can also be a useful guide in understanding the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. Under the principle put forth in *Ethicon*, we should not consider the phrases "disposed within" and "mounted to" as meaning the same thing. As such, the full phrases "disposed within the freezer compartment" and "mounted to the closure member" must have distinct meanings. This fact leads away from the ALJ's conclusion that the claim language describes a refrigerator with the items "installed" in specific and different locations. ID at 17. As such, the Commission reaches a different conclusion that "disposed within" and "mounted to" have different meanings.

Looking first at the dictionary definition of the terms, "disposed" is defined as "to place, distribute, or arrange, especially in an orderly way." *Merriam-Webster Online Dictionary* (retrieved July 7, 2009, from http://www.merriam-webster.com/dictionary/dispose). "Mount" is defined as "to attach to a support." *Merriam-Webster Online Dictionary* (retrieved July 7, 2009, from http://www.merriam-webster.com/dictionary/mount). As the dictionary definitions indicated, both terms have exclusive meanings. The language of other claims in the '130 patent is also instructive. Claim 10 recites "an ice maker being disposed within the freezer

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for receiving ice from the ice maker.

compartment adjacent the top wall…" and "an ice storage bin removably mounted to the closure member below the ice maker…[.]" '130 Patent, 13:60-64. Beyond the added requirement that the ice storage bin be "removably mounted," claim 10 is different from claim 1 in that it assigns a specific location to the ice maker – "adjacent the top wall" – beyond that it be "disposed within the freezer compartment." This additional language leads to the conclusion that "disposed within" does not, in and of itself, denote a specific location. Claim 18 does not mention the ice maker. Claim 19, which depends from claim 18, however, recites "an ice maker mounted within the freezer compartment for delivering ice pieces to the ice storage bin." *Id.*, 15:38-39. The fact that claim 19 uses the term "mounted within" rather than "disposed within" in connection with the storage bin also gives credence to the conclusion that there is some difference between the terms "disposed" and "mounted."

Here, the specification of the '130 patent provides the correct interpretation of the disputed terms. The specification discloses:

> "An ice making assembly 22 is *disposed within* the freezer compartment 16. The ice making assembly 22 is *mounted to* the inside surface of the wall 24 of the freezer compartment 16. An ice dispensing system 26, *mounted to* the freezer door 20, is provided below the ice making assembly 22 for receiving ice pieces therefrom."

Id., 4:1-6. It is clear from the portion of the specification cited above that the terms "disposed" and "mounted" are distinct concepts. The ice making assembly 22 is described as being both "disposed within the freezer compartment" and being "mounted to the inside surface of the wall 24 of the freezer compartment." *Id.* As is illustrated by the use of the terms in the claims, the use of the terms in the specification clearly shows that while "mounted" is used to denote a specific location, "disposed" provides a more general location. Therefore, since we have already

found that the "freezer compartment" and the "closure member" are not necessarily mutually exclusive locations, it is entirely consistent to construe claim 1 as requiring that, while the ice storage bin must be specifically "mounted to" the "closure member," it may also be "disposed within" the general location of the "freezer compartment." Likewise, the requirement that the ice maker be "disposed within the freezer compartment" does not limit the location of the ice maker in claim 1 beyond the fact that it must not be situated in some portion of the refrigerator other than the "freezer compartment." As such, neither claim 1 nor the specification prohibits the ice maker from being mounted on the door. In fact, mounting the ice maker on the freezer door would contribute to the goal of the '130 patent, which, as the ALJ acknowledged, was to reduce the amount of equipment located in the freezer compartment. ID at 18.

The ALJ noted that Whirlpool filed two unrelated patent applications with an overlap of inventorship on the same day, December 28, 1998, one leading to the '130 patent and the other leading to the '624 patent. ID at 21. The ALJ stated that what made the inventions patentably distinct was the fact that the application leading to the '130 patent claimed "an ice maker being disposed *within the freezer compartment*," while the second application leading to the '624 patent claim "an ice maker *mounted on the closure member*." *Id.* The ALJ then concluded that the inventors must have intended the phrases "an ice maker *disposed within* the freezer compartment" and "and ice maker *mounted on* the closure member" to mean different things, otherwise they would have filed only on application covering both embodiments of a single invention. *Id.*

Claim 1, as originally filed in the application leading to the '130 patent, is identical to issued claim 1 and reads as follows:

> 1. A refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening, the refrigerator comprising:
>
> *an ice maker being disposed within the freezer compartment* for forming ice pieces;
>
> *an ice storage bin mounted to the closure member* below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening;
>
> a motor mounted on the closure member; and
>
> an auger disposed within the ice storage bin and drivingly connected to the motor,
>
> wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin.

JX-02 (emphasis added). Claim 1 as originally filed in the application leading to the '624 patent reads as follows:

> 1. A refrigerator comprising:
>
> a cabinet forming a freezer compartment having an access opening;
>
> a closure member hingedly connected to the cabinet for closing the access opening;
>
> *an ice maker mounted on the closure member*; and
>
> *an ice storage receptacle mounted to the closure member* below the ice maker for receiving ice from the ice maker.

RFF-02.50 (emphasis added). As is apparent from a comparison of the two claims, there is no basis for the ALJ's conclusion that the only patentable distinction between them was the purported location of the ice maker. Claim 1 of the application leading to the '130 patent included requirements concerning "a motor mounted on the closure member," "an auger disposed within the ice storage bin for receiving ice from the ice maker," and that the ice storage bin have a "bottom opening." Claim 1 of the application leading to the '624 patent, on the other hand, requires only that both the ice maker and "ice storage receptacle" be "mounted to the closure

member." Furthermore, claim 1 of the '624 patent, as issued, recites requirements for other structure, specifically, "a support rail vertically disposed along the closure member wherein the ice maker is vertically moveable along the support rail." RX-440 (the '624 Patent), 4:31-43. The prosecution history of the '624 patent is not in evidence. As such, it is impossible to draw any conclusions regarding what the examiner of that patent application considered to be patentable and why the "support rail" structure was added to claim 1 during prosecution. All that can be concluded from the differences between the two claims is that the phrases "disposed within" and "mounted on" have distinct meanings, as discussed previously.[2]

LG argues that Whirlpool's proposed construction would not be enabled. Specifically, LG asserts that the '130 patent fails to provide any disclosure of an ice maker mounted to the freezer door, much less the mechanics necessary to mount a functioning ice maker to the freezer door. LG's Response Br. at 30. During the hearing, the IA questioned whether the '130 patent properly enables mounting the ice maker to the "closure member." Hearing Tr., 1247:9-16.

A patent specification must:

> "contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to *enable* any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same..."

35 U.S.C. § 112, ¶ 1 (emphasis added). The Federal Circuit has interpreted this section to mean that "to be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997). The determination of

[2] We also note that, although the ALJ said that there was an overlap of inventorship between the two patents, only two out of the seven inventors of the '130 patent, Jim Pastryk and Mark Nelson, are listed as inventors of the '624 patent. Moreover, the '624 patent lists two additional inventors who are not listed as inventors of the '130 patent.

"[w]hether making and using the invention would have required undue experimentation…is a legal conclusion based upon several underlying factual inquiries." *Id.* "While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention." *Id.* Although "a specification need not disclose what is well known in the art[,] … [i]t is the specification, not the knowledge of one skilled in the art, that must supply the *novel* aspect of an invention in order to constitute adequate enablement." *Genentech*, 108 F.3d at 1366 (emphasis added); *see also Automotive Technologies Intern., Inc. v. BMW of North America, Inc.*, 501 F.3d 1274 (finding that where the "novel aspect of the invention [was] side impact sensors, it [was] insufficient to merely state that known technologies can be use to create an electronic sensor" where the specification only disclosed mechanical sensors).

Based on the Federal Circuit's interpretation of the enablement issue, the first question we must consider is what is the "novel aspect of the invention." With respect to the placement of items within the refrigerator, the problem that the '130 patent purports to solve is that

> "conventional ice making and dispensing systems … occupy a relatively large amount of freezer shelf space. In particular, the ice storage bin extends across the freezer compartment and occupies a large amount of freezer compartment space. This is perceived as a disadvantage by many consumers who generally prefer to have more available shelf space. Accordingly, *it would be an improvement to provide an ice making system which occupied less freezer space*."

'130 Patent, 2:5-13. The '130 patent solves this problem by moving the ice storage bin from the interior of the "freezer compartment" and mounting it on the "closure member." Although removing the ice maker itself from the interior of the "freezer compartment" would also

contribute to the goal of increasing the amount of available shelf space, it is clear that the inventors of the '130 patent considered the novel aspect of the invention to be the placement of the ice storage bin, not the ice maker. Specifically, the specification discloses a "conventional ice piece making apparatus." *Id.*, 4:16-18. The specification also provides detailed description of how to adapt the novel placement of the ice storage bin to an ice maker that is conventionally mounted in the interior of the "freezer compartment." *Id.* 6:50 – 7:18. Testimony of inventor Vern Myers bears out this conclusion:

> Q. And [Whirlpool] felt that the design shown in figure 3 of the '130 patent in its entirety provided better mounting for the ice maker in the cabinet, correct?
>
> A. ...I don't recall that the mounting consideration was particularly important one way or the other regarding the ice maker.

Hearing Tr., 284:10-18.

Since the placement of the ice maker was not considered the "novel aspect" of the invention, it is not clear that § 112, ¶ 1 requires that the '130 patent specification "enable" any particular embodiment concerning the placement of the ice maker. Out of an abundance of caution, however, we will consider whether or not mounting the ice maker on the door would have been beyond the ability of one of ordinary skill in the art at the time the of the invention.

In making its enablement challenge, LG argues that the ready supply of water and power that is available to prior art ice makers mounted within the "freezer compartment" are not possible if the ice maker is located on the freezer door. Furthermore, LG argues that the "conventional" ice makers disclosed in the '130 patent specification are not designed for mounting on a freezer door. LG's expert, Dr. Bessler, testified that the main technical challenge involved in mounting an ice maker on the door is insuring "that when you move the door back

and forth, water doesn't come out of the ice maker and the ice maker can work reliably when it is on the door." Hearing Tr., 1240:14-20 (emphasis added). Dr. Bessler further testified that a secondary challenge is supplying water to an automatic ice maker mounted on a freezer door. Id., 1244:1-5.

Dr. Bessler acknowledged that U.S. Patent No. 6,904,765 ("the '765 patent) to LG discusses the activity of mounting an ice maker to a freezer door. Id., 1239:15-20; JX-59. Although the '765 patent does discuss structure for preventing water overflow, the '765 patent does not discuss structure for supplying water to an automatic ice maker mounted on a freezer door. Nor does the '765 patent discuss structure for providing power to an automatic ice maker so mounted. As such, we can conclude that, since not even LG bothered to disclose water and power supply structures in its own patent concerned with mounting an automatic ice maker on a freezer door, those structures must not be so critical to enabling the function of an automatic ice maker so mounted such that not discussing them creates an enablement problem. With respect to the water overflow preventing structures, Dr. Bessler testified that such structures allow an automatic ice maker mounted on a freezer door to work reliably, not that they are required to allow the ice maker to work at all. Without more evidence regarding the difficultly of mounting an automatic ice maker on a "closure member," we do not believe that the lack of disclosure in the '130 patent for such an embodiment leads to the conclusion that such an embodiment is not enabled. As the Federal Circuit has stated, "we have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment." Phillips, 415 F.3d at 1323.

We, therefore, construe the phrase "disposed within the freezer compartment" to mean

"placed within the freezer compartment, including elements mounted on the closure member."

"Ice storage bin having a bottom opening"

The IA argues that the term "ice storage bin having a bottom opening" has no bearing on either infringement or validity, and indeed the ALJ found, without explanation, that the limitation was present in the accused side by side refrigerators, either literally or under the doctrine of equivalents. ID at 29. LG, however, argues that this limitation is not found in the accused LG models because the accused models have openings in the side walls, not the bottom wall, of the ice storage bin. LG Response Br. at 90. LG is also under the mistaken impression that the ALJ "has implicitly recognized that LG's refrigerators do not meet these limitations" when, in fact, the ALJ found precisely the opposite. Id. at 91-92. Regardless of whether the term has any bearing on infringement or whether it is relevant only regarding the technical prong of the domestic industry requirement, the Commission is called upon to provide a construction of phrase "ice storage bin having a bottom opening." It will be up to the parties to argue what relevance the term has during the remand proceedings.

The ALJ found that "ice storage bin having a bottom opening" means "an ice storage bin with an ice outlet opening in the 'bottom wall portion' of the lower ice bin, citing the '130 specification. ID at 22-23. The ALJ noted that claim 1 refers to only one bottom opening: the opening leading to the ice discharge chute "for dispensing from the ice storage bin." ID at 23. The ALJ found that the only opening leading from the storage bin to the discharge chute in the embodiment shown in Figure 9 is opening 170, located below the ice crushing blades. Id. He, thus, concluded the "bottom opening" must be the "ice outlet opening" located in the "bottom wall portion" of the lower ice bin because the specification states that "[t]he bottom wall portion

168 includes an ice outlet opening 170 through which the ice pieces must pass to be dispensed." Id., citing '130 Patent, 9:53-58.

Although the specification is the typically the best guide for the meaning of claim terms, there is no corresponding claim term in claim 1 for parts of the specification relied on by the ALJ. Specifically, the ALJ states that claim 1 refers to the opening leading to the ice discharge chute when claim 1 does not mention an "ice discharge chute." The only limitation claim 1 places on the location on the "bottom opening," other than it be at the "bottom" of the "ice storage bin," is that it be positioned such that an auger may move ice pieces through it for dispensing. Notably, claim 2 does recite "an ice discharge chute." Under the theory of claim differentiation, therefore, claim 1 should not be so limited. Furthermore, claim 1 does not make any mention of a "bottom wall portion" or a "lower ice bin," the latter of which is specifically claimed only in dependent claim 8.

No party provides a specific definition for the term "bottom." LG proposes to construe the term as "an ice storage bin having an ice outlet opening in its underside[,]" while Whirlpool advocates for a construction that would equate "bottom opening" with "an opening positioned at a *lower portion* of the ice storage bin." ID at 22. LG notes that several other claims, including asserted claim 8, use the word "lower" to indicate an area in the ice storage bin, thus indicating a distinction in meaning between "bottom" and "lower." This distinction is not readily apparent, however, due to some imprecision in the claims that LG relies on. Claim 8, which is representative of the claims specified by LG, recites:

> 8. The refrigerator according to claim 1 further wherein the ice storage bin comprises:
>
> *an upper ice bin member* having ***a bottom edge***;

a lower ice bin member connected to ***the lower edge*** <u>of</u> *the upper ice bin member*....

'130 Patent, 13:36-40 (emphasis added). As is apparent from the emphasized portions of claim 8, there is confusion with respect to the antecedent basis for the terminology used. Specifically, the "upper ice bin member" is simultaneously described as having a "bottom edge" and a "lower edge." Therefore, the only conclusion that can be drawn without the claim violating the requirement of 35 U.S.C. § 112, ¶ 2 for claims "particularly pointing out and distinctly claiming the subject matter which the application regards as his invention[,]" is that no distinction in meaning between "bottom" and "lower" is intended.

Neither the ALJ nor the parties cite to any evidence in the record to indicate that the term "bottom opening" has any particular meaning to one of ordinary skill in the art beyond its plain and ordinary meaning, so it is proper to consider a dictionary for a definition of the term. *Phillips*, 415 F.3d at 1314. Choosing between LG and Whirlpool's proposed constructions is not aided by reference to a general purpose dictionary, which defines "bottom" as meaning both "the underside of something" and "the lowest part or place." *Merriam-Webster Online Dictionary* (retrieved June 11, 2009, from http://www.merriam-webster.com/dictionary/bottom). The term "opening," on the other hand, is more conclusively defined as "something that is open: as a (1): breach, aperture." *Id.* (retrieved June 11, 2009, from http://www.merriam-webster.com/dictionary/opening). Therefore, from nothing but the plain meaning of the term, a "bottom opening" could either be defined as "an opening in the underside of the ice storage bin," or as "an opening in the lowest part of the ice storage bin."

Since we have exhausted the claim language itself, we turn to the specification for assistance in assigning the appropriate meaning to a "bottom opening" through which "the auger

moves ice pieces from the ice storage bin" "for dispensing from the ice storage bin." Looking first for limitations on the definition of "opening," the specification states that ice pieces are dispensed through outlet opening 170. '130 Patent, 9:58-59; 10:52-53; 10:63-64. The use of "outlet opening" in the specification while the claim uses the term "bottom opening" cautions us against limiting directly equating "bottom opening" with outlet opening 170, without some further rationale.

The specification additionally states that "rotation of the auger 172 ensures that the ice pieces are free to move downwardly, under the urgings of gravity, through the lower ice bin member...such that the ice pieces may be dispensed." *Id.*, 9:65 – 10:2. This statement would seem to support the conclusion that the "bottom opening" must, indeed, be in the underside of the ice storage bin, since only in this position would gravity have any direct effect on dispensing the ice from the ice storage bin. Reference to the claims, however, brings a halt to that line of reasoning. Unasserted claim 3, which depends from claim 1, recites that "the auger is supported in a vertical orientation within the ice storage bin." *Id.*, 13:4-6. It is precisely this vertical orientation of the auger that is disclosed in the '130 patent's specification such that rotation of the auger would allow gravity to affect the dispensing of the ice from the ice storage bin. *Id.*, Figure 3; Figure 9; 10:25-67.

Since this embodiment of a vertical auger, with all of the limitations thereby implied, is explicitly recited in dependent claim 3, we read claim 1 as being broader. Since claim 1 does not contain any limitations on the orientation of the auger, we do not construe the elements recited in claim 1 as needing the assistance of gravity in dispensing ice from the ice storage bin. This means, not only allowing the auger to have a non-vertical orientation, but also that the "bottom

opening" is free to be an opening in either "the underside" or "the lowest part" of the ice storage bin.

Based on the preceding discussion, the Commission hereby construes the phrase "ice storage bin having a bottom opening" to mean "an ice storage bin with an opening at a lowest portion of the ice storage bin." While this proposed construction is close to Whirlpool's broader request, we do note that "lowest" rather than "lower" better satisfies the meaning of the term "bottom" without explicitly requiring that the opening be in the "underside" of the ice bin.

The Commission construes the disputed claim terms as follows:

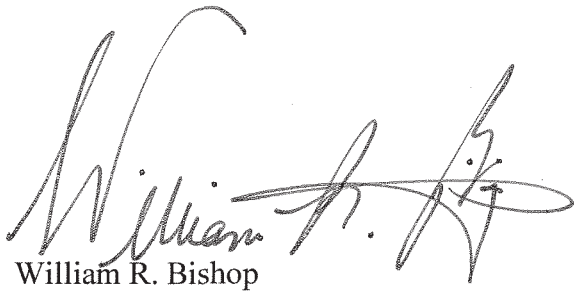
1. "freezer compartment" means "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior and a closure member that allows access to the access opening;"

2. "disposed within the freezer compartment" means "placed within the freezer compartment, including elements mounted on the closure member," and

3. "ice storage bin having a bottom opening" means "an ice storage bin with an opening at a lowest portion of the ice storage bin."

The Commission affirms the ID's construction of the term "ice maker."

By order of the Commission.
Marilyn R. Abbott, Secretary



William R. Bishop
Acting Secretary

Issued: July 8, 2009

CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **337-TA-632**

PUBLIC CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION DECISION TO MODIFY CERTAIN CLAIM CONSTRUCTIONS MADE IN A FINAL INITIAL DETERMINATION AND TO REMAND THE INVESTIGATION TO THE ALJ; EXTENSION OF TARGET DATE** has been served by hand upon the Commission Investigative Attorney, Lisa Murray, Esq., and the following parties as indicated, on July 8, 2009.

Marilyn R. Abbott, Secretary
U.S. International Trade Commission
500 E Street, SW
Washington, DC 20436

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

In the Matter of **CERTAIN REFRIGERATORS AND COMPONENTS THEREOF**	**Investigation No. 337-TA-632**

NOTICE OF COMMISSION DECISION TO REVIEW IN ITS ENTIRETY A FINAL INITIAL DETERMINATION FINDING NO VIOLATION OF SECTION 337

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to review the presiding administrative law judge's ("ALJ") final initial determination ("ID") finding no violation of Section 337 of the Tariff Act of 1930 in the above-captioned investigation.

FOR FURTHER INFORMATION CONTACT: Jean Jackson Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-3104. Copies of the ALJ's IDs and all other non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at *http://www.usitc.gov*. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov*. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: On February 21, 2008, the Commission voted to institute this investigation, based on a complaint filed by Whirlpool Patents Company of St. Joseph, Michigan; Whirlpool Manufacturing Corporation of St. Joseph, Michigan; Whirlpool Corporation of Benton Harbor, Michigan, and Maytag Corporation of Benton Harbor, Michigan (collectively, "Whirlpool"). The complaint, as supplemented, alleges violations of section 337 based upon the importation into the United States, the sale for importation, and the sale within the United States after importation of certain refrigerators and components thereof that infringe certain claims of U.S. Patent Nos. 6,082,130 ("the '130 patent); 6,810,680 ("the '680 patent"); 6,915,644 ("the '644 patent"); 6,971,730; and 7,240,980. Whirlpool named LG Electronics, Inc.; LG Electronics, USA, Inc.; and LG Electronics Monterrey Mexico, S.A., De, CV (collectively, "LG") as respondents. The complaint, as supplemented, further alleges that an industry in the United States exists as required by subsection (a)(2) of section 337 and requested that the Commission issue an exclusion order and cease and desist orders.

On September 11, 2008, Whirlpool and LG filed a joint motion seeking termination of this investigation with respect to the '680 patent and the '644 patent on the basis of a settlement agreement. On September 25, 2008, the ALJ issued an ID, Order No. 10, terminating the investigation, in part, as to

the '680 and '644 patents. No petitions for review were filed. On October 27, 2008, the Commission determined not to review Order No. 10.

On October 17, 2008, Whirlpool filed a motion for summary determination that it had satisfied the importation requirement. On November 20, 2008, the ALJ issued the subject ID, Order No. 14, granting complainant's motion for summary determination of importation. No petitions for review were filed. On December 15, 2008, the Commission issued notice that it had determined not to review Order No. 14.

On July 24, 2008, Whirlpool filed a motion seeking leave to amend the complaint and notice of investigation to (1) remove references to patents that had been withdrawn from this investigation; (2) add a reference to a non-exclusive license that relates to two patents at issue; and (3) update the current state of the domestic industry. On November 25, 2008, the ALJ issued Order No. 15, in which he granted Whirlpool's motion as to (1) and (3) above and denied it with respect to (2). No petitions for review were filed. The Commission determined not to review the subject ID on December 15, 2008.

On February 26, 2009, the ALJ issued a final ID, in which he found no violation of Section 337. On March 11, 2009, Whirlpool filed a petition for review, and LG filed a contingent petition for review. Whirlpool, LG and OUII filed responses. The Commission has determined to review the final ID and requests briefing by the parties to the investigation on the issue of claim construction. In particular, the Commission would like the parties to address:

1. Do the ordinary and customary meanings of the following terms differ from the meanings ascribed to them by the inventors' testimony: "freezer compartment," "disposed within," "mounted on," "having an access opening and a closure member for closing the access opening," and "ice storage bin having a bottom opening." Please discuss with reference to dictionary definitions and expert testimony.

2. Are the phrases "mounted on" and "disposed within" mutually exclusive in the context of claim 1 of the '130 patent? Are either or both of these terms synonymous with "installed"?

3. How does the prosecution history inform the claim construction, in terms of disclaimer and interpretation?

4. Would one of ordinary skill in the art understand a space defined by a cabinet having an access opening but not having a closure member to mean a "freezer compartment," given that temperatures within such a compartment cannot be reduced to freezing?

5. In construing claim 1, the parties dispute whether the "closure member" is part of the freezer compartment. What conclusions can be drawn from the term "freezer compartment closure member" appearing in dependent claim 9? What conclusions, if any, can be drawn from a comparison of claim 1 and independent claim 10, the latter clearly identifying the closure member as part of the refrigerator.

6. To what extent should the Commission consider inventor testimony when construing the claims? See *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1580

("Markman requires us to give no deference to the testimony of the inventor about the meaning of the claims.").

7. For parties proposing additional or different meanings on claim construction, do these point to a different result for infringement, validity, or domestic industry? Please explain with regard to each relevant refrigerator model. Responses should rely on evidence of record.

8. Specifically, with respect to infringement, respond to the following: Does the closure member have to be the closure member to the access to the freezer compartment? If so, can a self-contained ice maker within a fresh-food compartment qualify as a freezer for which there is a closure member within the meaning of claim 1? Does it matter if both the ice maker and the storage unit are in the closure member?

Opening submissions must be filed no later than close of business on May 8, 2009. Reply submissions must be filed no later than the close of business on May 15, 2009. No further submissions on any of these issues will be permitted unless otherwise ordered by the Commission.

Persons filing written submissions must file the original document and 12 true copies thereof on or before the deadlines stated above with the Office of the Secretary. Any person desiring to submit a document to the Commission in confidence must request confidential treatment unless the information has already been granted such treatment during the proceedings. All such requests should be directed to the Secretary of the Commission and must include a full statement of the reasons why the Commission should grant such treatment. *See* 19 C.F.R. § 210.6. Documents for which confidential treatment by the Commission is sought will be treated accordingly. All non-confidential written submissions will be available for public inspection at the Office of the Secretary.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in section 210.42-46 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.42-46).

By order of the Commission.

Marilyn R. Abbott
Secretary to the Commission

Issued: April 27, 2009

William R. Bishop
Acting Secretary to the Commission

CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **337-TA-632**

PUBLIC CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION DECISION TO REVIEW IN ITS ENTIRETY A FINAL INITIAL DETERMINATION FINDING NO VIOLATION OF SECTION 337** has been served by hand upon the Commission Investigative Attorney, Lisa Murray, Esq., and the following parties as indicated, on April 27, 2009.

Marilyn R. Abbott, Secretary
U.S. International Trade Commission
500 E Street, SW
Washington, DC 20436

ON BEHALF OF COMPLAINANTS WHIRLPOOL PATENT CORPORATION, WHIRLPOOL MANUFACTURING CORPORATION, WHIRLPOOL CORPORATION AND MAYTAG CORPORATION:

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( ) Via Overnight Mail
(✓) Via First Class Mail
( ) Other: _____

ON BEHALF OF RESPONDENTS LG ELECTRONICS, INC., LG ELECTRONICS, USA, INC., AND LG ELECTRONICS MONTERREY:

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[redacted]

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of **CERTAIN REFRIGERATORS AND COMPONENTS THEREOF**	**Investigation No. 337-TA-632**

INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Theodore R. Essex

(February 26, 2009)

Appearances:
For the Complainant:

Scott F. Partridge, Esq., Paul R. Morico, Esq., Amanda Woodall, Esq., Elizabeth L. Durham, Esq., Gene L. Spears, Esq., and Robinson Vu, Esq. of Baker Botts LLP of Houston, Texas

Frederick G. Michaud, Esq. and Kristiana Brugger, Esq. of Baker Botts LLP of Washington, D.C.

Neil Sirota, Esq. of Baker Botts LLP of New York, New York

For the Respondents:

Thomas L. Jarvis, Esq., Richard L. Stroup, Esq., Andrew C. Sonu, Esq., Parmanand K. Sharma, Esq., Paul C. Goulet, Esq., and Michael E. Kudravetz, Esq. of Finnegan, Henderson, Farabow, of Washington, D.C. 20001-4413

For the Commission Investigative Staff:
Lynn I. Levine, Esq., Director; Thomas S. Fusco, Esq., Supervising Attorney; and Lisa Murray, Esq., Investigative Attorney of the Office of Unfair Import Investigations, U.S. International Trade Commission, of Washington, D.C.

[redacted]

Pursuant to the Notices of Investigation, 73 Fed. Reg. 10285, this is the Initial Determination of the investigation in the matter of *Certain Refrigerators and Components Thereof*, United States International Trade Commission Investigation No. 337-TA-632. *See* 19 C.F.R. § 210.42(a).

It is held that no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain refrigerators and components thereof by reason of infringement of one or more of claims 1, 2, 4, 6, 8, and 9 of United States Patent No. 6,082,130.

[redacted]

The following abbreviations may be used in this Initial Determination:

CDX	Complainants' demonstrative exhibit
CFF	Complainants' proposed findings of fact
CIB	Complainants' initial post-hearing brief
CORFF	Complainants' objections to Respondents' proposed findings of fact
COSFF	Complainants' objections to Staff's proposed findings of fact
CPX	Complainants' physical exhibit
CRB	Complainants' reply post-hearing brief
CX	Complainants' exhibit
Dep.	Deposition
JSUF	Joint Statement of Undisputed Facts
JX	Joint Exhibit
RDX	Respondents' demonstrative exhibit
RFF	Respondents' proposed findings of fact
RIB	Respondents' initial post-hearing brief
ROCFF	Respondents' objections to Complainants' proposed findings of fact
ROSFF	Respondents' objections to Staff's proposed findings of fact
RPX	Respondents' physical exhibit
RRB	Respondents' reply post-hearing brief
RRX	Respondents' rebuttal exhibit
RX	Respondents' exhibit
SFF	Staff's proposed findings of fact
SIB	Staff's initial post-hearing brief
SOCFF	Staff's objections to Complainants' proposed findings of fact
SORFF	Staff's objections to Respondents' proposed findings of fact
SRB	Staff's reply post-hearing brief
Tr.	Transcript

[redacted]

TABLE OF CONTENTS

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I. BACKGROUND

A. Institution and Procedural History of This Investigation

By publication of a notice in the *Federal Register* on February 26, 2008, pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, the Commission instituted Investigation No. 337-TA-632 with respect to U.S. Patent Nos. 6,082,130 ("the '130 Patent"), 6,810,680, 6,915,644, 6,971,730, and 7,240,980 to determine:

> [W]hether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain refrigerators and components thereof by reason of infringement of one or more of claims 1, 2, 4, 6, 8, and 9 of U.S. Patent No. 6,082,130; claims 1-14 of U.S. Patent No. 6,810,680; claims 1-13 of U.S. Patent No. 6,915,644; claims 2, 3, 7-12, 22-24, and 29 of U.S. Patent No. 6,971,730; and claims 1 and 3-20 of U.S. Patent No. 7,240,980; and whether an industry in the United States exists as required by subsection (a)(2) of section 337.

73 Fed. Reg.10285 (2008). In the course of the investigation, the issues regarding U.S. Patent Nos. 6,810,680, 6,915,644, 6,971,730, and 7,240,980 were resolved leaving only the '130 Patent at issue. *See* Order No. 8 (granting Whirlpool's motion to terminate U.S. Patent Nos. 6,971,730 and 7,240,980) (June 9, 2008) and Order No.10 (granting joint motion to terminate U.S. Patent Nos. 6,810,680 and 6,915,644) (September 25, 2008).

Whirlpool Patents Company of St. Joseph, MI; Whirlpool Manufacturing Corporation of St. Joseph, MI; Whirlpool Corporation of Benton Harbor, MI; Maytag Corporation of Benton Harbor, MI are the complainants (collectively "Whirlpool"). 73 Fed. Reg.10285. The respondents named in the Notice of Investigation were: LG Electronics, Inc. of South Korea; LG Electronics, USA, Inc. of Englewood Cliffs, NJ; and LG Electronics Monterrey of, Mexico (collectively "LG"). *Id.* The Commission Investigative Staff ("Staff") of the Commission's Office of Unfair Import Investigations is also a party in this investigation. *Id.*

[redacted]

The evidentiary hearing on the question of violation of section 337 commenced on December 15, 2008 and ended on December 19, 2008.

B. The Parties

1. Whirlpool

Whirlpool Corporation is a Delaware corporation having its principal place of business at 2000 North M-63, Benton Harbor, Michigan 49022. Whirlpool is a leading manufacturer and seller of major home appliances, which include appliances sold under the Whirlpool®, KitchenAid®, Roper®, Maytag®, Amana®, and Jenn-Air® brands. (*See* CX-226C, Langbo Direct Statement, Q. 226). Whirlpool Manufacturing Corporation has a principal place of business at 500 Renausance Dr. Suite 102 St. Joseph, MI. Whirlpool Patent Corporation has a principal place of business at 500 Renausance Dr. Suite 102 St. Joseph, MI. Maytag Corporation has a principal place of business at 405 West 4th Street North, Newton, IA.

2. LG

LG Electronics Corporation, Inc. is a Korean corporation having its principal place of business at LG Twin Towers, 20 Yeouido-dong, Yeoungdeungpo-gu, Seoul, 150-721, South Korea. LG Electronics manufactures LG-branded and Kenmore®-branded refrigerators at its facilities in Korea, which it imports, sells for importation, and sells in the United States, including models accused of infringing the '130 Patent in this investigation. (*See* CX-045C, Deposition of Young Ho Noh dated Aug. 14, 2008 (hereinafter, "Noh Depo."), *passim*). LG Electronics designed the allegedly infringing models that are manufactured in Korea and Mexico in its facilities in Changwon, Korea. (See CX-045C, Noh Depo., 13:21-22). LG Electronics, USA, Inc., and LG Electronics Monterrey, Mexico S.A. de C.V. are also named respondents to this action.

[redacted]

C. Overview of the Technology

The products at issue are refrigerators that have both a fresh food and freezer compartment, and deliver ice through a door of the refrigerator. The '130 Patent calls for the ice maker to be located in the freezer compartment, and to have an ice storage unit on the door or closure member of the freezer.

D. The Patent At Issue

This investigation pertains to U.S. Patent No. 6,082,130, entitled "Ice delivery system for a refrigerator." The '130 Patent was filed on December 28, 1998 and issued on July 4, 2000.

The asserted claims of the '130 Patent in this investigation are claims 1, 2, 4, 6, 8, and 9. Claim 1 reads as follows:

> 1. A refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening, the refrigerator comprising:
>
> an ice maker being disposed within the freezer compartment for forming ice pieces;
> an ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker, the ice storage bin having a bottom opening;
> a motor mounted on the closure member; and
> an auger disposed within the ice storage bin and drivingly connected to the motor, wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening for dispensing from the ice storage bin.

Claims 2, 4, 6, 8, and 9 read as follows:

> 2. The refrigerator according to claim 1, further comprising:
>
> an ice discharge chute through the closure member below the bottom opening of the ice storage bin wherein upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute.
>
> 4. The refrigerator according to claim 1 further wherein the ice storage bin is at least partially formed out of a transparent material such that the amount of ice pieces in the ice storage bin can be readily visually determined.

[redacted]

6. The refrigerator according to claim 1 further wherein the ice storage bin comprises:

the ice storage bin defines an ice crushing region through which the ice pieces must pass when ice pieces are discharged through the bottom opening, the ice crushing region having an inlet opening;
the auger having a shaft portion passing through the ice crushing region;
at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

8. The refrigerator according to claim 1 further wherein the ice storage bin comprises:

an upper ice bin member having a bottom edge;
a lower ice bin member connected to the lower edge of the upper ice bin member, the lower ice bin member defining an ice crushing region through which the ice pieces must pass when ice pieces are discharge through the bottom opening;
the auger having a shaft portion passing through the ice crushing region;
at least one ice crusher blade rotatably connected to the shaft portion for rotation within the ice crushing region; and
at least one stationary blade mounted within the ice crushing region such that the ice crusher blade rotates past the stationary blade.

9. The refrigerator according to claim 1 wherein the ice storage bin is removable from the freezer compartment closure member.

('130 Patent, claims 1,2,4,6,8 and 9.) The 130 Patent names Jim J. Pastryk, Mark H. Nelson, Verne H. Myers, Daryl L. Harmon, Andrew M. Oltman, Gregory G. Hortin and Devinder Singh as the inventors. (*Id.*)

The '130 Patent discloses a refrigerator having a cabinet defining a freezer compartment having an access opening and a closure member for closing the access opening. An ice maker is disposed within the freezer compartment for forming ice pieces and an ice storage bin is removably mounted to the closure member below the ice maker for receiving ice from the ice maker. The ice storage bin has an upper portion which is transparent and has a bottom opening.

[redacted]

An ice discharge chute extends through the closure member below the bottom opening of the ice storage bin. A motor is mounted on the closure member. An auger is vertically disposed within the ice storage bin and is drivingly connected to the motor. Upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute for dispensing ice pieces from the ice storage bin. Claim 1 is the only independent claim. The remaining claims at issue, claims 2, 4, 6, 8, and 9 depend directly from claim 1. The '130 Patent is assigned and owned by Whirlpool.

E. The Products At Issue

The products at issue in this investigation are refrigerators and components thereof. The accused products are LG's LG-branded and Kenmore-branded refrigerators that incorporate the LG's SpacePlus™ ice storing system (hereinafter "Accused LG Refrigerators"). These products fall into two basic categories: (a) side-by-side refrigerators and (b) French door or Multi-Door refrigerators. (RX-568C, Lee Direct Statement, Q. 86; CPX-13; CPX-12.)

II. IMPORTATION OR SALE

The importation or sale requirement of section 337 has not been contested and by Order No. 14, issued on November 20, 2008, an initial determination was made that the importation for sell requirement was proven. *See* Order No. 14 (November 20, 2008).

Thus, it is found that LG sell for importation, import and/or, sells after importation articles accused in this investigation. The importation or sale requirement of section 337 is satisfied.

III. CLAIM CONSTRUCTION

A. Applicable Law

Pursuant to the Commission's Notices of Investigation, these consolidated investigations are patent-based investigations. *See* 72 Fed. Reg. 37052, 47072 (2007). Accordingly, all of the unfair acts alleged by Whirlpool to have occurred are instances of alleged infringement of the '130 Patent. Any finding of infringement or non-infringement requires a two-step analytical approach. First, the asserted patent claims must be construed as a matter of law to determine their proper scope.[1] Second, a factual determination must be made as to whether the properly construed claims read on the accused devices. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995)(*en banc*), *aff'd*, 517 U.S. 370 (1996).

Claim construction begins with the language of the claims themselves. Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005), *cert. denied*, 546 U.S. 1170 (2006). With respect to claim preambles, the Court of Appeals for the Federal Circuit has explained that:

> [A] Claim preamble has the import that the claim as a whole suggests for it. In other words, when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects.

Eaton Corp. v. Rockwell Int'l Corp., 323 F.3d 1332, 1339 (Fed. Cir. 2003) (quoting *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995)).

[1] Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int'l Trade Comm.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. American Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

[redacted]

In some instances, claim terms do not have particular meaning in a field of art, and claim construction involves little more than the application of the widely accepted meaning of commonly understood words. *Phillips*, 415 F.3d at 1314. In such circumstances, general purpose dictionaries may be helpful. In many cases, claim terms have a specialized meaning, and it is necessary to determine what a person of skill in the art would have understood disputed claim language to mean, by analyzing the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, as well as the meaning of technical terms, and the state of the art. *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

In cases in which the meaning of a claim term is uncertain, the specification usually is the best guide to the meaning of the term. *Id.* at 1315. As a general rule, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Markman*, 52 F.3d at 979. However, the specification is always highly relevant to the claim construction analysis. The specification is usually dispositive. It is the single best guide to the meaning of a disputed term. *Phillips*, 415 F.3d at 1315. Moreover, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316.

If the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence may be considered. Extrinsic evidence consists of all evidence external to the patent and the prosecution history, including inventor testimony, expert testimony and learned treatises. *Id.* at 1317. Inventor testimony can be useful to shed light on the relevant art. In evaluating expert testimony, a court should discount any expert testimony that is clearly at odds with the claim

construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent. *Id.* at 1318. Extrinsic evidence may be considered if a court deems it helpful in determining the true meaning of language used in the patent claims. *Id.*

B. The Level of Ordinary Skill in the Art

LG and Whirlpool essentially agree on the definition of a person of ordinary skill in the art. Such a person would have a bachelor's degree in engineering and at least 2 years experience in the design of refrigerator's ice making systems, or a lesser educational level but technical experience of at least 5 years in design or manufacture of refrigerator's ice making systems. Both sides' experts stated that the use of the other's level of ordinary skill in the art would not effect their respective analyses. (Compare RX-570C, Bessler Direct Statement, Q. 67 with CX-265, Caligiuri Rebuttal Statement, Q. 28).

C. The Disputed Claim Terms and Their Proper Construction

1. "ice maker" (Claim 1)

Claim 1 of the '130 Patent refers to "an ice maker being disposed within the freezer compartment for forming ice pieces." (JX-01 at 12:52-53). Whirlpool's proposed construction for the term "ice maker" is "a device that makes ice[,]" while LG has proposed "an apparatus that forms ice pieces." (See JX-27C at 2-4; RX-556, ex.A). In its Post Hearing Statement, LG indicated that it was willing to accept Whirlpool's proposed construction of "a device that makes ice[,]" but disputed Whirlpool's argument that the term is limited to an automatic ice maker. LG argued that the term encompassed "a broad category of 'ice makers'," including manual ice trays.

[redacted]

(RIB at 15).[2] The Staff argued the evidence and testimony indicates that the term "ice maker," as used in the '130 Patent, should be limited to automatic ice-making devices, *i.e.*, devices that form ice pieces without user intervention.

The ALJ finds that the term "ice maker" means "a device that creates ice automatically, without user intervention." This claim construction is supported by the claim language. The plain language of the claim is "an ice maker", suggesting a specific device rather than a system for or method of making ice manually. The language "an ice storage bin mounted to the closure member below the ice maker for receiving ice from the ice maker" also suggests that the ice maker transfers ice to the storage bin directly, without human intervention. ('130 Patent at 2:30-35.) If the patent anticipated ice trays that were to be manually dumped into the ice bin, the language "mounted below the ice maker for receiving ice" makes no sense, and has no meaning. In addition, the claim requires "an ice maker being disposed within the freezer compartment for forming ice pieces." ('130 Patent at 12:53-54.) If the "ice maker" were a tray, its location would vary depending on where the person chose to put it; it would not mean anything to say where the ice maker was disposed. ('130 Patent at 12:54-55.) For example, a bin intended to contain ice frozen in manual ice trays would more likely be described as a bin "for storing ice pieces" or "containing ice pieces removed from the ice maker."

The specification also supports this construction. The specification clearly describes an ice delivery system that uses an automatic ice maker. The Background of the Invention states that "[a]utomatic ice making systems for use in a home refrigerator are well known." (*Id.* at 1:11-12.) This suggests that a person of ordinary skill in the art would understand that the term

[2] This difference in proposed constructions is relevant primarily to LG's argument that claim 1 of the '130 Patent is invalid as anticipated by Japanese Utility Model Application S51-21165. (*See* RX-372). The drawings in the Japanese application depict an ice delivery system that uses manual ice trays.

[redacted]

"ice making system" referred to an automatic device rather than a method for making ice. It continues:

> Typically, ice making systems include an ice maker mounted within the freezer compartment of the refrigerator . . . . The ice maker is commonly mounted within the freezer compartment adjacent the side or rear wall of the freezer compartment such that water and power can be readily supplied to the ice maker.

(*Id.* at 1:12-16.) The reference to water and power supplies is further evidence that the term "ice maker" refers to an automatic device that does not require human intervention either to fill the device with water or to harvest the frozen ice. The specification provides further details in the Description of the Preferred Embodiments:

> The ice maker assembly **22** generally comprises an ice maker **32** and an ice discharge assembly **34**. ***The ice maker 32 is a conventional ice piece making apparatus which forms crescent shaped ice pieces.*** The ice maker **32** includes an ice mold body **36**, an ice stripper **38**, a rotatable ejector (not shown) and a housing **40**. The housing surrounds a drive motor and drive module (not shown) which operate to rotate the ejector (not shown) when ice harvesting is necessary.

(*Id.* at 4:15-22 (emphasis added)). This preferred embodiment is illustrated in Figures 4 and 5 of the '130 Patent, which clearly show an automatic ice making device.

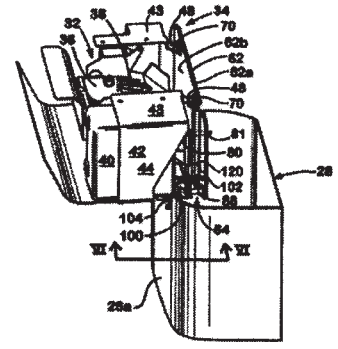

Fig. 4

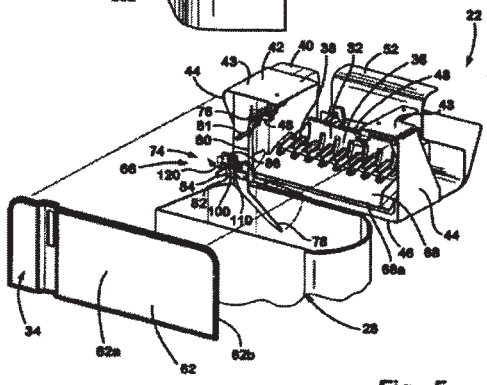

Fig. 5

[redacted]

(*Id.* figs. 4-5.) Moreover, the specification describes the purpose of the ice discharge assembly **34** as serving "to prevent overfilling of the ice storage receptacle by sensing the level of ice in the ice storage bin **28** and to prevent ice discharge when the door **20** is open." (*Id.* at 5:22-25.) Neither of these functions would be necessary, or even possible, in a system involving ice trays emptied manually into the ice storage bin by human intervention.

In addition, the extrinsic evidence, including testimony supplied during the hearing, supports this construction. Refrigerator manufacturers commonly use the term "ice maker" in advertising and engineering documents to refer to an automatic device. (*See, e.g.*, CDX-156, "Photos of LG Ice Makers"; RX-169, "GE Appliances Service Handbook for Refrigerators and Freezers, 1975 to 1990"). Multiple witnesses at the hearing testified that the term "ice maker" is commonly understood in the industry to mean an automatic device. For example, Mr. Gregory Hortin, Whirlpool's Technology Advantage Design Leader for the Ice and Water Group, testified:

> Q. Mr. Hortin, what is an ice maker?
>
> A. An ice maker, as we typically define an ice maker, is an automatic ice maker device that produces ice when it is located in a freezing compartment of a refrigerator.
>
> Q. And what is a device? What does something have to have to make it a device?
>
> A. Probably I would define that as something that has electromechanical or automation connected with it.
>
> Q. Does an ice tray have a mechanical or automation feature connected to it?
>
> A. I typically think of an ice tray as just being a metal or piece of plastic with no motors, no gears, no bi-metals, so it is usually – it is not automated in any manner.
>
> Q. So when you're at work and you use the word ice maker, what are you referring to?

[redacted]

A. We're referring to our automatic ice maker, similar or identical with the ones that are in that refrigerator on the other side of the room.

(12/15/08 Hearing Tr. at 370-71). Similarly, LG Senior Engineer, Mr. Si Yun An agreed, testifying as follows:

Q. Would an engineer in the year 2000 consider a plastic tray with openings for a person to add water? Would an engineer consider that to be an ice maker?

A. Well, my thought on that would be, and I am speaking from my personal perspective, since – well, we're talking about a tray, I don't know, maybe it is a little difficult to talk about that in terms of being an ice maker.

Q. And why is that?

A. Well, because typically, generally, when we think in terms of an ice maker, that at least in my mind refers to some sort of an automatic ice-making system.

(12/17/08 Hearing Tr. at 850-51). Even LG's expert, Warren Bessler, described the term "ice maker" in a manner consistent with the intrinsic evidence: "as refrigeration engineer, if I saw the word ice maker I would think that's an automatic ice maker." (CX-225C, Bessler Depo. at 20:4-6). Indeed, in the context of the "through the door" delivery system, it would make little or no sense to require the consumer to open the door, put the ice in the storage bin, close the door and then get the ice through the door. Therefore, the claim language, the specification and the extrinsic support the ALJ's construction that the term "ice maker" means "a device that creates ice automatically, without user intervention."

2. "freezer compartment" (Claim 1)

Claim 1 of the '130 Patent refers to "a refrigerator including a freezer compartment having an access opening and a closure member for closing the access opening, the refrigerator comprising:" ('130 Patent at 12:49-51). Whirlpool proposes the following construction for the claim term "freezer compartment": "a compartment within the refrigerator which during

[redacted]

operation is maintained at a temperature below the freezing point of water having an opening that provides access and a door that allows access to the access opening." (CIB at 25.) LG proposes "a section of a refrigerator cabinet kept at a below freezing temperature and including an opening allowing a user to place and remove items to be kept at a below freezing temperature." (RIB at 15; *See* JX-27C at 2-4; RX-556, ex.A). Both agree that the term refers to an area within a refrigerator cabinet kept at a freezing temperature, and both agree that the freezer compartment has an access opening. They differ in that:

- LG would add a limitation that the access opening must allow a user to place and remove items, while
- Whirlpool would add a limitation that the term "compartment" includes the freezer door as well as the freezer area within the refrigerator cabinet.

Staff took the position the evidence supports the portion of the claim construction on which the private parties agree, but does not support any further limitations. They suggest the correct meaning of the term "freezer compartment" should be construed to mean "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior." (SIB at 18.)

The ALJ finds that "freezer compartment" means "a section of a refrigerator cabinet kept at a below-freezing temperature, having an opening that provides access to the interior."

As for LG's limitation on the access opening, there is no reference anywhere in claim 1 to allowing a user to place and remove items through the access opening. The preamble to claim 1 simply refers to "a refrigerator," "a freezer compartment," "an access opening," and "a closure member." ('130 Patent at 12:49-51). Thus, there is no support in the claim language for LG's suggested limitation.

[redacted]

With regard to Whirlpool's proposed limitation, however, the parties present different interpretations of the language in claim 1. They differ as to whether "closure member" is part of the "refrigerator" or part of the "freezer compartment." Specifically, they interpret claim 1 to mean either:

- "a refrigerator including (1) a freezer compartment with an access opening and (2) a closure member," or
- "a refrigerator with a freezer compartment, the freezer compartment having (1) an access opening and (2) a closure member."

(*See* '130 Patent at 12:49-51; SIB at 23). The first interpretation corresponds to LG's proposed construction, while Whirlpool favors the second. (*See* RIB at 5-6; claim 1 preamble should be construed to mean "a refrigerator including . . . (b) a door, separate from the freezer compartment, for closing the access opening.")

The ALJ finds that the evidence supports the first interpretation, meaning that the term "freezer compartment" should not be construed as encompassing the closure member. Rather, the two should be considered separate assemblies within the overall refrigerator referenced in claim 1. Throughout the claims, and indeed the patent, *e.g.* '130 Patent at 1:5-10, 2:30-35, the closure member is distinguished from the freezer compartment, and is identified separately in each reference as part of the refrigerator, never as part of the freezer compartment. (*See* '130 Patent at 12:55-56, 12:66-67.) The patent also further separates the identity of the closure member from the freezer by identifying that the ice maker is located in the freezer compartment. (*See* '130 Patent at 2:30-45.) While the inventors could have defined the freezer compartment as including the closer member, the patent in each instant and each claim identifies them as separate areas of the refrigerator.

[redacted]

The specification supports this interpretation. The specification draws a distinction between the interior of the freezer compartment and the freezer door, or "closure member." For example, it describes the refrigerator cabinet as "a cabinet **12** forming an above freezing fresh-food compartment **14** and a below freezing freezer compartment **16**. Both the fresh-food compartment **14** and the freezer compartment **16** are provided with access openings." ('130 Patent at 3:60-64). It then describes the refrigerator doors as separate assemblies that are mounted to, rather than part of, the cabinet assembly: "A fresh-food closure member or door **18** and a freezer closure member or door **20** are hingedly mounted to the cabinet **12** for closing the access openings, as is well known." (*Id.* at 3:64-67.) The freezer compartment is "provided with" access openings, but is "hingedly" connected to a separate freezer door. Similarly, the "Summary of the Invention" describes a freezer compartment with a separate closure member:

> SUMMARY OF THE INVENTION
>
> Accordingly, ***the present invention is directed to a refrigerator having a cabinet defining a freezer compartment having an access opening and a closure member for closing the access opening. An ice maker is disposed within the freezer compartment for forming ice pieces and an ice storage bin is removably mounted to the closure member below the ice maker for receiving ice from the ice maker.*** The ice storage bin has an upper portion which is transparent and has a bottom opening. An ice discharge chute extends through the closure member below the bottom opening of the ice storage bin. A motor is mounted on the closure member. An auger is vertically disposed within the ice storage bin and is drivingly connected to the motor. Upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute for dispensing ice pieces from the ice storage bin.

('130 Patent 2:29-45.) Thus, the "Summary of the Invention" defines the cabinet (freezer compartment) and the freezer door (closure member) as separate areas, and the mounting of the storage bin on the door (closure member) as the very "Sine quo non" of the invention.

[redacted]

The extrinsic evidence also shows that the inventors specifically intended to draw a distinction between the freezer compartment and the freezer door in the '130 Patent. Specifically, in their deposition testimony several of the inventors distinguished between the freezer "compartment" and the freezer "door." When describing prior art ice dispensing systems, Daryl Harmon stated that the ice maker was "in the freezer compartment, inside the cabinet, not on the door[,]" (RDX-001C, Harmon Depo. at 23:1-5), while Gregory Hortin clarified that he was using the term "freezer compartment" to refer to "the storage area in the cabinet," or "the freezer portion of the cabinet[,]" (RDX-050C, Hortin Depo. at 48:22-49:5). When describing the invention in the '130 Patent, Devinder Singh characterized it as a refrigerator in which the ice storage bin was on the door rather than in the freezer compartment. (RDX-055C, Singh Depo. at 26:6-14). And, when contrasting conventional systems with Whirlpool's "in-door ice" system, Andrew Oltman stated that in the new system "the bucket is no longer in the freezer compartment itself. It is now located on the door[.]" (RDX-053C, Oltman Depo. at 42:19-43:16). One inventor recanted on this point during his testimony at the hearing. (12/15/08 Hearing Tr. at 345-47 (G. Hortin)). [redacted]

3. "disposed within the freezer compartment" (Claim 1)

Claim 1 of the '130 Patent describes an ice maker "disposed within the freezer compartment" and an ice storage bin "mounted to the closure member below the ice maker[.]" ('130 Patent at 12:52-55). LG construes "disposed within the freezer compartment" to mean "positioned entirely inside the fixed limits of the 'freezer compartment'[.]" (RX-556 ex.A).

[redacted]

Having argued that the freezer door is a part of (and therefore inside the limits of) the freezer compartment, Whirlpool's position is that it is not necessary to construe this term separately. (*See* JX-27C at 2-4; CIB at 29). Thus, the parties dispute whether any item "mounted to the closure member" is necessarily "within the freezer compartment", as Whirlpool argues, or whether the inventors intended to describe two separate and mutually exclusive locations within the refrigerator. Staff agreed with LG, stating that, "in the context of the '130 Patent, the phrase 'disposed within the freezer compartment' should be construed as 'disposed inside the freezer compartment, *as opposed to* being mounted on the freezer door.'"

The ALJ finds that "disposed within the freezer compartment" does not encompass the closure member. Rather, freezer compartment and the closure member should be considered separate assemblies within the overall refrigerator referenced in Claim 1. The claim language, the specification, and the extrinsic evidence support such a construction and further indicate that not only did the inventors intend to give different meanings to the two phrases, but the difference between the two locations in the refrigerator was the heart of the invention itself.

The language of Claim 1 describes the two locations differently suggesting that two meanings were intended, namely "disposed within the freezer compartment" and "mounted to a closure member." Claim 1 describes "an ice maker being disposed within the freezer compartment for forming ice pieces"; "an ice storage bin mounted to the closure member. . ."; and "a motor mounted on the closure member." 130 Patent 12:53-54, 58 (claim 1). Thus, the claim language describes a refrigerator with the items installed in specific and different locations. If the inventors had intended to claim all refrigerators containing an ice maker and an ice storage bin, regardless of whether either or both were mounted on the freezer door, then they simply

[redacted]

could have claimed a refrigerator comprising "a freezer compartment containing an ice maker and an ice storage bin." .

The specification explains that the very purpose of the invention was to reduce the amount of equipment located in the freezer compartment, specifically the ice storage bin, in response to consumer complaints about reduced storage space and difficulty accessing ice in the ice storage bin. (JX-01 at 2:5-27; *see also* CX-232C, Myers Direct Statement, Q.18). Previously, refrigerators with ice-dispensing systems typically contained "an ice maker mounted within the freezer compartment of the refrigerator and an ice storage receptacle or bin supported beneath the ice maker for receiving the formed ice from the ice maker." ('130 Patent at 1:11-15). More specifically, in the prior art "[t]he ice maker is commonly mounted within the freezer compartment adjacent the side or rear wall of the freezer compartment such that water and power can be readily supplied to the ice maker. The ice storage receptacle is generally supported by a shelf structure beneath the ice maker within the freezer compartment." (*Id.* at 1:15-20). The specification further described the prior art as having the following disadvantages:

- The ice storage bin extends across the freezer compartment and occupies a large amount of freezer compartment space.
- A relatively large motor is required to rotate the ice conveying auger, which breaks up ice frozen together into large pieces and moves ice pieces horizontally forward within the ice receptacle.
- The amount of ice in the ice storage bin is not readily visible.
- Prior art systems do not allow for easy removal of the ice storage bin for bulk removal of ice pieces.

(*Id.* at 2:5-26.)

[redacted]

The inventors solved these problems by developing an "in-door ice" system that retained much of the previous designs, but moved the ice storage bin from a shelf below the ice maker to the inside of the freezer door. (*See* CX-232C, Myers Direct Statement Q.15). The specification noted that "[i]t can be seen, therefore, that the present invention provides a unique ice delivery system wherein the ice maker is located along the top wall of the freezer and the ice storage bin is mounted to the freezer door." ('130 Patent at 12:29-32; *see also* '130 Patent at 4:2-4) (describing ice making assembly "mounted to the inside surface of the top wall **24** of the freezer compartment **16**.") By mounting the ice storage bin to the door, the inventors reclaimed the "large amount of freezer compartment space" that it had previously occupied. (*See id.* at 2:5-11.) The invention also addressed the problem of bulky motor size by designing "[a] dispensing system including a motor [that] is also supported on the freezer door. The present invention provides an ice storage bin which is a vertically elongated storage container with a vertically arrange[d] auger disposed therein such that the dispensing of ice is readily accomplished." (*Id.* at 12:32-37.) Finally, the invention addressed consumer complaints about the difficulty of accessing the ice storage bin by providing a bin that was both "partially transparent" and "removable from the freezer door." (*Id.* at 11:60-61; 12:37-39.) None of these solutions were possible while the storage bin remained within the freezer in any location other than mounted to the door.

Thus, while the patent describes several subordinate technical problems that had to be overcome as a result of moving the storage bin,[3] the main inventive step separating the '130 invention from the prior art was the decision to mount the ice storage bin on the door and *not* on

[3] Challenges included developing a sensor to test the ice level in the storage bin that would not be damaged when the door opened or closed, (JX-01 at 5:45 to 6:50), and preventing the icemaker from discharging harvested ice onto the floor while the door is open, *id.* at 6:50 to 7:18. (*See also* 12/15/08 Hearing Tr. at 293-300 (V. Myers)). Neither issue would arise if the storage bin and the ice maker were installed in the same location, either within the freezer compartment or on the door, as their relative positions would remain unchanged as the door opened or closed.

[redacted]

a shelf "extend[ing] across the freezer compartment", as previously designed. (*See id.* at 2:5-26.) The testimony of inventor Verne Myers confirmed this. Asked whether Whirlpool thought it would be "simple or trivial to move the ice storage bin from mounting on the wall of the cabinet of the ice compartment to the door", Mr. Myers testified in his witness statement:

> A. If you're asking about the relocation of the ice maker and the bin to the ***radically different locations*** as described in the invention the answer is no, not trivial at all. It took our team probably 12 to 16 months, if my memory serves, to determine the optimal configurations and approaches we would ultimately commit resources towards developing.

(CX-232C, Myers Direct Statement Q.23 (emphasis added)). He elaborated further in his hearing testimony:

> Q. What was "radically different" about the locations described in the invention?
> A. The primary benefit and radical aspect of it was the release or availability of internal – of space in prime shelf locations that was not previously available with the other locations that we had. . . .
> Q. So all of the benefits that you have just described arise from the change in location from inside the freezer to placement on the door; is that right?
> A. I would say that certainly the majority of those benefits, if not all the benefits, yes. . . .
> Q. So the inventive part of this invention, at least one of the key inventive parts was to move the location on to the door and to solve the technical challenges that that presented, would you agree with that?
> A. I would say that, in addition to redesign of key components to take full – to allow the location, for instance, of the ice maker over this bin where we had to redesign the sensing system to allow that to occur. . . .
> Q. From an engineering standpoint, would you agree that it is not the same thing to place a component on a door as it is to place it within the freezer compartment, different technical challenges are presented?
> A. There are clearly different technical challenges presented, particularly if you want to maintain the standards of consumer – of product performance and product quality in the eyes of the consumer.

(12/15/08 Hearing Tr. at 293-98). It is clear that at the time of the invention, the inventors were aware of and made a distinction between an item "disposed within the freezer compartment" and one "mounted on the closure door" and specifically intended to define those claim terms as two mutually exclusive locations.

[redacted]

Additional extrinsic evidence supports this interpretation of the claim language. On December 28, 1998, Whirlpool filed two unrelated patent applications with an overlap of inventorship: the '534 application that led to the '130 Patent and a second application that led to U.S. Patent No. 6,148,624.[4] (*See* JX-02 at 4; RX-440, U.S. Patent 6,148,624). In both applications, Claim 1 claimed a refrigerator with a freezer compartment having an access opening and a closure member for closing the access opening. (*Cf.* JX-02; RX-440). What made the inventions patentably distinct was the fact that the '534 application, and ultimately the '130 Patent, claimed "an ice maker being disposed *within the freezer compartment*[,]" (JX-01 at 12:53-54), while the second application claimed "an ice maker *mounted on the closure member*[,]" (RX-440 at 4:36). If the inventors had intended for these two phrases to have the same meaning, then they would have filed only one application covering both embodiments of a single invention. Instead, they filed separate applications, thus representing to the U.S. Patent and Trademark Office that they considered the two designs to be separate inventions. *See In re Berg*, 140 F.3d 1428, 1435 n.7 (Fed. Cir. 1998) (filing two separate and unrelated applications implies "that each application is independent and patentably distinct."). For these reasons, Claim 1 should be construed such that an element mounted on the freezer door is ***not*** "disposed within the freezer compartment". Therefore, the ALJ finds that "disposed within the freezer compartment" does not include elements mounted on the freezer door.

4. "ice storage bin having a bottom opening" (Claim 1)

Claim 1 of the '130 Patent describes an "ice storage bin having a bottom opening" and specifies the purpose of the bottom opening: "upon energization of the motor, the auger moves ice pieces from the ice storage bin through the bottom opening to the ice discharge chute for

[4] Mark Nelson and Jim Pastryk are listed as inventors on both patents. (*Cf.* JX-02 at 4; RX-440, U.S. Patent 6,148,624; *see* RDX-062, "Whirlpool Patents 6148624 and 6082130").

dispensing ice pieces from the ice storage bin." ('130 Patent at Abstract,12:57). LG would construe this term as "an ice storage bin having an ice outlet opening in its underside[,]" while Whirlpool proposes a broader construction: "an ice storage bin with an opening positioned at a lower portion of the ice storage bin[.]" (CIB at 18. *See* JX-27C at 2-4; RX-556 ex.A). Staff is of the view that the term should be construed as "an ice storage bin with an ice outlet opening in the 'bottom wall portion' of the lower ice bin." ('130 Patent 9:55-60.)

The ALJ finds that "ice storage bin having a bottom opening" means "an ice storage bin with an ice outlet opening in the 'bottom wall portion' of the lower ice bin." ('130 Patent 2:35-40.) LG correctly points out that the '130 Patent discloses two different openings through which ice can move. (*See* LG PreHearing Statement at 81). The first opening **184** is formed in the bottom of the "upper ice bin," which stores ice pieces and contains the auger that causes the ice to fall through the first opening. The second opening **170** is formed in the bottom of the "lower ice bin," below the ice crushing blades. ('130 Patent at 9:48-58). The two openings are offset from one other by 180 degrees. *Id.* at 10:24-25.

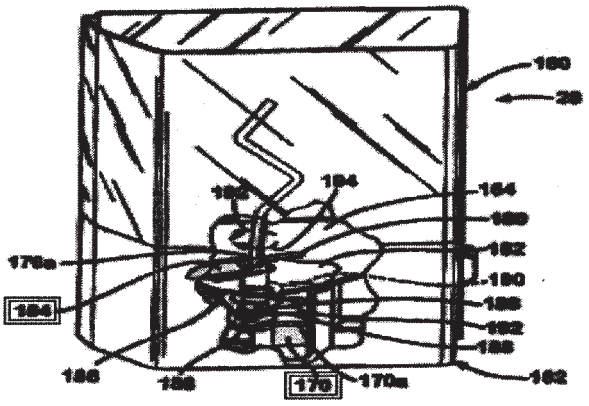

Fig. 9

(*Id.* fig. 9 (emphasis added).) There is no ambiguity as to which opening is the "bottom opening" of Claim 1. Claim 1 refers to only one bottom opening: the opening leading to the ice

discharge chute "for dispensing from the ice storage bin." (*Id.* at 12:61-62.) The specification explains that "[o]nce the ice pieces, in either a whole or crushed form, are passed through the ice outlet opening **170**, they fall through a chute **196** formed into the freezer door **20** to a waiting receptacle positioned within the service area **31**." (*Id.* at 12:64-67.) Claim 1 unambiguously refers to an opening through which ice pieces fall into a storage bin. The only opening leading from the storage bin to the discharge chute in the embodiment shown in Figure 9 is opening **170**, located below the ice crushing blades.

Opening **170** is part of the "lower ice bin member" **162**, which the specification describes as including "a funnel wall portion **164**, a cylindrical wall portion **166** and a bottom wall portion **168**. The bottom wall portion **168** includes an ice outlet opening **170** through which the ice pieces must pass to be dispensed." (*Id.* at 9:53-58.)

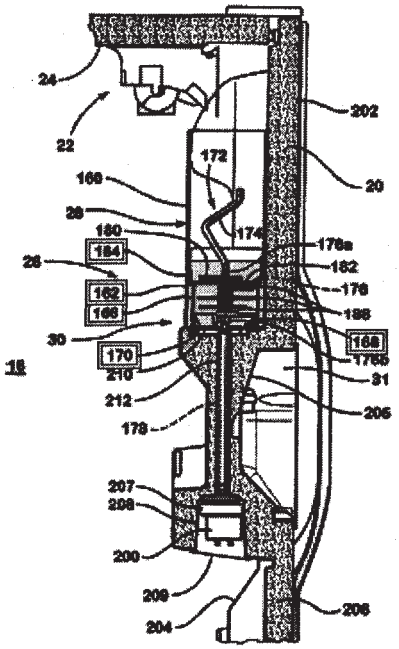

Fig. 3

[redacted]

(*Id.* fig. 3 (emphasis added).) As such, the "bottom opening" claimed in Claim 1, therefore, should be construed as "an ice outlet opening" located in the "bottom wall portion" of the lower ice bin.

IV. INFRINGEMENT DETERMINATION

A. Applicable Law

In a Section 337 investigation, the complainant bears the burden of proving infringement of the asserted patent claims by a preponderance of the evidence. *Certain Flooring Products*, Inv. No. 337-TA-443, Commission Notice of Final Determination of No Violation of Section 337, 2002 WL 448690 at 59, (March 22, 2002); *Enercon GmbH v. Int'l Trade Comm'n,* 151 F.3d 1376 (Fed. Cir. 1998).

Each patent claim element or limitation is considered material and essential. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991). Literal infringement of a claim occurs when every limitation recited in the claim appears in the accused device, *i.e.*, when the properly construed claim reads on the accused device exactly. *Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996); *Southwall Tech. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed Cir. 1995).

If the accused product does not literally infringe the patent claim, infringement might be found under the doctrine of equivalents. The Supreme Court has described the essential inquiry of the doctrine of equivalents analysis in terms of whether the accused product or process contains elements identical or equivalent to each claimed element of the patented invention. *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40 (1997).

Under the doctrine of equivalents, infringement may be found if the accused product or process performs substantially the same function in substantially the same way to obtain

substantially the same result. *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043 (Fed. Cir. 1993). The doctrine of equivalents does not allow claim limitations to be ignored. Evidence must be presented on a limitation-by-limitation basis, and not for the invention as a whole. *Warner-Jenkinson*, 520 U.S. at 29; *Hughes Aircraft Co. v. U.S.*, 86 F.3d 1566 (Fed. Cir. 1996). Thus, if an element is missing or not satisfied, infringement cannot be found under the doctrine of equivalents as a matter of law. *See, e.g., Wright Medical*, 122 F.3d 1440, 1444 (Fed. Cir. 1997); *Dolly, Inc. v. Spalding & Evenflo Cos., Inc.*, 16 F.3d 394, 398 (Fed. Cir. 1994); *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538-39 (Fed. Cir. 1991); *Becton Dickinson and Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 798 (Fed. Cir. 1990).

The concept of equivalency cannot embrace a structure that is specifically excluded from the scope of the claims. *Athletic Alternatives v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996). In applying the doctrine of equivalents, the Commission must be informed by the fundamental principle that a patent's claims define the limits of its protection. *See Charles Greiner & Co. v. Mari-Med. Mfg., Inc.*, 92 F.2d 1031, 1036 (Fed. Cir. 1992). As the Supreme Court has affirmed:

> Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.

Warner-Jenkinson, 520 U.S. at 29.

Prosecution history estoppel may bar the patentee from asserting equivalents if the scope of the claims has been narrowed by amendment during prosecution. A narrowing amendment may occur when either a preexisting claim limitation is narrowed by amendment, or a new claim limitation is added by amendment. These decisions make no distinction between the narrowing

[redacted]

of a preexisting limitation and the addition of a new limitation. Either amendment will give rise to a presumptive estoppel if made for a reason related to patentability. *Honeywell Int'l Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1139-41 (Fed. Cir. 2004), *cert. denied*, 545 U.S. 1127 (2005)(citing *Warner-Jenkinson*, 520 U.S. at 22, 33-34; and *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733-34, 741 (2002)). The presumption of estoppel may be rebutted if the patentee can demonstrate that: (1) the alleged equivalent would have been unforeseeable at the time the narrowing amendment was made; (2) the rationale underlying the narrowing amendment bore no more than a tangential relation to the equivalent at issue; or (3) there was some other reason suggesting that the patentee could not reasonably have been expected to have described the alleged equivalent. *Honeywell*, 370 F.3d at 1140 (citing, *inter alia*, *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359 (Fed. Cir. 2003)(*en banc*)).

B. Analysis of the Accused Products

1. Claim 1

a) Literal Infringement

Literal infringement exists only where every element of a claim reads exactly on an accused device. *Allen Eng'g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002). Under the doctrine of equivalents, however, an accused product or process that does not literally infringe on the exact terms of a patent claim may nonetheless be found to infringe if the differences between the limitation at issue and an element of the accused device appear insubstantial to one of ordinary skill in the art. *Warner-Jenkinson Co. Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997).

[redacted]

Whirlpool argues that LG's side-by-side refrigerator and French door refrigerators literally infringe Claim 1 of the '130 Patent. (CIB at 8; 24.) LG asserts that neither of its models literally infringe. (RIB at 29.) Staff agrees. (SIB at 33-35.)

Applying the proper claim construction, LG's side-by-side accused products, represented by LG model LSC27931, do not infringe claim 1, literally or under the doctrine of equivalents, because they do not contain an ice maker "disposed within the freezer compartment[.]" (*See* '130 Patent at 12:52-53). The '130 Patent carefully establishes that the closure member of the freezer compartment is a part of the refrigerator, but not part of the freezer compartment. The claim term "freezer compartment" does not include the freezer door, and that the terms "disposed within the freezer compartment" and "mounted on the closure member" describe two different and mutually exclusive locations within the refrigerator. ('130 Patent at 2:29-35, 3:58-67,4:1-10.) Indeed, if Whirlpool was successful in persuading the ALJ that the freezer door and freezer compartment are the same, and that located on the door is no different than in the freezer compartment, they would have no invention. The patent history clearly demonstrates, as well as the claims themselves, that putting the ice storage bin on the door was different, and worthy of a patent. ('130 Patent 2:29-40.) If this is not the case for the ice maker, then there is no quality of inventiveness about placing the ice storage unit on the door, it is merely one of many designs with an ice storage receptacle in a freezer compartment. Under the claim construction as applied by this judge, LG's side-by-side model LSC27931 does not infringe Claim 1 of the '130 Patent. The evidence shows that model LSC27931 contains an ice maker mounted on the closure door. (CPX-13)

Therefore, under the ALJ's claim construction, the ice maker in LG's LSC27931 is *not* within the freezer compartment.

[redacted]

The same analysis applies to LG's French door refrigerators, and, the ALJ finds that they too do not infringe Whirlpool's patent. The "French door" model refrigerators (CPX-12) have two doors mounted on the upper portion of the cabinet, both opening to the fresh food compartment. The freezer compartment is contained in the lower portion of the refrigerator cabinet, and is a pull out drawer. The ice maker and storage bin in the LG French door models is located in one of the fresh food doors (closure members) and has a separate door mounted on the fresh food door to allow it to remain at below freezing temperatures.

b) The Doctrine of Equivalents

Whirlpool also argues that LG's French-door refrigerators infringe under the doctrine of equivalents. (CIB at 29.) Specifically, Whirlpool argues that the structure of the LG French door refrigerator is an infringing equivalent. They argue that the "ice box" functions as a freezer compartment by providing a space in which a temperature is maintained below the freezing point of water. (*See* CFF 486) LG argues there is no ice maker in the freezer compartment, and there is no ice bin on the freezer drawer. (CPX-12.) Rather, LG has placed the ice maker and the ice storage bin on one of the fresh food doors that close the fresh food compartment of the LG refrigerator, specifically, the left French door (fresh food door). Staff is persuaded by the evidence and testimony that LG's French-door accused products, represented by LG model LFX25971, do not infringe Claim 1, literally or under the doctrine of equivalents, at a minimum because they do not contain an ice maker "disposed within the freezer compartment[.]" (*See* '130 Patent at 12:52-53)

LG's French-door accused products do not literally infringe the '130 Patent because in those models the ice maker is mounted on the fresh-food door, and therefore is not literally "within the freezer compartment", however that term is construed. (See RDX-012C, "Lee

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Demonstrative 4"; CPX-12). They do not infringe under the doctrine of equivalents for the additional reason that Whirlpool surrendered relevant subject matter during prosecution to obtain allowance of the '130 Patent, and a party may not use the doctrine of equivalents to recapture disclaimed subject matter. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733-34 (2002); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1345-47 (Fed. Cir. 2001). Specifically, Whirlpool excluded refrigerators that are (1) freezerless, or (2) have an ice bin mounted anywhere other than on the freezer door, from the scope of the '130 Patent. (JX-02, Certified Copy of Prosecution History for '130 Patent, at 190, 219-220; see JX-07, U.S. Patent No. 3,146,601 ("Gould"); JX-15, U.S. Patent No. 4,084,725 ("Buchser '725").

The examiner initially rejected the asserted claims as "unpatentable over Gould in view of Buchser '725." (*See* JX-02 at 190; U.S. Patent No. 3,146,601 ("Gould").) In the course of an interview with the examiner, Whirlpool successfully argued that Gould was not invalidating prior art because it did not disclose "a freezer compartment and a freezer door on which the ice bin is mounted." (*Id.* (emphasis added).) Whirlpool, through its attorney, made a statement to the examiner that differentiated the claimed invention from the prior art. See *Deering Precision Instruments v. Vector Dist. Sys., Inc.*, 347 F.3d 1314, 1326-27 (Fed. Cir. 2003). By doing so, Whirlpool limited the scope of the '130 Patent and became bound by argument-based prosecution history estoppel. (*Id.* at 1326-27.)

c) Conclusion

The remaining limitations in Claim 1 are present in the accused side by side refrigerators, either literally or under the doctrine of equivalents. (CPX-12, CPX-13.) Nevertheless, because the ice maker is not disposed within the "freezer compartment" in LG's side-by-side refrigerators, Claim 1 is not infringed. LG's French-door accused products do not literally infringe the '130

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Patent because in those models the ice maker is mounted on the fresh-food door, and therefore is not literally "within the freezer compartment", however that term is construed. Under the doctrine of prosecution history estoppel, Whirlpool cannot obtain a finding that LG's French-door models infringe under the doctrine of equivalents, due to the narrowing arguments made to overcome the Gould reference during prosecution of the '130 Patent. While the remaining limitations in claim 1 are present in the accused French-door model refrigerator, for the previous reasons, Claim 1 is not infringed.

2. Claims 2, 4, 6, 8. and 9

Claims 2, 4, 6, 8, and 9 are all dependent claims and all are dependent on Claim 1. Inasmuch as each claim limitation must be present in an accused device in order for infringement to be found (either literally or under the doctrine of equivalents), a device cannot infringe a dependent claim if it does not practice every limitation of the independent claim from which it depends. See *Warner-Jenkinson Co.*, 520 U.S. at 40; *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007). Furthermore, the Federal Circuit explained that:

> One may infringe an independent claim and not infringe a claim dependent on that claim. The reverse is not true. One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.

Wahpeton Canvas Co., Inc. v. Frontier, Inc., 870 F.2d 1546, 1552 (Fed.Cir.1989).

Based on the finding that Claim 1 is not infringed by the LG accused products, none of these claims are infringed either.

V. VALIDITY

A. Background

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One cannot be held liable for practicing an invalid patent claim. *See Pandrol USA, LP v. AirBoss Railway Prods., Inc.*, 320 F.3d 1354, 1365 (Fed. Cir. 2003). However, the claims of a patent are presumed to be valid. 35 U.S.C. § 282; *DMI Inc. v. Deere & Co.*, 802 F.2d 421 (Fed. Cir. 1986). Although a complainant has the burden of proving a violation of section 337, it can rely on this presumption of validity. A respondent that has raised patent invalidity as an affirmative defense must overcome the presumption by "clear and convincing" evidence of invalidity. *Checkpoint Systems, Inc. v. United States Int'l Trade Comm'n*, 54 F.3d 756, 761 (Fed. Cir. 1995).

LG argues that Claims 1, 2, 6, and 8 of the '130 Patent are invalid as anticipated by Japanese Utility Model Application S51-21165 ("the '165 application").[5] (LG Prehearing Statement at 132-143; RIB at 48; see RX-372, Japanese Utility Model Application S51-21165). In the alternative, LG argues that the asserted claims are invalid for obviousness in light of the '165 application combined with other references and the state of the art at the time of the invention. (LG Prehearing Statement at 143-88; RIB at 48; see also Motion Docket No. 019, Motion Mem. at 10-15). For the reasons given below, the ALJ finds that the '130 Patent is not invalid as anticipated, and that it is not invalid as obvious in light of the combinations of references that LG has proposed.

B. Anticipation

A patent may be found invalid as anticipated under 35 U.S.C. § 102(a) if "the invention was known or used by others in this country, or patented or described in a printed publication in this country, or patented or described in a printed publication in a foreign country, before the

[5] LG also has previously argued that dependent claims 4 and 9 of the '130 Patent merely disclose features that were well-known in the industry when the '130 Patent was filed on December 28, 1998, and therefore cannot stand alone if Claim 1 is held to be invalid. (Motion Docket No. 019, Motion Mem. at 16-21, Proposed Undisputed Facts ¶ 6).

invention thereof by the applicant for patent." 35 U.S.C. § 102(a). A patent may be found invalid as anticipated under 35 U.S.C. § 102(b) if "the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States." 35 U.S.C. § 102(b). Under 35 U.S.C. § 102(e), a patent is invalid as anticipated if "the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent." 35 U.S.C. § 102(e). Anticipation is a question of fact. *Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1177 (Fed. Cir. 1993) ("*Texas Instruments II*"). While anticipation is a question of fact, it is determined by properly construing the claims and then comparing the claims, as construed, to the prior art. *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1346 (Fed. Cir. 2002). It is axiomatic that claims are construed the same way for both invalidity and infringement. *W.L. Gore v. Garlock, Inc.*, 842 F.2d 1275, 1279. Although the exact language may differ, the substance of what is disclosed in the prior art reference must be exactly the same as that disclosed in the patent claim; if there are any differences, then the patent claim is not anticipated by the prior art. *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375-76 (Fed. Cir. 2005); *Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775, 780 (Fed. Cir. 1985).

In order to prove anticipation, Respondents must present clear and convincing evidence that a single prior art reference discloses, either expressly or inherently, each limitation of the claim. *Cruciferous Sprout*, 301 F.3d at 1349. A claim is anticipated and therefore invalid when "the four corners of a single, prior art document describe[s] every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation." *Advanced Display Sys., Inc. v. Kent*

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State Univ., 212 F.3d 1272, 1282 (Fed. Cir. 2000), *cert. denied*, 532 U.S. 904 (2001). To be considered anticipatory, the prior art reference must be enabling and describe the applicant's claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000); *In re Paulsen*, 30 F.3d 1475, 1478 (Fed. Cir. 1994). But, the degree of enabling detail contained in the reference does not have to exceed that contained in the patent at issue. *Paulsen*, 30 F.3d at 1481 n.9.

Further, the disclosure in the prior art reference does not have to be express, but may anticipate by inherency where the inherency would be appreciated by one of ordinary skill in the art. *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047 (Fed. Cir.), *cert. denied*, 516 U.S. 988 (1995). To be inherent, the feature must necessarily be present in the prior art. *See Finnigan Corp. v. U.S. Int'l Trade Comm'n*, 180 F.3d 1354, 1365-66 (Fed. Cir. 1999). Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient. This modest flexibility in the rule that "anticipation" requires that every element of the claims appear in a single reference accommodates situations where the common knowledge of technologists is not recorded in the reference; that is, where technological facts are known to those in the field of the invention, albeit not known to judges. *See Cont'l Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268-69 (Fed. Cir. 1991); *Finnigan*, 180 F.2d at 1365.

Simply put, the '165 application does not anticipate claim 1 of the '130 Patent because it does not contain all of the essential elements of that claim. Specifically, the evidence and

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testimony demonstrate that the '165 application does not disclose an "ice maker" as claimed in the '130 Patent. (*See generally* '165 application.) Moreover, as the '165 application does not contain every element of the independent base claim, it cannot anticipate any of the dependent asserted claims.

Whirlpool disagrees with LG's contention that one of ordinary skill in the art would read the '165 application as disclosing an automatic ice making system. Whirlpool's position is that the '165 application discloses nothing more than an apparatus for dispensing ice that has been frozen in traditional ice trays and manually transferred to a storage bin. (*See* Whirlpool Prehearing Statement at 62-64, app. 6 at 2-10; CIB at 31-35; CPX-02 (manual ice tray)). This analysis is correct. The '165 application discloses only an ice dispensing system, not one that has an automatic ice maker. Accordingly, the ALJ finds that LG has failed to show by clear and convincing evidence that the asserted claims of the '130 Patent are anticipated by the '165 application.

C. Obviousness

Obviousness is grounded in 35 U.S.C. § 103, which provide, *inter alia*, that:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negative by the manner in which the invention was made.

35 U.S.C. § 103(a). Under 35 U.S.C. § 103(a), a patent is valid unless "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). The ultimate question of obviousness is a question of law, but "it is well understood that there are factual issues

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underlying the ultimate obviousness decision." *Richardson-Vicks Inc.*, 122 F.3d at 1479; *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 863 (Fed. Cir. 1993).

Once claims have been properly construed, "[t]he second step in an obviousness inquiry is to determine whether the claimed invention would have been obvious as a legal matter, based on underlying factual inquiries including: (1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art; and (4) secondary considerations of non-obviousness" (also known as "objective evidence"). *Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1354 (Fed. Cir. 1999), citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

The Federal Circuit case law required that, in order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that there is a "teaching, suggestion, or motivation to combine. The Supreme Court has rejected this "rigid approach" employed by the Federal Circuit in *KSR Int'l Co. v. Teleflex Inc.*, 500 U.S. 398 (2007), 127 S.Ct. 1727, 1739. The Supreme Court stated:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. Sakraida and Anderson's-Black Rock are illustrative–a court must ask whether the improvement is more than the predictable use of prior art elements according to their established function.
>
> Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all

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> in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicitly. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusions of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.
>
> [. . .]
>
> The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advance that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.

KSR, 550 U.S. at 417-419; 127 S.Ct. at 1740-41.

"Secondary considerations," also referred to as "objective evidence of non-obviousness," such as "commercial success, long felt but unsolved needs, failure of others, etc." may be used to understand the origin of the subject matter at issue, and may be relevant as indicia of obviousness or non-obviousness. *Graham*, 383 U.S. at 17-18. Secondary considerations may also include copying by others, prior art teaching away, and professional acclaim. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 857 (1984); *Avia Group Int'l, Inc. v. L.A. Gear California*, 853 F.2d 1557, 1564 (Fed. Cir. 1988) (copying by others); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986) (prior art teaching away; invention contrary to accepted wisdom); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565

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(Fed. Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987) (wide acceptance and recognition of the invention).

Evidence of "objective indicia of non-obviousness," also known as "secondary considerations," must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. A court must consider all of the evidence under the Graham factors before reaching a decision on obviousness. *Richardson-Vicks Inc.*, 122 F.3d at 1483-84. In order to accord objective evidence substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention, and a prima facie case is generally made out "when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent." *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988), cert. denied, 488 U.S. 956 (1988); *Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Commission Opinion (March 15, 1990),15 U.S.P.Q.2d 1263, 1270 ("*Certain Crystalline*"). Once the patentee has made a prima facie case of nexus, the burden shifts to the challenger to show that the commercial success was caused by "extraneous factors other than the patented invention, such as advertising, superior workmanship, etc." *Id.* at 1393.

The Federal Circuit has harmonized the KSR opinion with many prior circuit court opinions by holding that when a patent challenger contends that a patent is invalid for obviousness based on a combination of prior art references, "the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so. *PharmaStem*

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Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1360 (Fed. Cir. 2007)(citing *Medichem S.A. v. Rolabo S.L.*, 437 F.3d 1175, 1164 (Fed. Cir. 2006)); *Noelle v. Lederman*, 355 F.3d 1343, 1351-52 (Fed. Cir. 2004); *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1121 (Fed .Cir. 2000) and *KSR*, 127 S.Ct. at 1740 ("a combination of elements 'must do more than yield a predictable result'; combining elements that work together 'in an unexpected and fruitful manner' would not have been obvious").

The ultimate determination of whether an invention would have been obvious is a legal conclusion based on underlying findings of fact. *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999).

1. Analysis of the Asserted Claims

LG's position is that the invention disclosed in Claim 1 would have been obvious in light of the '165 application combined with various other references and the general understanding among skilled practitioners at the time of the invention. (LG Pre-Hearing Statement at 143-89; RIB at 53.). Both LG and Whirlpool agree that automatic ice makers were well-known in 1998 when the application leading to the '130 Patent was filed, and that it was common practice to install them in refrigerators by that time. (*Id.* at 143-44; Whirlpool Pre-Hearing Statement at 66; '130 Patent 1:1-66; RDX-001C through RDX-008C (depositions of Whirlpool inventors); RX570C, Bessler Direct Statement Qs. 116-480, 501). They also agree that transparent and/or removable refrigerator storage bins were well-known in 1998. (LG Pre-Hearing Statement at 145 (citing RDX-001C through RDX-004C, RDX-007C through RDX-008C (inventor depositions)); RIB at 54.). Building on these points of agreement, LG goes several paces further and concludes that the steps of inserting an automatic icemaker above the ice storage bin as disclosed in Claim 1 of the '130 Patent, and adopting a transparent removable ice storage bin as

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disclosed in Claims 4 and 9, would have been obvious to a person of ordinary skill in the art in light of the '165 application. (*Id.* at 147-73; RIB at 55.)

The ALJ finds that LG has failed to show by clear and convincing evidence that the '130 Patent is obvious in light of the prior art references cited by LG. The evidence and testimony indicate that the '165 application is so plainly addressed to an ice dispensing system based on manual ice making trays, and the technical difficulties associated with moving from a manual system to an automated one are so great, that the sophisticated automatic ice making system disclosed in the 1998 application leading to the '130 Patent represents a culmination of additional inventive steps that would not have been obvious when the '165 application was filed in 1974. (See, *e.g.*, Whirlpool Pre-Hearing Statement; app. 6 at 18-40 & references cited therein; CIB at 33,). They can only appear obvious when viewed through the lens of impermissible hindsight. *See PharmaStem Therapeutics*, 491 F.3d at 1360.

LG's invalidity expert, Dr. Bessler, testified at the hearing that in his opinion, the most convincing combination of prior art demonstrating the obviousness of the '130 Patent was the Japanese '165 reference plus "some of the GE prior art that I discussed that has to do with the location of the bin on the door, so that there is the ability to understand the methods of how to transfer ice from the ice maker in the freezer to an ice bin on the door." (12/19/08 Hearing Tr. at 1259-61). He added that there was also some GE prior art related to transparency in ice bins. (*Id.* at 1260-61). For this combination to render the '130 Patent obvious, it must rely on the '165 reference to supply the step of inserting an automatic icemaker above the ice storage bin. The '165 reference does not disclose any automatic ice maker at all, let alone its location. Dr. Bessler's suggested combination, therefore, does not invalidate the asserted claims of the '130 Patent.

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Dr. Bessler also testified that in his opinion the '130 Patent would be obvious even if the '165 reference did not exist. Asked to identify the most persuasive combination of prior art excluding the '165 reference, he explained:

> A. There was another Japanese patent, I am thinking the number was maybe like '545 or so. It showed – the one I am thinking of showed a storage bin on the door. It had an auger. It had a dispenser, but it didn't have a motor specifically with it. It was a hand cranked device. . . .
>
> A. So you would need to have a motor. And then there was another one I saw where there was a motor mounted on the door that was used for running a crusher. So you would get a motor from that idea. Now, as I said before, you know, the GE prior art and other patents teach methods of having an ice maker located in the compartment and then a bin on the door, the methods of how to transport that and sense the ice level, things like that. That's covered in there. . . .
>
> A. Along with the idea that a bin is removable and, as I said, transparent. Plastic is something that's been used in and out of GE products primarily as a styling accent, and I'm aware of bins that were transparent.

(12/19/08 Hearing Tr. at 1261-63). The Japanese references mentioned in his testimony were also discussed in his witness statement, where they were identified as Japanese Laid Open Patent Application S56-47454 (laid open Sept. 19, 1979) (RX-216) and Japanese Laid Open Patent Application S50-56262 (laid open May 27, 1975) (RX-325). (See RX-570C, Bessler Direct Statement Qs. 285-302, 338-46). The ALJ finds that this proposed combination, which Dr. Bessler identified as the strongest combination of prior art excluding the '165 reference, also fails to invalidate the '130 Patent. While Dr. Bessler identified references disclosing various pieces of the '130 invention, neither his nor any other testimony explained why "a person of ordinary skill in the art would have had reason to attempt to make the composition or device, and would have had a reasonable expectation of success in doing so."[6] *PharmaStem*, 491 F.3d at

[6] Dr. Bessler defined "a person of ordinary skill in the art" as "somebody who had a bachelor's degree in engineering and then at least two years of experience in industry with the design of refrigerator ice-making systems. In a case where somebody didn't have a bachelor's degree . . . I would say that their technical experience would have to be greater, perhaps five [.]" (RX-570C, Bessler Direct Statement Q.64).

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1360. LG has not identified any reason why such a person would have had a motivation to combine the Japanese references with the GE commercial practices that Dr. Bessler identified. *See KSR*, 127 S. Ct. at 1731 (Noting that there still needs to be a "reason to combine the known elements in the fashion claimed by the patent at issue"); *See also Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, 520 F.3d 1358, 1364-65 (Fed. Cir. 2008) ("The TSM test, flexibly applied, merely assures that the obviousness test proceeds on the basis of evidence--teachings, suggestions (a tellingly broad term), or motivations (an equally broad term)--that arise before the time of invention as the statute requires. As *KSR* requires, those teachings, suggestions, or motivations need not always be written references but may be found within the knowledge and creativity of ordinarily skilled artisans."); *Takeda Chem. Indus., Ltd. v. Alphapharm Pty. Ltd.*, 492 F.3d 1350, 1356-1357 (Fed Cir. 2007); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007.)) Neither has it explained how a person in the 1970's would have been able to overcome the significant technical challenges described in the '130 Patent without the benefit of the intervening twenty years of industry research and development.

2. Secondary Considerations

As indicated above, one of the *Graham* factors that must be considered in an obviousness analysis is "objective evidence of nonobviousness," also called "secondary considerations." *See Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1536 (Fed. Cir. 1983) ("Thus evidence arising out of the so-called 'secondary considerations' must always when present be considered en route to a determination of obviousness."). However, secondary considerations, such as commercial success, will not always dislodge a determination of obviousness based on analysis of the prior art. *See KSR Int'l*, 127 S.Ct. at 1745 (commercial success did not alter conclusion of obviousness).

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There are also secondary considerations that tend to show that in fact the '130 invention was novel rather than obvious. Such considerations include commercial success, long felt but unsolved needs, and the failure of others to solve the technical problems posed by the invention. *Graham*, 383 U.S. at 17. There was testimony that Whirlpool's in-door-ice refrigerators have enjoyed considerable commercial success, and that their success was due specifically to the in-door-ice feature rather than to some other aspect. (*See, e.g.*, 12/19/08 Hearing Tr. at 1288-1289, 1325-28 (S. Kaplan); CDX-172, "Higher Profit Margins for Whirlpool Refrigerator[redacted] With IDI"; CDX-173, "Higher Profit Margins for LG Refrigerators With IDI"; CX226C, Langbo Direct Statement Qs. 59-61). There was also testimony that the invention of the '130 Patent was developed specifically in response to an unsolved need: the consistent complaints from Whirlpool customers that prior art systems took up too much space in the freezer compartment and made it difficult for users to access ice in the ice storage bin. (CX-232C, Myers Direct Statement, Qs. 16-19). Whirlpool's invalidity expert has also alleged that LG attempted to design around the '130 Patent, but failed to come up with an alternative solution. (CX-331C, Caligiuri Supp. Statement & exhibits cited therein; 12/16/08 Hearing Tr. at 576-78 (R. Caligiuri)). In addition, the evidence of LG's efforts to design the accused products suggests that the technical problems posed by an in-door ice dispensing system were difficult, and that the solutions were not obvious. (RX-568C.) In this context, the evidence and testimony do not support LG's argument that the asserted claims of the '130 Patent are invalid for obviousness under 19 U.S.C. § 103. Therefore, the ALJ finds that LG has failed to show by clear and convincing evidence that the claims of the '103 Patent are invalid as obvious in light of the cited prior art references.

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VI. DOMESTIC INDUSTRY

As stated in the notice of investigation, a determination must be made as to whether an industry in the United States exists as required by subsection (a)(2) of section 337. Section 337 declares unlawful the importation, the sale for importation or the sale in the United States after importation of articles that infringe a valid and enforceable U.S. patent only if an industry in the United States, relating to articles protected by the patent concerned, exists or is in the process of being established. There is no requirement that the domestic industry be based on the same claim or claims alleged to be infringed. 19 U.S.C. § 1337(a)(2).

The domestic industry requirement consists of both an economic prong (*i.e.,* there must be an industry in the United States) and a technical prong (i.e., that industry must relate to articles protected by the patent at issue). *See Certain Ammonium Octamolybdate Isomers,* Inv. No. 337-TA-477, Comm'n Op. at 55, USITC Pub. 3668 (Jan. 2004). The complainant bears the burden of proving the existence of a domestic industry. *Certain Methods of Making Carbonated Candy Products,* Inv. No. 337-TA-292, Comm'n Op. at 34-35, USITC Pub. 2390 (June 1991).

Thus, in this investigation Whirlpool must show that it satisfies both the technical and economic prongs of the domestic industry requirement with respect to the 130 Patent. As noted, and as explained below, it is found that these domestic industry requirements have been satisfied.

A. Technical Analysis

A complainant in a patent-based Section 337 investigation must also demonstrate that it is practicing or exploiting the patents at issue. *See* 19 U.S.C. § 1337(a)(2) and (3); *also see Certain Microsphere Adhesives, Process for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Commission Opinion at 8, 1996 WL 1056095 (U.S.I.T.C., January 16, 1996) ("*Certain Microsphere Adhesives*"), *aff'd sub nom.*

[redacted]

Minnesota Mining & Mfg. Co. v. U.S. Int'l Trade Comm'n, 91 F.3d 171 (Fed. Cir. 1996) (Table); *Certain Encapsulated Circuits*, Commission Opinion at 16. The complainant, however, is not required to show that it practices any of the claims asserted to be infringed, as long as it can establish that it practices at least one claim of the asserted patent. *Certain Point of Sale Terminals and Components Thereof*, Inv. No. 337-TA-524, Order No. 40, 2005 ITC LEXIS 374, *26 (April 11, 2005). Fulfillment of this so-called "technical prong" of the domestic industry requirement is not determined by a rigid formula, but rather by the articles of commerce and the realities of the marketplace. *Certain Diltiazem Hydrochloride and Diltiazem Preparations*, Inv. No. 337-TA-349, U.S.I.T.C. Pub. No. 2902, Initial Determination at 138, 1995 WL 945191 (U.S.I.T.C., February 1, 1995) (unreviewed in relevant part) ("*Certain Diltiazem*"); *Certain Double-Sided Floppy Disk Drives and Components Thereof*, Inv. No. 337-TA-215, 227 U.S.P.Q. 982, 989 (Commission Opinion 1985) ("*Certain Floppy Disk Drives*").

The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement. *Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, Initial Determination at 109, 1990 WL 710463 (U.S.I.T.C., May 21, 1990) ("*Certain Doxorubicin*"), *aff'd*, Views of the Commission at 22 (October 31, 1990). "First, the claims of the patent are construed. Second, the complainant's article or process is examined to determine whether it falls within the scope of the claims." *Id.* As with infringement, the first step of claim construction is a question of law, whereas the second step of comparing the article to the claims is a factual determination. *Markman,* 52 F.3d at 976. The technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents. *Certain Excimer Laser Systems for Vision Correction Surgery and Components Thereof and Methods for Performing Such Surgery*, Inv. No. 337-TA-419, Order

[redacted]

No. 43, 1999 ITC LEXIS 245, *7 (July 30, 1999). The patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent. *See Bayer,* 212 F.3d at 1247.

LG has asserted that Whirlpool does not satisfy the technical prong of the domestic industry requirement. (RIB at 44-45.) LG's domestic industry argument can be summarized as follows: to meet the technical prong of the statute, Whirlpool's original Complaint relied on a representative Whirlpool product that Whirlpool no longer manufactures. (*Id.* at 45.) At some point between the filing date of the Complaint and the present, Whirlpool changed the location of the opening below the ice crushing region of the ice storage bins in its "in-door ice" refrigerators and stopped manufacturing the model listed in the original Complaint, Whirlpool refrigerator model number ED5FHAXSQ01. Whirlpool moved to amend the Complaint to insert a new refrigerator model representative of those currently in production, model number ED5PBAXVY00. (*Id.* at 46.)

LG argues that this new refrigerator model does not practice any claim of the '130 Patent because it contains an ice storage bin with a side opening for dispensing ice, rather than the "bottom opening" disclosed in claim 1 of the '130 Patent. (RIB at 46.) Whirlpool disputes LG's construction of the "bottom opening" element in claim 1 and argues that the opening in its new ice storage bins practices this element, either literally or under the doctrine of equivalents. (CIB at 53.). Staff supported Whirlpool's view. (SIB at 42.)

1. To Fulfill the Purpose of Section 337, the Technical Prong Should Be Satisfied if a Domestic Industry Exists at Any Time During the Investigation.

Often there is no need to distinguish between the state of the domestic industry before and during an investigation, as conditions remain more or less the same. At times, however, a domestic industry may exist at the time of the Complaint, but be extinguished before the

investigation is complete. *See, e.g., Certain Static Random Access Memories, Components Thereof, & Products Containing Same*, Inv. No. 337-TA-341, 1992 WL 811807, Order 5 at 4-5 (Dec. 20, 1992) (domestic industry measured as of complaint date); *Battery-Powered Ride-On Toy Vehicles*, Inv. No. 337-TA-314, Initial Det. at 19-21 (Dec. 5, 1990) (industry found where U.S. owner previously practiced patent and continued to sell old inventory, but had stopped practicing patent in favor of producing new improved models). At other times, an industry may only take root while the investigation is in progress, and another measurement date may be more appropriate. *See, e.g., Certain Concealed Cabinet Hinges & Mounting Plates*, Inv. No. 337-TA-289, 1990 WL 710375, Comm'n Op. at 117 (Jan. 8, 1990) (determining existence of U.S. industry as of discovery cut-off date); *Certain Catalyst Components & Catalysts for Polymerization of Olefins*, Inv. No. 337-TA-307, 1990 WL 710647, Order 13 (1990) (considering use of deadline for prehearing statements). In either case, if a domestic industry is weakened by foreign competition to such an extent that the measurement date becomes a meaningful issue, then refusing to grant relief because of the state of the domestic industry would "vitiate the purpose of the statute, namely to provide a remedy against unfair practices that could destroy a domestic industry." *Bally/Midway Mfg. Co. v. International Trade Comm'n*, 714 F.2d 1117 (Fed. Cir. 1983); *see also* 19 U.S.C. § 1337(a)(2) (domestic industry requirement met where industry is in process of becoming established). For the reasons set forth below, the ALJ finds that a domestic industry practicing the '130 Patent existed when the Complaint was filed *and* continues to exist now, and Whirlpool has met the technical prong of the domestic industry requirement.

2. Whirlpool Model Number ED5FHAXSQ01 Practiced Claim 1 of the '130 Patent at the Time of the Complaint.

[redacted]

The original Complaint identified Whirlpool refrigerators bearing model number ED5FHAXSQ01 as domestic products that practiced at least Claim 1 of the '130 Patent. (Compl. ¶ 6.2 & ex.16-A). In its motion for summary determination of the domestic industry issue, LG did not dispute that Whirlpool was practicing the '130 Patent as of January 23, 2008, the date that the Complaint was filed with the Commission. (*See, e.g.*, Motion Docket No. 632-023, Motion Mem. at 9-10). Thus, if the existence of a domestic industry is measured as of that date, as in *Bally/Midway* and its progeny, then all parties would agree that the technical prong of the domestic industry requirement has been satisfied.

3. Whirlpool's Current Model Number ED5PBAXVY00 Practices Claim 1 of the '130 Patent.

As noted above, Whirlpool no longer manufactures refrigerators bearing model number ED5FHAXSQ01. It does continue to manufacture similar models, including model number ED5PBAXVY00. Whirlpool sought leave to amend its Complaint by adding that model to the Amended Complaint as a representative domestic product, in a motion that was granted in relevant part on November 25, 2008. (Order No. 15). The Amended Complaint asserts that Whirlpool refrigerators bearing model number ED5PBAXVY00 currently practice the '130 Patent and therefore prove that a domestic industry exists. (Amended Compl. ¶ 6.2 & ex.11). The only relevant difference between the representative Whirlpool models in the original and amended Complaints is the location of the opening below the ice crushing region of the ice storage bins. In the current model, the opening is near the bottom of the cylindrical side wall of the ice bin. (*See* CPX-11A). The specification describes the "lower ice bin member" claimed in the '130 Patent as including "a funnel wall portion **164**, a cylindrical wall portion **166** and a bottom wall portion **168**." (JX-01 at 9:53-56). Of these three possible locations, the specification states that the ice outlet opening **170** is found in the bottom wall portion **168**. *Id.* at

[redacted]

9:56-58. Whirlpool's new representative model, therefore, does not literally practice the "bottom opening" element of Claim 1.

However, this does not mean that there is no current domestic industry practicing the '130 Patent. Like infringement, "[t]he technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents," if proven by a preponderance of the evidence. *See, e.g., Certain Silicon Microphone Packages & Products Containing the Same*, Inv. No. 337-TA-629, Order No. 26, at 2 (Sept. 24, 2008); *see also Rohm and Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997). Under the doctrine of equivalents, a product or process that does not literally meet every element of a patent claim may nonetheless be found to infringe (or to practice the asserted patent) if it performs substantially the same function, in substantially the same way, to obtain substantially the same result. *Warner Jenkinson*, 520 U.S. at 21; *Eagle Comtronics*, 305 F.3d at 1315.

The ALJ finds that Whirlpool model number ED5PBAXVY00, currently in production, is equivalent to the invention claimed in the '130 Patent. As Whirlpool's expert Dr. Caligiuri testified, (12/16/08 Hearing Tr. at 603-05, 611-13), the opening in the lower side vertical wall of the newly designed ice storage bin, however defined, performs substantially the same function as the bottom opening in the "bottom wall portion" of the original design: both allow the ice pieces, in either a whole or crushed form, to pass through the opening and fall through a chute formed into the freezer door to a waiting receptacle positioned within the service area." (*See* JX-01 at 12:64-67). Therefore, the ALJ finds that Whirlpool model number ED5PBAXVY00 satisfies the technical prong of the domestic industry requirement under the doctrine of equivalents.

B. Economic Analysis

[redacted]

The economic prong of the domestic industry requirement is defined in subsection 337(a)(3) as follows:

> (3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark or mask work concerned –
>
> (A) Significant investment in plant and equipment;
> (B) Significant employment of labor or capital; or
> (C) Substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3).

The economic prong of the domestic industry requirement is satisfied by meeting the criteria of any one of the three factors listed above.

1. Significant Investment in Plant and Equipment

The evidence shows a significant investment in U.S. plant and equipment devoted to producing refrigerators that are protected by the '130 Patent. [redacted]

In addition, Whirlpool has made significant investments in related facilities and equipment [redacted]

[redacted]

2. Significant Employment of Labor

The evidence also shows that Whirlpool has dedicated significant labor to refrigerators protected by the '130 Patent. [redacted]

3. Significant Investment in Research and Development

Whirlpool has also shown that it has invested significant capital in the engineering, research, and development of refrigerators protected by the '130 Patent. [redacted]

Therefore, the ALJ finds that Whirlpool has satisfied the economic prong of the domestic industry requirement and satisfied domestic industry requirement under 337(a)(3)(C).

[redacted]

VII. CONCLUSIONS OF LAW

1. The Commission has personal jurisdiction over the parties, and subject-matter jurisdiction over the accused products.
2. The importation or sale requirement of section 337 is satisfied.
3. The accused products literally do not infringe the asserted claims of the '130 Patent
4. The accused products do not infringe the asserted claims of the '130 Patent under the doctrine of equivalents.
5. The asserted claims of the '130 Patent are not invalid under 35 U.S.C. § 102 for anticipation.
6. The asserted claims of the '130 Patent are not invalid under 35 U.S.C. § 103 for obviousness.
7. A domestic industry exists, as required by section 337.
8. It has not been established that a violation exists of section 337.

[redacted]

VIII. INITIAL DETERMINATION AND ORDER

Based on the foregoing, it is the INITIAL DETERMINATION ("ID") of this ALJ that no violation of section 337 of the Tariff Act of 1930, as amended, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain refrigerators and components thereof by reason of infringement of one or more of claims 1, 2, 4, 6, 8, or 9 of United States Patent No.6,082,130. The ALJ further determines that a domestic industry exists that practices U.S. Patent No. 6,082,130.

Further, this Initial Determination, together with the record of the hearing in this investigation consisting of:

(1) The transcript of the hearing, with appropriate corrections as may hereafter be ordered, and

(2) The exhibits received into evidence in this investigation, as listed in the attached exhibit lists in Appendix A,

are CERTIFIED to the Commission. In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential by the undersigned under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

The Secretary shall serve a public version of this ID upon all parties of record and the confidential version upon counsel who are signatories to the Protective Order (Order No. 1.) issued in this investigation, and upon the Commission investigative attorney.

[redacted]

RECOMMENDED DETERMINATION ON REMEDY AND BOND

I. Remedy and Bonding

The Commission's Rules provide that subsequent to an initial determination on the question of violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, the administrative law judge shall issue a recommended determination containing findings of fact and recommendations concerning: (1) the appropriate remedy in the event that the Commission finds a violation of Section 337, and (2) the amount of bond to be posted by respondents during Presidential review of Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(1)(ii).

A. Limited Exclusion Order

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order directed to respondents' infringing products is among the remedies that the Commission may impose, as is a general exclusion order that would apply to all infringing products, regardless of their manufacturer. *See* 19 U.S.C. § 1337(d). Whirlpool does not request a general exclusion order, and Whirlpool has not alleged infringement of the '130 Patent by any unidentified source(s).

Whirlpool requests that a limited exclusion order be issued that prohibits the importation of all refrigerators and components thereof found to infringe Claims 1, 2, 4, 6, 8, and 9 of the '130 Patent, as well as all current or future products that are covered by Claims 1, 2, 4, 6, 8, and 9 of the '130 Patent that are manufactured by or on behalf of LG, or any of their affiliated companies, parents, subsidiaries, contractors or other related business entities, their successors or assigns.

[redacted]

The Staff agreed that if a violation of Section 337 is found, however, that the appropriate remedy would be a limited exclusion order directed to infringing products of the named LG Respondents. *See* 19 U.S.C. § 1337(d)(1); *Kyocera Wireless Corp. v. International Trade Comm'n*, 545 F.3d 1340 (Fed. Cir. 2008).

The ALJ recommends that if a violation of Section 337 is found, that the Commission issue a limited exclusion order directed to the infringing products of the named LG Respondents.

B. Cease and Desist Order

Section 337 provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a cease and desist order as a remedy for violation of section 337. *See* 19 U.S.C. § 1337(f)(1). The Commission generally issues a cease and desist order directed to a domestic respondent when there is a "commercially significant" amount of infringing, imported product in the United States that could be sold so as to undercut the remedy provided by an exclusion order. *See Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, USITC Pub. 2391, Comm'n Op. on Remedy, the Public Interest and Bonding at 37-42 (June 1991); *Certain Condensers, Parts Thereof and Products Containing Same, Including Air Conditioners for Automobiles*, Inv. No. 337-TA-334, Comm'n Op. at 26-28 (Aug. 27, 1997).

Whirlpool requests a cease and desist order against each of the LG Respondents in this case, arguing that there is sufficient inventory in the US to warrant such an order. Staff took the position that there was no evidence introduced at the hearing indicating that LG has a commercially significant inventory of the accused products in the United States. There is evidence that LG's refrigerator division uses eight warehouses located in the United States and ships imported refrigerators to those warehouses for distribution. (JX-77, Noh Depo. at 15-16; RX-569C, Noh Direct Statement Q.24). There is no record evidence, however, of whether those

[redacted]

warehouses contain "commercially significant U.S. inventories" of refrigerators. While LG may sell commercially significant quantities of refrigerators, that does not necessarily mean that the products are stored in inventory rather than being immediately shipped from warehouse to customer. Neither is there evidence of how many of the refrigerators in those warehouses are accused products. Accordingly, Staff did not believe that a cease and desist order would be an appropriate remedy, even if LG is found in violation of Section 337. LG agreed that there was no evidence that the cease and desist order was appropriate.

Whirlpool cites *Certain Hardware Logic Emulation Systems and Component Thereof*, Inv. No. 337-TA-383, U.S.I.T.C. Pub. 2089, Comm'n Op., for the proposition that even one unit in inventory is a "commercially significant" number:

> We have adopted the ALJ's recommendation and determined to issue a permanent cease and desist order in this investigation. Under section 337(f)(1), the Commission can issue cease and desist orders in addition to, or instead of, an exclusion order. The Commission traditionally has issued cease and desist orders when "commercially significant" inventories of infringing goods are present in the United States. As the ALJ noted, we previously stated in this investigation, in connection with issuance of the temporary cease and desist order, that: We believe that the presence of even one of the Meta units [ ] in the United States would constitute "commercially significant inventory," which the Commission traditionally has found warrants the issuance of a cease and desist order. n123

Id. at 26. The ALJ finds that Whirlpool's reliance on that case is unpersuasive. In that case, the devices in question were used to test electronic circuit designs for semiconductor devices. Once imported, each unit could aid in producing many semiconductor devices. The respondents in that case even went so far as to make representations to others that the bond required by the ITC did not impede their ability to import the devices. In this case, the units in question are not used in manufacturing, and Whirlpool suggests no standard as to what "commercially significant

[redacted]

inventory" is in this industry. Therefore, based on the evidence before me, and the burden of proof, the ALJ recommends that no cease and desist order be issued.

C. Bond During Presidential Review Period

The Administrative Law Judge and the Commission must determine the amount of bond to be required of a respondent, pursuant to section 337(j)(3), during the 60-day Presidential review period following the issuance of permanent relief, in the event that the Commission determines to issue a remedy. The purpose of the bond is to protect the complainant from any injury. 19 C.F.R. § 210.42(a)(1)(ii), § 210.50(a)(3).

When reliable price information is available, the Commission has often set the bond by eliminating the differential between the domestic product and the imported, infringing product. *See Certain Microsphere Adhesives, Processes for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. a 24 (1995). In other cases, the Commission has turned to alternative approaches, especially when the level of a reasonable royalty rate could be ascertained. *See, e.g., Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, Comm'n Op. at 41 (1995). A 100 percent bond has been required when no effective alternative existed. *See, e.g., Certain Flash Memory Circuits and Products Containing Same*, Inv. No. 337-TA-382, USITC Pub. No. 3046, Comm'n Op. at 26-27 (July 1997)(a 100% bond imposed when price comparison was not practical because the parties sold products at different levels of commerce, and the proposed royalty rate appeared to be *de minimis* and without adequate support in the record).

[redacted]

Whirlpool has recommended that the bond should be 100%. The Staff agreed that if a violation of Section 337 is found, that during the appropriate Presidential review period bond should be set at 100 percent of entered value.

LG has proposed that, based on the internal royalties Whirlpool collects within the Whirlpool companies, the appropriate bond in this investigation should not exceed 4.83 percent of LG's costs.

If the Commission finds a violation of Section 337, the ALJ concurs with the recommendation of Staff and Whirlpool that the bond be set at 100% of the entered value.

II. Conclusion

In accordance with the discussion of the issues contained herein, it is the RECOMMENDED DETERMINATION ("RD") of the ALJ that in the event the Commission finds a violation of Section 337, the Commission should issue a limited exclusion order directed to LG Electronics, Inc. of South Korea; LG Electronics, USA, Inc. of Englewood Cliffs, NJ; LG Electronics of Monterrey, Mexico (the LG respondents). Furthermore, if the Commission imposes a remedy following a finding of violation, Respondents should be required to post a bond of 100 percent of entered value.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office a copy of this document with red brackets indicating any portion asserted to contain confidential business information by the aforementioned date. The

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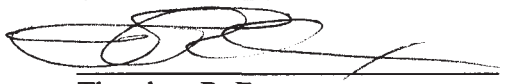
parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.



Theodore R. Essex
Administrative Law Judge

APPENDIX A

Joint Ex. No.	Document Description/Document Title	Received into Evidence
JX-01	Certified Copy of U.S. Patent No. 6,082,130 as provided as Exhibit 1 to Whirlpool's Complaint	Admitted
JX-02	Certified Copy of the Prosecution History for U.S. Patent No. 6,082,130	Admitted
JX-03	U.S. Patent No. 2,785,539	Admitted
JX-04	U.S. Patent No. 5,033,273	Admitted
JX-05	U.S. Patent No. 5,050,777	Admitted
JX-06	U.S. Patent No. 3,025,683	Admitted
JX-07	U.S. Patent No. 3,146,601	Admitted
JX-08	U.S. Patent No. 3,226,939	Admitted
JX-09	U.S. Patent No. 3,545,217	Admitted
JX-10	U.S. Patent No. 3,602,007	Admitted
JX-11	U.S. Patent No. 3,621,668	Admitted
JX-12	U.S. Patent No. 3,635,043	Admitted
JX-13	U.S. Patent No. 3,747,363	Admitted
JX-14	U.S. Patent No. 3,798,923	Admitted
JX-15	U.S. Patent No. 4,084,725	Admitted
JX-16	U.S. Patent No. 4,100,761	Admitted
JX-17	U.S. Patent No. 4,176,527	Admitted
JX-18	U.S. Patent No. 4,227,383	Admitted
JX-19	U.S. Patent No. 4,649,717	Admitted
JX-20	U.S. Patent No. 4,756,165	Admitted
JX-21	U.S. Patent No. 4,942,979	Admitted
JX-22	U.S. Patent No. 4,970,871	Admitted
JX-23	U.S. Patent No. 5,160,094	Admitted
JX-24	U.S. Patent No. 5,187,950	Admitted
JX-25	U.S. Patent No. 3,621,668 Refrigerator Including an Automatic Ice Maker and a Door Mounted Ice Receptacle	Admitted
JX-26	U.S. Patent No. 5,056,688 Ice Cube and Crushed Ice Dispenser	Admitted
JX-27C	Complainants' List of Proposed Claim Constructions	Admitted
JX-28	U.S. Patent No. 3,308,632	Admitted
JX-29	U.S. Patent No. 3,602,441 Combination Ice Cube and Crushed Ice Dispenser	Admitted
JX-30C	Complainants' Second Supplemental Domestic Industry Contentions	Admitted
JX-31C	Collection of documents re: ice/water dispensing, ice maker & ice storage & freezer design options	Admitted
JX-32C	Whirlpool North America Communication Plan LaVergne and Reynosa Closure Announcement	Admitted
JX-33C	2006 Totals Spreadsheet	Admitted
JX-34C	Fort Smith Division 2008 Profit Plan Review	Admitted
JX-35C	Refrigeration Manufacturing Profile	Admitted
JX-36C	Spreadsheet re: 2006 sales, future sales plan and target	Admitted
JX-37C	Spreadsheet	Admitted
JX-38C	Replacement exhibit 5 to Seth Kaplan's expert witness report and cover letter dated October 15, 2008 from Veronica Rivas-Molloy to Paul C. Goulet	Admitted
JX-39C	LG spreadsheet of various refrigerator models	Admitted

Joint Ex. No.	Document Description/Document Title	Received into Evidence
JX-40C	LG Schematic: Bucket Assembly, Ice	Admitted
JX-41C	LG SxS Refrigerator Service Manual	Admitted
JX-42C	LG Ice Maker Schematic	Admitted
JX-43	LG French Door Refrigerator User's Guide for Models LFX25971 and LFX21971	Admitted
JX-44	LG Refrigerator Service Manual for Model LFX23961	Admitted
JX-45C	Schematic: Ice Maker Assembly Kit	Admitted
JX-46C	Schematic: Bucket Assembly for Bravo II	Admitted
JX-47C	Schematic: Bucket Assembly	Admitted
JX-48	LG Refrigerator Service Manual for models LFX25971 and LFX21971	Admitted
JX-49C	Door Ice Maker PJT	Admitted
JX-50	U.S. Patent 7,228,701 B2 Refrigerator	Admitted
JX-51	Specification Sheet for Model LSC 27931	Admitted
JX-52	LG LSC27931 SxS Refrigerator Owner's Manual	Admitted
JX-53C	LG Schematic	Admitted
JX-54C	LG Schematic: Motor Assembly Geared, Ice Dispenser	Admitted
JX-55C	FMEA	Admitted
JX-56	LG French Door Refrigerator Spec Sheet Models LFX25971 and LFX21971 (cabinet depth)	Admitted
JX-57	Printout from Kenmore website re: Kenmore Elite 25.0 cu. ft. Trio Ice & Water Dispensing Bottom-Freezer Refrigerator	Admitted
JX-58C	Fact Book - LG Electronics	Admitted
JX-59	U.S. Patent No. 6,904,765 B2 Structure for Dispensing Ice in Refrigerator	Admitted
JX-60	U.S. Patent No. 7,222,498 B2 Refrigerator With Icemaker	Admitted
JX-61	U.S. Patent No. 7,076,967 B2 Refrigerator With Icemaker	Admitted
JX-62	U.S. Patent No. 6,964,177 B2 Refrigerator With Icemaker	Admitted
JX-63	U.S. Patent No. 6,945,068 B2 Refrigerator With An Icemaker	Admitted
JX-64C	Memorandum from Paula Pierce to Distribution List re: Next Generation Ice and Water	Admitted
JX-65C	Fax from Nihat Cur to Carlos Coe transmitting information presented at the planning meeting; attachment: CM&TD Year End Planning Refrigeration & Air Treatment 1995 Accomplishments 1996 Proposed Work Plans	Admitted
JX-66C	CT&ED Product Focus Report Refrigeration & Air Treatment Products October 1997	Admitted
JX-67C	In-Door Ice Storage CSM1 12/11/97 PT Review	Admitted
JX-68C	In Door Ice and Contoured Door Production Ramp-up Whirlpool Conquest, Kenmore Elite, and KitchenAid Superba 25' and 27' SxS Refrigerators	Admitted
JX-69C	Collection of spreadsheets	Admitted

Joint Ex. No.	Document Description/Document Title	Received into Evidence
JX-70C	Second Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 60-62, 66)	Admitted
JX-71C	Respondents' Responses to Complainants' Second Set of Requests for Admissions (Nos. 71-266)	Admitted
JX-72C	Second Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 50-51, 68) and First Supplemental Response to Complainants' Fifth Set of Interrogatories (Nos. 82-84)	Admitted
JX-73C	Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 59-63, 65-66)	Admitted
JX-74		Withdrawn
JX-75C	Refrigeration Manufacturing Profile spreadsheet	Admitted
JX-76C	Joint Deposition Designations of Ill Shin Kim	Admitted
JX-77C	Joint Deposition Designations of Young Ho Noh	Admitted
JX-78C	Joint Deposition Designations of Ji Young Kim	Admitted
JX-79C	Joint Deposition Designations of Oh Chul Kwon	Admitted
JX-80C	Joint Deposition Designations of Daryl Harmon	Admitted
JX-81C	Joint Deposition Designations of Todd Kniffen	Admitted
JX-82C	Joint Deposition Designations of Gary Langbo	Admitted
JX-83C	Joint Deposition Designations of Verne Myers	Admitted
JX-84C	Joint Deposition Designations of Mark Nelson	Admitted
JX-85C	Joint Deposition Designations of Andrew Oltman	Admitted
JX-86C	Joint Deposition Designations of Jim Pastryk	Admitted
JX-87C	Joint Deposition Designations of Thomas Schwyn	Admitted
JX-88C	Joint Deposition Designations of Devinder Singh	Admitted
JX-89C	Joint Deposition Designations of James Willis	Admitted
JX-90C	Joint Deposition Designations of Stephen Howard	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CDX-001	Assignment of '130 Patent by Inventors	Schwyn	Admitted
CDX-002	Corporate to Corporate Assignment of '130 Patent	Schwyn	Admitted
CDX-003C	Patent and Know How License	Schwyn	Admitted
CDX-004C	First Amendment to Patent and Know How License	Schwyn	Admitted
CDX-005C	Patent and Know How License	Schwyn	Admitted
CDX-006C	First Amendment to Patent and Know How License	Schwyn	Admitted
CDX-007	Fig 4 and 5 - Ice Discharge Assembly	Myers	Admitted
CDX-008	Fig 5 Air Baffle Member	Myers	Admitted
CDX-009	Fig 5 - Ice Disch. Assem, Storage Bin and Maker	Myers	Admitted
CDX-010	Fig. 5	Myers	Admitted
CDX-011	Fig 4 and 5 Ice Stripper	Myers	Admitted
CDX-012	Fig 4 and 5 - Cover and Ramp	Myers	Admitted
CDX-013	Fig 5 - Shut-off Arm	Myers	Admitted
CDX-014	Fig. 6 - Upper and Lower Extension	Myers	Admitted
CDX-015	Fig 6 - Lever	Myers	Admitted
CDX-016	Fig 4 - Lever	Myers	Admitted
CDX-017	Figs. 7 and 8	Myers	Admitted
CDX-018	Figs. 12 and 13	Myers	Admitted
CDX-019	Fig. 13 - Heaters	Myers	Admitted
CDX-020	Fig 3 - Upper Ice Bin Member	Myers	Admitted
CDX-021			Withdrawn
CDX-022	Fig 3 - Auger	Myers	Admitted
CDX-023	Fig 3 and 9 - Bridge Breaker Blade	Myers	Admitted
CDX-024	Fig. 3 - Freezer Door, Metallic Outer Wrapper, Liner	Myers	Admitted
CDX-025	Fig. 3 - Long Shaft, Ext. Dispenser Housing, Motor	Myers	Admitted
CDX-026	Fig 10 and 11 - Cylindrical Bosses, Mounting Pins	Myers	Admitted
CDX-027	Fig 10 and 11 - Mounting Pins, Annular Grooves, Cylindrical Bosses	Myers	Admitted
CDX-028	Fig 11 - Push Button Release with A Retention Bar	Myers	Admitted
CDX-029	Experience of the Named Inventors	Myers	Admitted
CDX-030	130 Patent - Figure 1	Hortin	Admitted
CDX-031	130 Patent - Figure 2	Hortin	Admitted
CDX-032	130 Patent - Figure 3 and 9	Hortin	Admitted
CDX-033C	C2C Time Line	Hortin	Admitted
CDX-034	Challenges Faced in Development	Hortin	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CDX-035	Animation of LG Side by Side	Caligiuri	Admitted
CDX-036	Animation of LG French Door	Caligiuri	Admitted
CDX-037	Whirlpool's Claim Constructions	Caligiuri	Admitted
CDX-038	LG's Claim Constructions	Caligiuri	Admitted
CDX-039	Claim 1 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-040	Claim 1 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-041	Claim 1 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-042	Claim 1 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-043	Claim 1 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-044	Claim 1 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-045	Claim 1 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-046	Claim 2 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-047	Claim 4 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-048	Claim 6 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-049	Claim 6 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-050	Claim 8 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-051	Claim 8 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-052	Claim 8 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-053	Claim 9 Table - Whirlpool SXS	Caligiuri	Admitted
CDX-054	Claim 1 Table - LG SXS	Caligiuri	Admitted
CDX-055	Claim 1 Table - LG SXS	Caligiuri	Admitted
CDX-056	Claim 1 Table - LG SXS	Caligiuri	Admitted
CDX-057	Claim 1 Table - LG SXS	Caligiuri	Admitted
CDX-058	Claim 1 Table - LG SXS	Caligiuri	Admitted
CDX-059	Claim 1 Table - LG SXS	Caligiuri	Admitted
CDX-060	Claim 1 Table - LG SXS	Caligiuri	Admitted
CDX-061	Claim 2 Table - LG SXS	Caligiuri	Admitted
CDX-062	Claim 4 Table - LG SXS	Caligiuri	Admitted
CDX-063	Claim 6 Table - LG SXS	Caligiuri	Admitted
CDX-064	Claim 8 Table - LG SXS	Caligiuri	Admitted
CDX-065	Claim 8 Table - LG SXS	Caligiuri	Admitted
CDX-066	Claim 9 Table - LG SXS	Caligiuri	Admitted
CDX-067	Claim 1 Table - LG French Door	Caligiuri	Admitted
CDX-068	Claim 1 Table - LG French Door	Caligiuri	Admitted
CDX-069	Claim 1 Table - LG French Door	Caligiuri	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CDX-070	Claim 1 Table - LG French Door	Caligiuri	Admitted
CDX-071	Claim 1 Table - LG French Door	Caligiuri	Admitted
CDX-072	Claim 1 Table - LG French Door	Caligiuri	Admitted
CDX-073	Claim 1 Table - LG French Door	Caligiuri	Admitted
CDX-074	Claim 2 Table - LG French Door	Caligiuri	Admitted
CDX-075	Claim 4 Table - LG French Door	Caligiuri	Admitted
CDX-076	Claim 6 Table - LG French Door	Caligiuri	Admitted
CDX-077	Claim 6 Table - LG French Door	Caligiuri	Admitted
CDX-078	Claim 8 Table - LG French Door	Caligiuri	Admitted
CDX-079	Claim 9 Table - LG French Door	Caligiuri	Admitted
CDX-080	Claim 6 Table - LG SXS	Caligiuri	Admitted
CDX-081C	Whirlpool's Business	Howard	Admitted
CDX-082C	Whirlpool's Market Share	Howard	Admitted
CDX-083C	Plant and Equipment	Howard	Admitted
CDX-084C	Plant and Equipment	Howard	Admitted
CDX-085C	Depreciation	Howard	Admitted
CDX-086C	Wages of Fort Smith Employees Involved in Mgf.	Howard	Admitted
CDX-087C	Production	Howard	Admitted
CDX-088C	Other Costs	Howard	Admitted
CDX-089C	Research and Development Costs	Howard	Admitted
CDX-090C	Three Factors of the Economic Prong	Kaplan	Admitted
CDX-091C	Patent Cover with Claim 1	Kaplan	Admitted
CDX-092C	Whirlpool Overview: Subset of Sales of Refrigerators with IDI	Kaplan	Admitted
CDX-093C	Plant and Equipment for Refrigerators with IDI	Kaplan	Admitted
CDX-094C	FORT SMITH SQUARE FOOTAGE ATTRIBUTABLE TO IDI	Kaplan	Admitted
CDX-095C	Expenditures On Facilities and Equipment at Fort Smith	Kaplan	Admitted
CDX-096C	Investment in Plant at Technology Centers in Amana, Iowa and Evansville, Indiana	Kaplan	Admitted
CDX-097C	Investment Related to Repairs and Service	Kaplan	Admitted
CDX-098C	Whirlpool Employs Significant Amounts of Labor to Produce Refrigerators with IDI Systems	Kaplan	Admitted
CDX-099C	Depreciation	Kaplan	Admitted
CDX-100C	Whirlpool Has Made Significant Expenditures on Research and Development	Kaplan	Admitted
CDX-101C			Rejected

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CDX-102			Withdrawn
CDX-103			Withdrawn
CDX-104			Withdrawn
CDX-105			Withdrawn
CDX-106	Hortin Video Clip	Hortin	Admitted
CDX-107	Myers Video Clip	Myers	Admitted
CDX-109	Claim 8 Table - LG French Door	Caligiuri	Admitted
CDX-110	Claim 1 - Whirlpool SXS	Caligiuri	Admitted
CDX-111	Claim 2 - Whirlpool SXS	Caligiuri	Admitted
CDX-112	Claim 4 - Whirlpool SXS	Caligiuri	Admitted
CDX-113	Claim 6 - Whirlpool SXS	Caligiuri	Admitted
CDX-114	Claim 8 - Whirlpool SXS	Caligiuri	Admitted
CDX-115	Claim 9 - Whirlpool SXS	Caligiuri	Admitted
CDX-116	Claim 1 - LG SXS	Caligiuri	Admitted
CDX-117	Claim 2 - LG SXS	Caligiuri	Admitted
CDX-118	Claim 4 - LG SXS	Caligiuri	Admitted
CDX-119	Claim 6 - LG SXS	Caligiuri	Admitted
CDX-120	Claim 8 - LG SXS	Caligiuri	Admitted
CDX-121	Claim 9 - LG SXS	Caligiuri	Admitted
CDX-122	Claim 1 - LG French Door	Caligiuri	Admitted
CDX-123	Claim 2 - LG French Door	Caligiuri	Admitted
CDX-124	Claim 4 - LG French Door	Caligiuri	Admitted
CDX-125	Claim 6 - LG French Door	Caligiuri	Admitted
CDX-126	Claim 8 - LG French Door	Caligiuri	Admitted
CDX-127	Claim 9 - LG French Door	Caligiuri	Admitted
CDX-152	Table 1. List of Whirlpool-Manufactured Models Examined	Caligiuri	Admitted
CDX-153	Exhibit 1 (U.S. Patent No. 6,082,130)	Caligiuri	Admitted
CDX-154	List of LG-Manufactured Products Reviewed	Caligiuri	Admitted
CDX-155	List of Potentially Infringing LG Products	Caligiuri	Admitted
CDX-156	LG's "Ice Maker"	Caligiuri	Admitted
CDX-157	Application '173 - Ice Cubes Are Manually Removed	Caligiuri	Admitted
CDX-158	Refrigerator Described in the '165 Reference	Caligiuri	Admitted
CDX-159	165 Reference - Figures 1 and 2	Caligiuri	Admitted
CDX-160	165 Reference - Figure 5	Caligiuri	Admitted
CDX-161	165 Does Not Obviate the '130 Patent	Caligiuri	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CDX-162	166 Does Not Obviate the '130 Patent (compared to LG's SxS)	Caligiuri	Admitted
CDX-163	LG's IDI Development	Caligiuri	Admitted
CDX-164	130 Patent - Figure 3 (Whirlpool) Compared to '701 Patent - Figure 3 (LG)	Caligiuri	Admitted
CDX-165	Comparison of LG's and Whirlpool's Systems	Caligiuri	Admitted
CDX-166	Comparison of Text on LG and Whirlpool Ice Bins	Caligiuri	Admitted
CDX-167C	Evidence of Commercial Success	Kaplan	Admitted
CDX-168C	Significant Sales of Whirlpool Refrigerators With IDI	Kaplan	Admitted
CDX-169C	Significant Sales of Whirlpool Refrigerators With IDI	Kaplan	Admitted
CDX-170C	Significant Sales of LG Refrigerators With IDI	Kaplan	Admitted
CDX-171C	Higher Profit Margins for Whirlpool Refrigerators With IDI	Kaplan	Admitted
CDX-172C	Higher Profit Margins for Whirlpool Refrigerators With IDI	Kaplan	Admitted
CDX-173C	Higher Profit Margins for LG Refrigerators With IDI	Kaplan	Admitted
CDX-174C	Perceived Value of IDI to Cunsumers	Kaplan	Admitted
CDX-175C	Perceived Value of IDI to Consumers	Kaplan	Admitted
CDX-176C	Perceived Value of IDI to Consumers	Kaplan	Admitted
CDX-177C	Perceived Value of IDI to Consumers	Kaplan	Admitted
CDX-178			Withdrawn
CDX-179C	Supplemented LG Development Timeline	Caligiuri	Admitted
CDX-180	GE Prior Art	Bessler	Admitted
CDX-180A	GE Prior Art	Bessler	Admitted
CDX-181	165 Reference, Figures 1 and 2	Bessler	Admitted
CDX-182	165 Reference, Figures 2 and 3	Bessler	Admitted
CDX-183	165 Reference, Figures 1, 2, and 3	Bessler	Admitted
CDX-186	LG Product Comparison	Noh	Admitted
CDX-187	U.S. Patent 6,082,130 with figure	An	Admitted
CDX-189	LG Products	Noh	Admitted
CDX-190	130 Patent, Figure 3, compared to LG project plan	An	Admitted
CDX-193	Hitachi '228 Reference, Figure 8	An	Admitted
CDX-194	Hitachi '228 Reference, Figures 10, 11, and 12	An	Admitted
CDX-195	Hitachi '228 Reference, Figure 4	An	Admitted
CDX-196			Withdrawn
CDX-197AC	LG Timeline	Lee	Admitted
CDX-197C	LG Timeline	Lee	Admitted
CPX-01	Ice storage bin	Caligiuri	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CPX-02	Ice cube tray	Bessler	Admitted
CPX-03			Withdrawn
CPX-04			Withdrawn
CPX-05			Withdrawn
CPX-06			Withdrawn
CPX-07			Withdrawn
CPX-08			Withdrawn
CPX-09			Withdrawn
CPX-10			Withdrawn
CPX-11	Whirlpool Refrigerator Model No. ED5PBAXVY00 and Serial Number SW2138145	Langbo *et al.*	Admitted
CPX-11A	Ice Bin for Whirlpool Refrigerator Model No. ED5PBAXVY00 and Serial Number SW2138145	Hortin	Admitted
CPX-12	LG Refrigerator Model No. LFX25971 and Serial Number 8022KRDJ03802	Langbo *et al.*	Admitted
CPX-13	LG Model LSC27931ST with Serial Number 808MRTT01161	Langbo *et al.*	Admitted
CPX-13A	Ice Bin for LG Model LSC27931ST with Serial Number 808MRTT01161	Bessler	Admitted
CPX-13B	Water splash prevention flap on icemaker of LG Model LSC27931ST with Serial Number 808MRTT01161	Bessler	Admitted
CPX-14	LG Model LSC27910ST with Serial Number	Noh	Admitted
CX-001			Withdrawn
CX-002			Withdrawn
CX-003			Withdrawn
CX-004			Withdrawn
CX-005			Withdrawn
CX-006			Withdrawn
CX-007			Withdrawn
CX-008			Withdrawn
CX-009			Withdrawn
CX-010			Withdrawn
CX-011			Withdrawn
CX-012			Withdrawn
CX-013			Withdrawn
CX-014			Withdrawn

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-015			Withdrawn
CX-016			Withdrawn
CX-017			Withdrawn
CX-018			Withdrawn
CX-019			Withdrawn
CX-020			Withdrawn
CX-021			Withdrawn
CX-022			Withdrawn
CX-023			Withdrawn
CX-024			Withdrawn
CX-025	Certified Copy of '130 Assignment	Schwyn	Admitted
CX-026AC	Ice & Water Part	Caligiuri	Admitted
CX-026BC	Translation of An Depo Ex. 11 - Ice & Water Part Middle Plan	Caligiuri	Admitted
CX-027AC			Withdrawn
CX-027BC			Withdrawn
CX-028AC	Ice & Water Part	An	Admitted
CX-028BC	Translation	An	Admitted
CX-029AC			Withdrawn
CX-029BC			Withdrawn
CX-030			Withdrawn
CX-031			Withdrawn
CX-032			Withdrawn
CX-033			Withdrawn
CX-034			Withdrawn
CX-035			Withdrawn
CX-036			Withdrawn
CX-037			Withdrawn
CX-038			Withdrawn
CX-039C			Withdrawn
CX-040C			Withdrawn
CX-041C	Deposition Designations of Ji-Young Kim (excepted transcript and video)	Caligiuri	Admitted
CX-042C			Withdrawn
CX-043C			Withdrawn
CX-044C			Withdrawn

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-045C			Withdrawn
CX-046C	Respondents' Proposed Claim Constructions, July 25, 2008	Bessler	Admitted
CX-047C			Withdrawn
CX-048			Withdrawn
CX-049			Withdrawn
CX-050C			Withdrawn
CX-051C			Withdrawn
CX-052C			Withdrawn
CX-053			Withdrawn
CX-054			Withdrawn
CX-055			Withdrawn
CX-056			Withdrawn
CX-057			Withdrawn
CX-058C			Withdrawn
CX-059			Withdrawn
CX-060			Withdrawn
CX-061			Withdrawn
CX-062			Withdrawn
CX-063			Withdrawn
CX-064			Withdrawn
CX-065			Withdrawn
CX-066C			Withdrawn
CX-067			Withdrawn
CX-068			Withdrawn
CX-069C			Withdrawn
CX-070C			Withdrawn
CX-071			Withdrawn
CX-072			Withdrawn
CX-073			Withdrawn
CX-074			Withdrawn
CX-075			Withdrawn
CX-076			Withdrawn
CX-077			Withdrawn
CX-078C	Respondents' First Supplemental Response to Complainants' Third Set of Interrogatories (Nos. 76-79)	Kim, Ill Shin	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-079	Spec Sheet for refrigerator Model LFX 21971	Kim, Ill Shin	Admitted
CX-080			Withdrawn
CX-081			Withdrawn
CX-082			Withdrawn
CX-083			Withdrawn
CX-084			Withdrawn
CX-085C	Spreadsheet re: Models having ice dispensing unit on the fresh food compartment door	Kim, Ill Shin	Admitted
CX-086AC	Sketches of Bravo ice and water dispensing system	Kim, Ill Shin	Admitted
CX-086BC	Translation of Kim, I.S. Depo Ex. 24 - Sketches of Bravo ice and water dispensing system	Kim, Ill Shin	Admitted
CX-087AC			Withdrawn
CX-087BC			Withdrawn
CX-088			Withdrawn
CX-089AC	Ice & Water Part	Kim, Ill Shin; Lee	Admitted
CX-089BC	Translation of Kim, I.S. Depo Ex. 27 - Ice & Water Part Middle Plan	Kim, Ill Shin; Lee	Admitted
CX-090AC	Collection of documents re: DIM	Kim, Ill Shin	Admitted
CX-090BC	Translation of Kim, I.S. Depo Ex. 28 - DIM - Concept	Kim, Ill Shin	Admitted
CX-091AC	Collection of documents re: Indoor ice bank	Kim, Ill Shin	Admitted
CX-091BC	Translation of Kim, I.S. Depo Ex. 29 - Indoor Ice Bank Development	Kim, Ill Shin	Admitted
CX-092AC	Mock-up	Kim, Ill Shin; Lee	Admitted
CX-092BC	Translation of Kim, I.S. Depo Ex. 30 - North America Mock-up Report on the Receptiveness Evaluation	Kim, Ill Shin; Lee	Admitted
CX-093AC	Whirlpool Ice & Water System	Kim, Ill Shin	Admitted
CX-093BC	Translation of Kim, I.S. Depo Ex. 31 - Whirlpool Ice & Water System	Kim, Ill Shin	Admitted
CX-094			Withdrawn
CX-094BC	Translation of Kim, I.S. Depo Ex. 32 - Door and Ice Maker PJT Promotion Plan (Original is JX-49C)	Kim, Ill Shin	Admitted
CX-095AC	Bravo-BICS Electronics SxS Ref Product Planning Gr.	Kim, Ill Shin	Admitted
CX-095BC	Translation of Kim, I.S. Depo Ex. 33 - Report to Bravo - Bics Division Chief	Kim, Ill Shin	Admitted
CX-096AC	Project: Ice Making System CI: BICS II	Kim, Ill Shin	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-096BC	Translation of Kim, I.S. Depo Ex. 34 - Project Plan (Project Name: Ice Making System CI: BiCS II)	Kim, Ill Shin	Admitted
CX-097AC	SxS Indoor Ice Maker	Kim, Ill Shin	Admitted
CX-097BC	Translation of Kim, I.S. Depo Ex. 35 - SxS Indoor Ice Maker Research Report	Kim, Ill Shin	Admitted
CX-098AC	USP in the BICS System	Kim, Ill Shin	Admitted
CX-098BC	Translation of Kim, I.S. Depo Ex. 36 - USP in the BICS System	Kim, Ill Shin	Admitted
CX-099AC	Indoor Ice Making System	Kim, Ill Shin	Admitted
CX-099BC	Translation of Kim, I.S. Depo Ex. 37 - Indoor Ice Making System	Kim, Ill Shin	Admitted
CX-100			Withdrawn
CX-101			Withdrawn
CX-102			Withdrawn
CX-102			Withdrawn
CX-103			Withdrawn
CX-104C			Withdrawn
CX-105C			Withdrawn
CX-106C			Withdrawn
CX-107AC	Bravo - PJT Issue	Kim, Ill Shin	Admitted
CX-107BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 41 - BRAVO - PJT Issue Report	Kim, Ill Shin	Admitted
CX-108			Withdrawn
CX-108BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 42 - FMEA (Original is JX-55C)	Kim, Ill Shin	Admitted
CX-109AC	Bravo In Door Ice Maker	Kim, Ill Shin	Admitted
CX-109BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 43 - Bravo In Door Ice Maker	Kim, Ill Shin	Admitted
CX-110C	Ice & Water System	Kim, Ill Shin	Admitted
CX-111AC	Specifications	Kim, Ill Shin	Admitted
CX-111BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 45 - Specifications	Kim, Ill Shin	Admitted
CX-112AC	CTO Schedule	Kim, Ill Shin	Admitted
CX-112BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 46 - CTO Visit Schedule	Kim, Ill Shin	Admitted
CX-113AC	Ice & Water	Kim, Ill Shin	Admitted
CX-113BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 47 - Ice & Water	Kim, Ill Shin	Admitted
CX-114AC	Ice & Water	Kim, Ill Shin	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-114BC	Translation of Kim, I.S. Depo. Vol. 2 Ex. 48 -Refrigerator Ice & Water	Kim, Ill Shin	Admitted
CX-115AC	CTO TDR Project	Kim, Ill Shin	Admitted
CX-115BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 49 - Registration for the TDR Project of the CTO Sector	Kim, Ill Shin	Admitted
CX-116AC	Bravo Ice Maker	Kim, Ill Shin; Caligiuri	Admitted
CX-116BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 50 - Meeting on the Direction for the Development of Bravo Ice Maker	Kim, Ill Shin; Caligiuri	Admitted
CX-117AC	Project BiCS / In Door Ice Maker	Kim, Ill Shin	Admitted
CX-117BC	Translation	Kim, Ill Shin	Admitted
CX-118AC	Collection of documents re: indoor ice maker	Kim, Ill Shin	Admitted
CX-118BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 52 - Project Plan Summary Project Name: BiCS II	Kim, Ill Shin	Admitted
CX-119AC	Schedules for BiCS & COOL Projects	Kim, Ill Shin	Admitted
CX-119BC	Translations of Schedules for BiCS & COOL Projects	Kim, Ill Shin	Admitted
CX-120AC	TL2005 In-Door Ice-Making System (BiCS Project)	Kim, Ill Shin	Admitted
CX-120BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 54 - TL2005 In-Door Ice-Making System (BiCS Project)	Kim, Ill Shin	Admitted
CX-121AC	Project: Ice Making System CI: BicS II	Kim, Ill Shin	Admitted
CX-121BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 55 - Project Completion Report (Project Name: Ice Making System CI: BiCS II)	Kim, Ill Shin	Admitted
CX-122AC	In Door Ice Making System	Kim, Ill Shin	Admitted
CX-122BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 56 - In Door Ice Making System	Kim, Ill Shin	Admitted
CX-123AC	In-Door Ice-Making System (BiCS Project)	Kim, Ill Shin	Admitted
CX-123BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 57 - In-Door Ice-Making System (BiCS Project)	Kim, Ill Shin	Admitted
CX-124AC	In-Door Ice-Making System (BiCS Project)	Kim, Ill Shin	Admitted
CX-124BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 58 - In-Door Ice-Making System (BiCS Project)	Kim, Ill Shin	Admitted
CX-125AC	Project: BiCS (Door Ice Maker)	Kim, Ill Shin	Admitted
CX-125BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 59 - Project Plan (Project name: BiCS (Door ice maker))	Kim, Ill Shin	Admitted
CX-126AC	Kim, I.S. Depo Vol. 2 Ex. 60 - Research Plan Schedule	Kim, Ill Shin	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-126BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 60 - Research Plan Schedule	Kim, Ill Shin	Admitted
CX-127AC	In-Door Ice-Making System (BiCS-Project)	Kim, Ill Shin	Admitted
CX-127BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 61 - In-Door Ice-Making System (BiCS-Project)	Kim, Ill Shin	Admitted
CX-128AC	05 SxS Giant-PJT	Kim, Ill Shin	Admitted
CX-128BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 62 - SxS Operational Strategy for '05 Giant - PJT	Kim, Ill Shin	Admitted
CX-129AC	Collection of documents re: indoor ice & water system	Kim, Ill Shin	Admitted
CX-129BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 63 - TDR Theme Registration Paper	Kim, Ill Shin	Admitted
CX-130AC	Ice-Making System, In-Door Ice-Making System	Kim, Ill Shin	Admitted
CX-130BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 64 - Project Overview (Indoor Ice Making System)	Kim, Ill Shin	Admitted
CX-131AC	In-Door Ice-Making System	Kim, Ill Shin	Admitted
CX-131BC	Translation of Kim, I.S. Depo Vol. 2 Ex. 65 - In-Door Ice-Making System	Kim, Ill Shin	Admitted
CX-132AC	Bics-Pjt Workshop	Kim, Ill Shin	Admitted
CX-132BC	Translation	Kim, Ill Shin	Admitted
CX-133AC	Collection of documents re: ice makers	Kim, Ill Shin	Admitted
CX-133BC	Translation	Kim, Ill Shin	Admitted
CX-134AC	Chart on various jobs/tasks	Kim, Ill Shin	Admitted
CX-134BC	Translation of chart on various jobs/tasks	Kim, Ill Shin	Admitted
CX-135AC	Indoor Icemaking System	Kim, Ill Shin	Admitted
CX-135BC	Translation	Kim, Ill Shin	Admitted
CX-136AC	TL2005 Project Leader Workshop	Kim, Ill Shin	Admitted
CX-136BC	Translation	Kim, Ill Shin	Admitted
CX-137AC	Project: Indoor Icemaker BiCS	Kim, Ill Shin	Admitted
CX-137BC	Translation	Kim, Ill Shin	Admitted
CX-138AC	Door Ice Maker Project (Dooricing)	Kim, Ill Shin	Admitted
CX-138BC	Translation	Kim, Ill Shin	Admitted
CX-139AC	In-Door Ice-Making System	Kim, Ill Shin; Caligiuri	Admitted
CX-139BC	Translation	Kim, Ill Shin; Caligiuri	Admitted
CX-140AC	Collection of documents re: BiCS / In Door Ice Maker	Kim, Ill Shin	Admitted
CX-140BC	Translation	Kim, Ill Shin	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-141AC	Schedule of issues considered by LG	Kim, Ill Shin	Admitted
CX-141BC	Translation of Schedule of issues considered by LG	Kim, Ill Shin	Admitted
CX-142AC			Withdrawn
CX-142BC			Withdrawn
CX-143AC			Withdrawn
CX-143BC			Withdrawn
CX-144AC			Withdrawn
CX-144BC			Withdrawn
CX-145			Withdrawn
CX-146			Withdrawn
CX-147AC	E-mail from Julianne Kim to K. J. Kim re: SpacePlus concept	Kim, Ji-Young	Admitted
CX-147BC	Translation of Kim, J. Depo Ex. Kim 15 - E-mail from Ji Young Kim to Ki Joo Kim re: Request for space plus concept background data	Kim, Ji-Young	Admitted
CX-148C	First Supplemental Response of Respondents to Complainants' Third Set of Interrogatories (Nos. 76-79)	Kim, Ji-Young	Admitted
CX-149C	Spreadsheet of sales figures	Kim, Ji-Young	Admitted
CX-150AC	E-mail string re: Model 07	Kim, Ji-Young	Admitted
CX-150BC	Translation of Kim, J. Depo Ex. Kim 9 - E-mail string re: '07 Profit & Loss Data per Model	Kim, Ji-Young	Admitted
CX-151A			Withdrawn
CX-151B			Withdrawn
CX-152AC			Withdrawn
CX-152BC			Withdrawn
CX-153AC			Withdrawn
CX-153BC			Withdrawn
CX-154C	Sketch of side view and auger	Kwon	Admitted
CX-155C	Sketch of the inside view freezer door, with motor, ice bin, auger	Kwon	Admitted
CX-156			Withdrawn
CX-157AC			Withdrawn
CX-157BC			Withdrawn
CX-158AC			Withdrawn
CX-158BC			Withdrawn
CX-159AC			Withdrawn
CX-159BC			Withdrawn

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-160AC			Withdrawn
CX-160BC			Withdrawn
CX-161C			Withdrawn
CX-162C			Withdrawn
CX-163AC			Withdrawn
CX-163BC			Withdrawn
CX-164AC			Withdrawn
CX-164BC			Withdrawn
CX-165AC			Withdrawn
CX-165BC			Withdrawn
CX-166AC	Lee, M.R. Depo Ex. Lee 10 - Japanese patent application for freezer and refrigerator	Caligiuri	Admitted
CX-166BC	Translation of Lee, M.R. Depo Ex. Lee 10 - Japanese patent application for freezer and refrigerator	Caligiuri	Admitted
CX-167AC			Withdrawn
CX-167BC			Withdrawn
CX-168C			Withdrawn
CX-169AC			Withdrawn
CX-169BC			Withdrawn
CX-170AC			Withdrawn
CX-170BC			Withdrawn
CX-171AC			Withdrawn
CX-171BC			Withdrawn
CX-172AC			Withdrawn
CX-172BC			Withdrawn
CX-173AC			Withdrawn
CX-173BC			Withdrawn
CX-174AC			Withdrawn
CX-174BC			Withdrawn
CX-175			Withdrawn
CX-176			Withdrawn
CX-177			Withdrawn
CX-178			Withdrawn
CX-179			Withdrawn
CX-180C			Withdrawn

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-181AC			Withdrawn
CX-181BC			Withdrawn
CX-182AC			Withdrawn
CX-182BC			Withdrawn
CX-183			Withdrawn
CX-184			Withdrawn
CX-185			Withdrawn
CX-186			Withdrawn
CX-187			Withdrawn
CX-188C	Collection of spreadsheets re: sales and imports	Noh	Admitted
CX-189C			Withdrawn
CX-190C			Withdrawn
CX-191C			Withdrawn
CX-192	JX-69C	An	Admitted
CX-193C	First Supplemental Response of Respondents to Complainants' Third Set of Interrogatories (Nos. 76-79)	Noh	Admitted
CX-194C	Spreadsheet: Models having Ice dispensing unit on the Fresh Food Compartment Door	Noh	Admitted
CX-195AC	Noh Depo Ex. 8 - Agenda for North America Development Meeting	Noh	Admitted
CX-195BC	Translation of Noh Depo Ex. 8 - Agenda for North America Development Meeting	Noh	Admitted
CX-196AC	E-mail string re: Bravo PJT workshop	Noh	Admitted
CX-196BC	Translation of Noh Depo Vol. 2 Ex. 16 - E-mail string re: Bravo development	Noh	Admitted
CX-197AC	In Door Ice Making System	Noh	Admitted
CX-197BC	Translation of Noh Depo Vol. 2 Ex. 17 - In Door Ice Making System	Noh	Admitted
CX-198C	Patent and Know How License	Schwyn	Admitted
CX-199	Certified Copy of Assignment	Schwyn	Admitted
CX-200C	First Amendment to Patent and Know How License	Schwyn	Admitted
CX-201C	Patent and Know How License	Schwyn	Admitted
CX-202C	First Amendment to Patent and Know How License	Schwyn	Admitted
CX-203C	First Supplemental Response of Respondents to Complainants' Interrogatory No. 18	Caligiuri	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-204C			Withdrawn
CX-205			Withdrawn
CX-206			Withdrawn
CX-207C			Withdrawn
CX-208C			Withdrawn
CX-209C			Withdrawn
CX-210C			Withdrawn
CX-211C			Withdrawn
CX-212C			Withdrawn
CX-213C			Withdrawn
CX-214C			Withdrawn
CX-215C	Second Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 38, 40, 42, and 44) and Third Set of Interrogatories (Nos. 78 and 79)	Kaplan	Admitted
CX-216			Withdrawn
CX-217			Withdrawn
CX-218C			Withdrawn
CX-219C			Withdrawn
CX-220			Withdrawn
CX-221C	In-Door Ice Storage (IDI)	Langbo	Admitted
CX-221C-A	In-Door Ice Storage (IDI)- Handwritten Version	Langbo	Admitted
CX-222	Curriculum Vitae of Robert Caligiuri	Caligiuri	Admitted
CX-223	Curriculum Vitae of Seth Kaplan	Kaplan	Admitted
CX-224			Withdrawn
CX-225C	Deposition of Warren Bessler, taken October 15, 2008	Caligiuri	Admitted
CX-226C	Witness Statement of Gary Langbo	Langbo	Admitted
CX-227C	Witness Statement of Greg Hortin	Hortin	Admitted
CX-228C	Witness Statement of Robert Caligiuri	Caligiuri	Admitted
CX-229C	Witness Statement of Seth Kaplan	Kaplan	Admitted
CX-230C	Witness Statement of Stephen Howard	Howard	Admitted
CX-231C	Witness Statement of Thomas Schwyn	Schwyn	Admitted
CX-232C	Witness Statement of Verne Myers	Myers	Admitted
CX-233C	Mock Up Acceptance Test	Kaplan	Admitted
CX-234C	Spreadsheet	Kaplan	Admitted
CX-235C	SKU List for IDI Domestic Industry Numbers	Kaplan	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-236A	Japanese Unexamined Utility Model Registration Application Publication S51-21165	Caligiuri	Admitted
CX-236B	Translation of Japanese Unexamined Utility Model Registration Application Publication S51-21165	Caligiuri	Admitted
CX-237A	Japanese Unexamined Utility Model Registration Application Publication S51-21173	Caligiuri	Admitted
CX-237B	Translation of Japanese Unexamined Utility Model Registration Application Publication S51-21173	Caligiuri	Admitted
CX-238C	Email to Nihat Cur, et al re Slides from Review with Louis Goeser	Caligiuri	Admitted
CX-239C	In Door Ice Making System	Caligiuri; Lee	Admitted
CX-240AC	Ice Bank	Caligiuri	Admitted
CX-240BC	Translation of Ice Bank	Caligiuri	Admitted
CX-241AC	Dooricing PJT w/Shop	Caligiuri	Admitted
CX-241BC	Translation of Dooricing PJT w/Shop	Caligiuri	Admitted
CX-242AC	In Door Ice&Water System	Caligiuri	Admitted
CX-242BC	Translation of In Door Ice&Water System	Caligiuri	Admitted
CX-243AC	New Icemaker	Caligiuri	Admitted
CX-243BC	Translation of New Icemaker	Caligiuri	Admitted
CX-244	Consumers Reports, "Fresh Takes on Fridge Features." October 2000	Caligiuri	Admitted
CX-245	Appliance Manufacturer, " Cutting-edge products debut: view from K/BIS in Chicago proves breathtaking." Volume 52; Issue 6, June 1, 2004	Caligiuri	Admitted
CX-246C			Withdrawn
CX-247C			Withdrawn
CX-248C			Withdrawn
CX-249C			Withdrawn
CX-250C			Withdrawn
CX-251C			Withdrawn
CX-252A	Japanese Unexamined Patent Application H06-011228	An	Admitted
CX-252B	Translations of Japanese Unexamined Patent Application H06-011228	An	Admitted
CX-253			Withdrawn
CX-254A			Withdrawn
CX-254B			Withdrawn

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-255	Department of Justice Press Release, LG, Sharp, Chunghwa Agree to Plead Guilty, Pay Total of $585 Million in Fines for Participating in LCD Price-Fixing Conspiracies LG to Pay $400 Million Fine, Second Highest Antitrust Division Criminal Fine Ever Imposed		Rejected
CX-256			Withdrawn
CX-257			Withdrawn
CX-258			Withdrawn
CX-259	DOE Press Release, DOE Reaches Agreement with LG Electronics, USA, on Refrigerator Energy Matter	Lee	Admitted
CX-260	Agreement Between the U.S. Department of Energy the LG Electronics, USA, Inc.	Lee	Admitted
CX-261			Withdrawn
CX-262			Withdrawn
CX-263			Withdrawn
CX-264			Withdrawn
CX-265C	Rebuttal Witness Statement of Robert Caligiuri	Caligiuri	Admitted
CX-266C	Rebuttal Witness Statement of Seth Kaplan	Kaplan	Admitted
CX-267C			Withdrawn
CX-268C			Withdrawn
CX-269C			Withdrawn
CX-270C			Withdrawn
CX-271C			Withdrawn
CX-272C			Withdrawn
CX-273C			Withdrawn
CX-274C			Withdrawn
CX-275C			Withdrawn
CX-276C			Withdrawn
CX-277C			Withdrawn
CX-278C			Withdrawn
CX-279C			Withdrawn
CX-280C			Withdrawn
CX-281AC			Withdrawn
CX-281BC			Withdrawn
CX-282AC	Development document regarding LG in door ice	Caligiuri; Lee	Admitted

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-282BC	Translation of development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-283AC	Development document regarding LG in door ice	Caligiuri	Admitted
CX-283BC	Translation of development document regarding LG in door ice	Caligiuri	Admitted
CX-284AC	Development document regarding LG in door ice	Caligiuri *et al.*	Admitted
CX-284BC	Translation of development document regarding LG in door ice	Caligiuri *et al.*	Admitted
CX-285AC			Withdrawn
CX-285BC			Withdrawn
CX-286AC			Withdrawn
CX-286BC			Withdrawn
CX-287AC			Withdrawn
CX-287BC			Withdrawn
CX-288AC			Withdrawn
CX-288BC			Withdrawn
CX-289AC			Withdrawn
CX-289BC			Withdrawn
CX-290AC			Withdrawn
CX-290BC			Withdrawn
CX-291AC			Withdrawn
CX-291BC			Withdrawn
CX-292AC			Withdrawn
CX-292BC			Withdrawn
CX-293AC			Withdrawn
CX-293BC			Withdrawn
CX-294AC			Withdrawn
CX-294BC			Withdrawn
CX-295AC			Withdrawn
CX-295BC			Withdrawn
CX-296AC			Withdrawn
CX-296BC			Withdrawn
CX-297AC			Withdrawn
CX-297BC			Withdrawn
CX-298AC			Withdrawn
CX-298BC			Withdrawn
CX-299AC			Withdrawn
CX-299BC			Withdrawn

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-300AC			Withdrawn
CX-300BC			Withdrawn
CX-301AC	Development document regarding LG in door ice	Caligiuri	Admitted
CX-301BC	Translation of development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-302AC	Development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-302BC	Translation of development document regarding LG in door ice	Caligiuri	Admitted
CX-303AC	Development document regarding LG in door ice	Caligiuri	Admitted
CX-303BC	Translation of development document regarding LG in door ice	Caligiuri	Admitted
CX-304AC	Development document regarding LG in door ice	Caligiuri	Admitted
CX-304BC	Translation of development document regarding LG in door ice	Caligiuri	Admitted
CX-305AC			Withdrawn
CX-305BC			Withdrawn
CX-306AC	Development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-306BC	Translation of development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-307AC	Development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-307BC	Translation of development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-308AC	Development document regarding LG in door ice	Caligiuri	Admitted
CX-308BC	Translation of development document regarding LG in door ice	Caligiuri	Admitted
CX-309AC			Withdrawn
CX-309BC			Withdrawn
CX-310AC			Withdrawn
CX-310BC			Withdrawn
CX-311AC			Withdrawn
CX-311BC			Withdrawn
CX-312AC			Withdrawn
CX-312BC			Withdrawn
CX-313AC			Withdrawn
CX-313BC			Withdrawn
CX-314AC			Withdrawn
CX-314BC			Withdrawn
CX-315AC			Withdrawn
CX-315BC			Withdrawn
CX-316AC			Withdrawn
CX-316BC			Withdrawn
CX-317AC			Withdrawn

CX Exhibit No.	Document Description/Document Title	Sponsoring Witness	Received into Evidence
CX-317BC			Withdrawn
CX-318AC	Development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-318BC	Translation of development document regarding LG in door ice	Caligiuri; Lee	Admitted
CX-319AC			Withdrawn
CX-319BC			Withdrawn
CX-320AC			Withdrawn
CX-320BC			Withdrawn
CX-321AC			Withdrawn
CX-321BC			Withdrawn
CX-322AC			Withdrawn
CX-322BC			Withdrawn
CX-323AC			Withdrawn
CX-323BC			Withdrawn
CX-324AC			Withdrawn
CX-324BC			Withdrawn
CX-325AC			Withdrawn
CX-325BC			Withdrawn
CX-326AC			Withdrawn
CX-326BC			Withdrawn
CX-327AC			Withdrawn
CX-327BC			Withdrawn
CX-328AC	Development document regarding LG in door ice	Lee	Admitted
CX-328BC	Translation of development document regarding LG in door ice	Lee	Admitted
CX-329AC			Withdrawn
CX-329BC			Withdrawn
CX-330AC			Withdrawn
CX-330BC			Withdrawn
CX-331C	Supplemental Witness Statement of Dr. Caligiuri	Caligiuri	Admitted
CX-332			Withdrawn
CX-333			Withdrawn

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RDX-001C	Darryl Harmon Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-002C	Gregory Hortin Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-003C	Verne Myers Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-004C	Devinder Singh Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-005C	James Willis Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-006C	Mark Nelson Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-007C	Jim Pastryk Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-008C	Andrew Oltman Amended Transcripts			Warren Bessler	Invalidity	Admitted
RDX-010C	Lee Demostrative 2- Exemplary LG Patents Related to LG's In-Door Ice Making System			Warren Bessler	Invalidity Non-Infringement	Withdrawn
RDX-011C	Lee Demonstrative 3- Accused LG Side by Side Refrigerator			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-012C	Lee Demonstrative 4- Accused LG French Door Refrigerator			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-050C	Excerpts of Deposition Transcript for Gregory Hortin			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-051C	Excerpts of Deposition Transcript for Verne Myers			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-052C	Excerpts of Deposition Transcript for Mark Nelson			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-053C	Excerpts of Deposition Transcript for Andrew Oltman			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-054C	Excerpts of Deposition Transcript for Jim Pastryk			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-055C	Excerpts of Deposition Transcript for Devinder Singh			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted

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RDX-056C	Excerpts of Deposition Transcript for Ill Shin Kim			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-057C	Excerpts of Deposition Transcript for Todd Kniffen			Warren Bessler	Non-Infringement	Admitted
RX-003C	Complainants' First Supplemental Domestic Industry contentions			Thomas Schwyn Stephen Howard Gary Langbo Verne Myers Gregory Hortin	Domestic Industry	Withdrawn
RX-006C	Complainants' Fifth Supplemental Objections and Responses to First Set of Interrogatories			Thomas Schwyn	Domestic Industry Non-Infringment	Withdrawn
RX-007C	Respondents' Fourth Set of Interrogatories			Thomas Schwyn	Invalidity Non-Infrigement	Withdrawn
RX-008C	Complainants' Responses to Fourth Set of Interrogatories			Thomas Schwyn	Invalidity Non-Infringement	Withdrawn
RX-013C	Heater Comparison Table	WP000009656	WP000009657	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-014C	2007 YTD	WP000033836	WP000033882	Gary Langbo Stephen Howard	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-015C	Complainants Responses to Respondents' Fourth Set of Requests for the Production of Doucments			Thomas Schwyn	Domestic Industry Invalidity Non-Infringement	Withdrawn
RX-016C	Respondents' Responses to Complainants' Second Set of Requests for Admissions (Nos. 71-266)			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn (JX-71)
RX-017C	Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 59-63, 65-66)			Warren Bessler	Invalidity Patent Misuse Unclean Hands	Withdrawn (JX-73)
RX-018C	Second Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 50-51, 68) and First Supplemental Response to Complainants' Fifth Set of Interrogatories (Nos. 82-84)			Thomas Schwyn	Domestic Industry Invalidity Non-Infringement	Withdrawn (JX-72)
RX-019C	April 28, 2008 Letter from P. Goulet to P. Morico regarding Maytag and Amana Documents			Thomas Schwyn	Domestic Industry Invalidity Non-Infringement Patent Misuse	Withdrawn

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RX-020C	ID12 Icemaker Heat Shield Justification	WP000009084	WP000009084	Gregory Hortin Verne Myers	Invalidity	Withdrawn
RX-021C	2008 SBS Refrigerator Evaluations: Mockups with Formed Front, Colors and Glass Panels	LGUS0337866	LGUS0337958	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-022C	2005/2006 Ice, Water, Filtration Research summary	WP001063614	WP001063637	Gregory Hortin Verne Myers	Invalidity	Withdrawn
RX-023C	US District Court for the Western District of Michigan Whirlpool v. LG and GE Honorable Robert Bell Opinion on the 4,784,666 patent July 18, 2006			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-024C	US District Court for the Western District of Michigan Whirlpool v. LG and GE Honorable Robert Bell Opinion on the 6,212,722 patent August 15, 2006			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-025C	Respondents' Fourth Set of Interrogatories to Complainants			Warren Bessler	Invalidity	Withdrawn
RX-026C	Respondents' Fourth Set of Requests for Admission to Complainants (Nos. 154-210)			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-027C	Subject: Fresh Ice	WP000253619	WP000253623	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-028C	IDS Alternative Ice/Water Solutions to Bottom Mount Refrigerators	WP000044567	WP000044570	Gregory Hortin Verne Myers	Invalidity	Withdrawn
RX-029C	Technology Letter of Findings to Wes Maglinger, Tom Walling and Ed Anderson from Technical Design Preview Team	WP000291189	WP000291194	Gregory Hortin Verne Myers	Invalidity	Withdrawn
RX-030C	Request for Information [redacted]	WP000660369	WP000660372	Seth Kaplan	Invalidity Non-Infringement Patent Misuse	Withdrawn
RX-031C	Whirlpool Qualitative Research September 2005	WP000258572	WP000258626	Gary Langbo Seth Kaplan Robert Caliguiri	Invalidity Non-Infringement	Withdrawn
RX-032C	Whirlpool Brand: [redacted]	WP000006212	WP000006221	Gary Langbo Seth Kaplan Robert Caliguiri	Patent Misuse	Withdrawn

[redacted]

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Exhibit	Description	Bates Begin	Bates End	Sponsoring Witness	Bases	Status
RX-033C	LG Competitive Intelligence Internal Interview Notes 8/13/2007	WP001035061	WP001035064	Gary Langbo Seth Kaplan	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-034C	Email from Thomas Admire to Nihat Cur regarding notes from 10-21 Metting with Dean Schwartz regarding product plans	WP001041753	WP001041758	Gary Langbo Stephen Howard	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-035C	Discrete Choice Feature Liste SxS and BM Refrigerators 4/25/2007	WP000252368	WP000252380	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-036C	Technology Letter of Findings	WP001055682	WP001055690	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Admitted
RX-037C	Pentagon System. Base Model: [redacted]	WP001133284	WP001133285	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-038C	Email from Nihat Cur to Amit Verma regarding upcoming product planning meetings	WP001154239	WP001154243	Gary Langbo Seth Kaplan	Patent Misuse Unclean Hands	Withdrawn
RX-039C	Email from Guolian Wu to Nihat Cur [redacted]	WP001154288	WP001154288	Thomas Schwyn	Invalidity Non-Infringement	Withdrawn
RX-040C	IDI2 Resources	WP000026692	WP000026692	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-041C	Respondents' Third Set of Requests for Admission to Complainants (Nos. 104-153)			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-042C	Email from Edward Anderson to Michael Kauffman [redacted]	WP001201700	WP001201703	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Withdrawn
RX-043C	Email from Bryan Grimsley to Steve Herndon regarding Competitive Product Teardown	WP000280775	WP000280778	Gregory Hortin Thomas Schwyn	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-044C	2006 IBS Competitive Update: 1/16/06	WP000792878	WP000792881	Thomas Schwyn	Invalidity	Withdrawn
RX-045C	Email from Patrick Braun to Michael Stagg regarding ice and water proposal for China JV	WP000800115	WP000800115	Gary Langbo Stephen Howard	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-046C	Whirlpool's Memorandum in Support of Its Motion for Summary Judgment of Non-Infringement, Invalidity and no Lost Profits	WP001213100	WP001213181	Thomas Schwyn	Invalidity	Withdrawn

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RX-047C	Email from Gregory Garavalia to Scott Leatherland regarding comparable Whirlpool/Maytag model numbers	WP001041801	WP001041803	Seth Kaplan	Invalidity	Withdrawn
RX-048C	Email from Fabio Scaltritti to Michael Stagg [redacted]	WP001058664	WP001058665	Thomas Schwyn Gregory Hortin	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-049C	Box-fan	LGKR0053426	LGKR0053427	Myung Ryul Lee Si Yun An	Invalidity Non-Infringement	Admitted
RX-050C	Whirlpool's Responses to Maytag's First Set of Interrogatories	WP001212412	WP001212426	Thomas Schwyn	Invalidity Non-Infringement	Withdrawn
RX-051C	Design Idea for Water Spill Presentation	LGKR0053421	LGKR0053422	Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-052C	List of Technology Roadmap Projects	WP000035964	WP000036003	Gregory Hortin Verne Myers	Invalidity	Withdrawn
RX-053C	Project Plan and Budget	LGKR0007819	LGKR0007823	Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-054C	Second Supplemental Expert Report Regarding Non-Infringement of Dwight William Jacobus	WP001210429	WP001210441	Thomas Schwyn	Domestic Industry Non-Infringement	Withdrawn
RX-055C	Water Spill	LGKR0053456	LGKR0053457			Withdrawn
RX-056C	The Bank Design Choice	LGKR0052866	LGKR0052867			Withdrawn
RX-057C	Ice Bank	LGKR0052862	LGKR0052865	Si Yun An	Invalidity	Admitted
RX-058C	Whirlpool's Statement of Undisputed Facts in Support of Its Motion For Summary Judgement	WP001215451	WP001215479	Thomas Schwyn	Domestic Industry Non-Infringement	Withdrawn
RX-059C	Bravo B/T	LGKR0167494	LGKR0167501	Si Yun An	Invalidity Non-Infringement	Admitted
RX-060C	Whirlpool General LG and GE Patent Assumptions	WP000684311	WP000684312	Thomas Schwyn	Invalidity Patent Misuse Unclean Hands	Admitted
RX-061C	Water Spill Test	LGKR0053572	LGKR0053574	Myung Ryul Lee Si Yun An	Invalidity Non-Infringement	Admitted
RX-062C	Water Spill Test	LGKR0030077	LGKR0030084	Si Yun An	Invalidity Non-Infringement	Admitted

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US ITC Inv. 337-TA-632 LG Respondents' Confidential Admitted Trial Exhibit List

RX-063C	Email from Timothy Fulton to Diane Marret regarding ice rate of IDI2	WP001097021	WP001097021	Gary Langbo Seth Kaplan	Invalidity	Withdrawn
RX-064C	Email from Kevin White to Scott Leatherland describing the difference between IDI and IDI2 execution as	WP000804233	WP000804234	Verne Myers Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-065C	More Detailed than Number Five	LGKR0000448	LGKR0000457	Si Yun An	Invalidity Non-Infringement	Admitted
RX-066C	Good Summary of the Problems	LGKR0000576	LGKR0000586			Withdrawn
RX-067C	Each Part & Problem Ice Making	LGKR0020919	LGKR0020934	Si Yun An	Invalidity Non-Infringement	Admitted
RX-068C	Problem and Investment	LGKR0047157	LGKR0047166	Si Yun An	Invalidity Non-Infringement	Admitted
RX-069C	Summary of NAR Research Findings on Water & Ice	WP001063547	WP001063613	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-070C	Summary of Improvement	LGKR0000423	LGKR0000442	Si Yun An	Invalidity Non-Infringement	Admitted
RX-071C	Summary of Problem: Comparision with Competitor	LGKR0000864	LGKR0000881	Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-072C	Gregory Hortin 30 (b)(6) Deposition December 2, 2004	WP001214184	WP001214239	Gregory Hortin	Domestic Industry Non-Infringement	Admitted
RX-073C	BiCS II Project R&D Meeting	LGKR0050676	LGKR0050686			Withdrawn
RX-074C	BiCS II Project R&D Meeting on 27 Apr 2004	LGKR0050601	LGKR0050608			Withdrawn
RX-075C	BiCS II Project R&D Meeting on 30 Nov 2004	LGKR0053358	LGKR0053361			Withdrawn
RX-076C	Second Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 60-62, 66)					Withdrawn (JX-70)
RX-077C	BiCS II Project R&D Meeting on 30 Aug 2004	LGKR0050617	LGKR0050624			Withdrawn
RX-078C	Overfeeding	LGKR0007947	LGKR0007951			Withdrawn
RX-079C	In Door Ice Making System	LGKR0052074	LGKR0052082	Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-080C	Design Choice	LGKR0052106	LGKR0052106			Withdrawn

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RX-081C	2005 DIOS BICS Layout	LGKR0031577	LGKR0031581	Si Yun An	Invalidity Non-Infringement	Admitted
RX-082C	Ice Making Test	LGKR0031186	LGKR0031190			Withdrawn
RX-083C	Email from Larry Madill to Timothy Fulton [redacted]	WP001137513	WP001137517	Gregory Hortin Verne Myers	Invalidity	Withdrawn
RX-084C	Ice Rate/Duct	LGKR0022787	LGKR0022791	Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-085C	Email from Gregory Hortin to Steve Herndon regarding the Global Ice Maker Specification	WP001097097	WP001097100	Gregory Hortin Verne Myers	Invalidity	Withdrawn
RX-086C	ELA Attachment: CIT Food Stream Solutions & Air Treatment 2006 Project Deliverables	WP000044548	WP000044566	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-089C	Email from February 2007 regarding KitchenAid Dish Competitive Guides	WP001045497	WP001045500	Gary Langbo Stephen Howard	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-090C	EC Sponsor Reviews 2007	WP000033822	WP000034246	Gary Langbo Stephen Howard Thomas Schwyn	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-091C	Email from February 2007 regarding NAR Product Leadership BET	WP000623316	WP000623316	Verne Myers	Patent Misuse Unclean Hands	Withdrawn
RX-092C	Introducing LG Refrigeration At Sears Training Guide 2006	LGUS0158256	LGUS0158277	Young Ho Noh	Invalidity Non-Infringement Patent Misuse	Admitted
RX-093C	Email from March 2007 regarding Design Advantage slide- refrigeration	WP001129573	WP001129574	Gary Langbo Stephen Howard Verne Myers	Patent Misuse Unclean Hands	Withdrawn
RX-094C	LG Refrigerator 2007	LGUS0115003	LGUS0115022	Young Ho Noh	Invalidity Non-Infringement Patent Misuse Unclean Hands	Admitted
RX-095C	Email from October 2007 regarding Competitive Patents	WP000651236	WP000651240			Withdrawn
RX-096C	Email regarding WER SxS 2008 [redacted]	WP001129570	WP001129572	Verne Myers	Invalidity Patent Misuse Unclean Hands	Withdrawn

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RX-097C	LG- Perfect Harmony of Stylish Design and Technology in Products to Fit Your Life: Welcome Home Depot	LGUS0236567	LGUS0236630	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-098C	Technology Letter of Findings: Pentagon Pre-CSM Tollgate Preview Findings	WP000895190	WP000895203	-		Withdrawn
RX-099C	Channel Execution Guide Refrigeration February 12, 2008	LGUS0308739	LGUS0308803	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-100C	Item Number Common Brand Requests	WP000279474	WP000279483	Self Authenticating		Withdrawn
RX-101C	Email from Erin Purdy to LG DA NewsAlert dated May 08, 2007	LGUS0260904	LGUS0260911	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-102C	Corporate Innovation & Technology Food Stream Solutions (FSS) & Air Treatment (AT) Products: Bi-Weekly Report- Jan. 15- Feb. 11, 2007	WP000623317	WP000623333	Self Authenticating		Withdrawn
RX-103C	Email from Erin Purdy to LG DA NewsAlert dated May 9, 2007	LGUS0219227	LGUS0219245	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-110C	Refrigerator Strategy	LGKR0107900	LGKR0107941	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-111C	Email from Eileen Earley to LG DA News Alert dated August 21, 2007	LGUS0219647	LGUS0219649	Young Ho Noh	Invalidity Non-Infringement Patent Misuse	Admitted
RX-112C	Email from Karen McDougall to Verne Myers [redacted]	WP001098089	WP001098092	Verne Myers	Invalidity Patent Misuse Unclean Hands	Admitted
RX-114C	Side-by-Side Refrigerator Mock-Up Test Final Report	LGUS0007539	LGUS0007657	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-115C	Welcome Home Depot- Life's Good	LGUS0236470	LGUS0236500	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-116C	LG Panorama French Door Refrigerators	LGUS0282512	LGUS0282529	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-117C	LG Refrigerator Innovations	LGUS0074128	LGUS0074155	Self Authenticating		Withdrawn

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RX-118C	BICS-PJT: Mock Up Acceptance	LGKR0022001	LGKR0022025	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-119C	BICS M1 Review	LGKR0028239	LGKR0028262	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-120C	Refrigerator Strategy	LGKR0107890	LGKR0107899			Withdrawn
RX-121C	' 06 Product Line-up LGEUS	LGKR0108028	LGKR0108041			Withdrawn
RX-122C	Appeal Brief of Plaintiffs- Cross Appellants Whirlpool			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-123C	Complainants' First Supplemental Infringement Contentions			Thomas Schwyn	Non-Infringement	Withdrawn
RX-124C	Second Supplemental Response of Respondents to Complainants' First Set of Interrogatories (Nos. 60-62, 66) September 12, 2008			Self Authenticating		Withdrawn (JX-70)
RX-125C	Email from Scott Leatherland to Kevin White Regarding Clarification of IDI and IDI2 October 12, 2007	WP000805026	WP000805026	Verne Myers Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-126C	Email from Steven C Church to Steve Herndon regarding new language	WP000684300	WP000684300	Gary Langbo Stephen Howard	Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-127C	Whirlpool CT&ED Monthly Report Refrigeration (FSS) & Air Treatment Technology January 2004	WP000950265	WP000950289	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-128C	Email from 1.13.06 [redacted]	WP000793638	WP000793638	Gregory Hortin	Invalidity Non-Infringement	Admitted
RX-129C	Communications Brief	WP000690929	WP000690931	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-130C	Email from 10.12.07 regarding a clarification of the difference between IDI and any IDI2 execution	WP000804233	WP000804234	Thomas Schwyn	Invalidity Non-Infringement	Withdrawn
RX-131C	Email from Edward Anderson to Adrian Micu regarding NAR refrigeration weekly hilites	WP001154821	WP001154823	Thomas Schwyn	Invalidity Non-Infringement	Admitted
RX-132C	LG Electronics Inc.: Breaking the Ice in the North American Market for Refrigerators	WP000700205	WP000700236	Thomas Schwyn	Invalidity Non-Infringement	Withdrawn
RX-133C	Global Consumer Design [redacted]	WP000989895	WP000989896	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn

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RX-134C	Mix Like a Champion with Whirlpool Corp. Side by side	WP000361321	WP000361389	Gary Langbo Stephen Howard	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-135C	Propose Feature Set	WP001133167	WP001133173	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Admitted
RX-136C	Connection: MBR Training Program	WP000006523	WP000006536			Withdrawn
RX-138C	Technology Letter of Findings	WP000291189	WP000291194	Thomas Schwyn	Invalidity Non-Infringement	Withdrawn
RX-139C	Whirlpool Home Appliances September 2007	WP000006537	WP000006537			Withdrawn
RX-140C	Renaissance Projected Manufactoring Costs vs. Competitors	WP000300783	WP000300803	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-141C	Global Refrigeration Ice & Water Training Manual 2008	WP000026955	WP000026984	Thomas Schwyn	Invalidity Non-Infringement	Withdrawn
RX-142C	Refrigeration Global Product Leadership Discussion with Jeff Fettig	WP000301378	WP000301422	Gary Langbo Stephen Howard	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-143C	Email from Randy Jeffery to Guolian Wu [redacted]	WP001063499	WP001063500	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Admitted
RX-144C	[redacted] Project Review and Update February 2008	WP000326957	WP000327005	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Admitted
RX-145C	Elevator Slides for Technology Roadmap Projects	WP000035861	WP000035932	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-146C	Capital Appropriation Request	WP001227118	WP001227126	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-147C	Service "S" Model Refrigerator/Freezer Bottom Mount Side-by-Side Top Mount	WP001220635	WP001220730	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-148C	Side by side Refrigerators Styling and Controls Exploratory Research	WP000002632	WP000002638	Gary Langbo Seth Kaplan	Invalidity Non-Infringement	Withdrawn
RX-149C	Project Manfred	WP000031600	WP000031602	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn

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Exhibit	Description	Bates Begin	Bates End	Sponsoring Witness	Objections	Status
RX-150C	Synovate In-Door Ice Study: Qtr Draft 9/1/05	WP001061995	WP001062009	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-151C	Email from Thomas W Arent to Blane regarding SxS meeting follow up	WP001154844	WP001154844	Gary Langbo Seth Kaplan	Patent Misuse Unclean Hands	Withdrawn
RX-152C	Email from Mary K Bolger to Kenneth N [redacted]	WP001036330	WP001036332	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-153C	Sears Training & Store Execution Guide	WP000072720	WP000072735	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-154C	LWE II: Refrigeration KTO Session KTO 5.1 XXL Execution KTO 5.2 Emerging Markets	WP000287208	WP000287227	Gary Langbo Seth Kaplan	Patent Misuse Unclean Hands	Withdrawn
RX-155C	Communications Brief	WP000257040	WP000257042	Self Authenticating Party Admission Whirlpool Witness		Withdrawn
RX-156C	Email from Sugosh Venkataraman to Fabio Scaltritti [redacted]	WP001079217	WP001079218	Verne Myers	Infringement Patent Misuse Unclean Hands	Admitted
RX-157C	Whirlpool Food Stream Solutions: Strategy For Global Product Leadership- Executive Meeting Presentation May 23, 2007	WP000924118	WP000924275	Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-158C	Whirlpool's Reply in Support of its Motion for Summary Judgment	WP001216551	WP001216585	Thomas Schwyn	Domestic Industry Non-Infringement	Withdrawn
RX-159C	Email from Marcus Franck to Ryan Dunafin [redacted]	WP001093217	WP001093218	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-160C	Whirlpool's Reply Statement to Maytag's Objections to Whirlpool's Undisputed Facts in Support of its Motions for Summary Judgment	WP001216626	WP001216681	Thomas Schwyn	Domestic Industry Non-Infringement	Withdrawn
RX-161C	Expert Report of Dwight William Jacobus Regarding Non-Infringement	WP001221666	WP001221709	Thomas Schwyn Gregory Hortin	Domestic Industry Non-Infringement	Withdrawn
RX-162C	Whirlpool's Objections and Responses to Maytag's Statement of Additional Facts in Support of its Opposition	WP001216586	WP001216625	Thomas Schwyn	Domestic Industry Non-Infringement	Withdrawn

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RX-163C	Expert Report of Dwight William Jacobus Supplemental Report Regarding Non-Infringement	WP001222011	WP001222039	Thomas Schwyn Gregory Hortin	Domestic Industry Non-Infringement	Withdrawn
RX-164C	Email regarding Claim Charts for the Maytag '688 Patent	WP001226708	WP001226708	Thomas Schwyn Robert Caliguiri Gregory Hortin Thomas Schwyn Gregory Hortin	Domestic Industry Non-Infringement	Withdrawn
RX-165C	LG Competitive Benchmark and CI Capability Build	WP000642584	WP000642690	Thomas Schwyn Gary Langbo Seth Kaplan	Invalidity Non-Infringement Patent Misuse	Admitted
RX-166C	Investment Effort to Lower Part Cost	LGKR0022044	LGKR0022099	Si Yun An	Invalidity Non-Infringement	Admitted
RX-168C	Robert O. Rice March 29, 2005	WP001224054	WP001224106	Thomas Schwyn	Domestic Industry Non-Infringement	Withdrawn
RX-171C	Respondents' Set of Requests for Admission to Complainants (Nos. 31-103)			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-172C	April 23, 2008 Letter to Scott Partridge from Paul Goulet			Thomas Schwyn	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-173C	April 11,2008 Letter to Richard Stroup from Paul Morico			Thomas Schwyn	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-174C	April 9,2008 Letter to Scott Partridge from Richard Stroup			Thomas Schwyn	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-177C	Dr. Robert Caliguri's Supplemental Infringement Testing and Analysis of a GE Profile Harmony Washer August 8, 2005			Robert Caliguiri Thomas Schwyn	Patent Misuse	Withdrawn
RX-178C	Dr. Robert Caliguri's Infringement Testing and Analysis of a GE Profile Harmony Washer Report July 22, 2005			Robert Caliguiri Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-330C	A. Oltman Exhibit 133- Technology of Letter of Findings: Icemaker Harvest Prevention Mechanism Bottom. (Aug, 22, 2008)	WP000686870	WP000686878	Andrew Oltman	Invalidity Non-Infringement	Admitted

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RX-331C	A. Oltman Exhibit 132- Hand drawing of refrigerator labeling IDI icemaker and IDI Ice bin (bucket). (Aug 22, 2008)			Andrew Oltman	Invalidity Non-Infringement	Admitted
RX-332C	A. Oltman Exhibit 131- Hand drawing of refrigerator labeling icemaker, bucket, door, and back of refrigerator. (Aug. 22, 2008)			Andrew Oltman	Invalidity Non-Infringement	Admitted
RX-333C	A. Oltman Exhibit 130- Hand drawing of Icemaker location in pre-IDI and IDI. (Aug 22, 2008)			Andrew Oltman	Invalidity Non-Infringement	Admitted
RX-334C	S. Howard Exhibit 13- Whirlpool North American Communication Plan	WP000622217	WP000622242	Self Authenticating Stephen Howard		Withdrawn (JX-32)
RX-335C	S. Howard Exhibit 14- Extreme Volume Rebate Program Bottom Freezer	WP000846543	WP000846554	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-336C	S. Howard Exhibit 15- Refrigeration Manufacturing Profile	WP000001509	WP000001510	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-337C	S. Howard Exhibit 16- Manufacturing Footprint Evaluation Restructuring: LaVergne Plant	WP000012059	WP000012064	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-338C	S. Howard Exhibit 17- 2 Door TM/BM GOP Strategy	WP000012144	WP000012166	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-339C	S. Howard Exhibit 18- Sales Chart for 2006-2008	WP001200560	WP001200674	Party Admission Whirlpool Witness Stephen Howard		Withdrawn (JX-33)
RX-340C	S. Howard Exhibit 19- NAR Dimensional Reporting New BPM Allocation Logic	WP001200546	WP001200559	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-341C	S. Howard Exhibit 20- 2008 Profit Plan Review	WP001031884	WP001031904	Whirlpool Witness Stephen Howard		Withdrawn (JX-34)
RX-342C	S. Howard Exhibit 21- NAR Top Mount Profitability Study for July 13, 2005	WP000011994	WP000012017	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-343C	S. Howard Exhibit 22- NAR Top Mount Profitability Study for Feb. 7, 2005	WP000011957	WP000011993	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn

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RX-344C	S. Howard Exhibit 23- Top Mount Strategy Overview for Dec. 12, 2005	WP000011927	WP000011956	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-345C	S. Howard Exhibit 24- Whirlpool Industry Charts	WP000005052	WP000005101	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-346C	S. Howard Exhibit 25- Whirlpool Corporation Analytical Statement- Dimensional View 12 Month Rolling	WP000796983	WP000796986	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-347C	S. Howard Exhibit 26- Actual Forecast, Prior year comparison with variances	WP000307580	WP000307582	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-348C	S. Howard Exhibit 27- Refrigeration Manufacturing Profile	WP000361037	WP000361038	Whirlpool Witness Stephen Howard		Withdrawn (JX-35)
RX-349C	S. Howard Exhibit 28- Whirlpool Corporation Income Statement- Dimensional View Monthly Comparison	WP000307575	WP000307577	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-350C	S. Howard Exhibit 29- Sales Chart for 2006-2008	WP000250481	WP000250486	Party Admission Stephen Howard	Domestic Industry	Withdrawn (JX-36)
RX-351C	S. Howard Exhibit 30- 2007 YTD	WP000033836	WP000033882	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-352C	S. Howard Exhibit 31- Backorder Reports as of January 9th, 2006	WP001165419	WP001165422	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-353C	S. Howard Exhibit 32- Email dated January 2, 2008 from Jose Valles to Stacey Gearhart	WP001047676	WP001047682	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-354C	S. Howard Exhibit 33- Email from February 22, 2008 from Victor Lopez to Thomas Altholz regarding 2008 Capital Project Plan	WP001079840	WP001079840	Stephen Howard Gary Langbo	Domestic Industry	Withdrawn
RX-355C	S. Howard Exhibit 34- Email enclosing the capital investment and technology expense required to implement the Kenmore Elite 2006/07 SxS Refresh dated December 5, 2005	WP000983287	WP000983287	Stephen Howard Gary Langbo	Domestic Industry	Withdrawn

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RX-356C	S. Howard Exhibit 35- WP Email enclosing US Engineering Budget Results for Q1dated April 4, 2006	WP001031256	WP001031257	Stephen Howard Gary Langbo	Domestic Industry	Withdrawn
RX-357C	S. Howard Exhibit 36- WP Email on IDI2 Direction Discussion dated November 13, 2006	WP001042262	WP001042265	Stephen Howard Gary Langbo	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-358C	D. Harmon Exhibit 101 - Hand drawing (Aug. 20, 2008)			Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-362C	D. Harmon Exhibit 105 - US Patent 3,308,632			Daryl Harmon		Withdrawn (JX-28)
RX-365C	D. Harmon Exhibit 108 - Hand drawing labeling a door			Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-366C	D. Harmon Exhibit 109 - IDI2 Resouces	WP000026692	WP000026692	Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-367C	D. Harmon Exhibit 110 - Cost Reduction Workshop In-Door-Ice 2	WP000794429	WP000794434	Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-368C	D. Harmon Exhibit 111 - BET Tollgate College Findings	WP000286913	WP000286916	Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-369C	D. Harmon Exhibit 112 - Tempest Ice & Water Subsystem CSM Tollgate Preview	WP000686328	WP000686333	Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-370C	D. Harmon Exhibit 113 - CT & ED Monthly Report April 2003 Document	WP000016182	WP000016204	Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-371C	D. Harmon Exhibit 114 - Pictures of Refrigerator compartments			Daryl Harmon	Invalidity Non-Infringement	Admitted
RX-374C	D. Harmon Exhibit 117 - Hand drawing labeling IDI Icemaker and non-IDI Icemaker			Daryl Harmon	Invalidity Non-Infringement	Withdrawn
RX-375C	G. Langbo Exhibit 37 - Email from Mark Hamilton stating refrigeration for 2007 had an earnings decline (Aug. 14, 2008).	WP001050413	WP001050414	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Admitted
RX-376C	G. Langbo Exhibit 38 - French Door Bottom Freezers with Ice & Water Dispensing	WP000299300	WP000299311	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-377C	G. Langbo Exhibit 39 - Competitor Chart	WP000698743	WP000698758	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted

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RX-378C	G. Langbo Exhibit 40 - Fact-Book LG Electronics	WP001029395	WP001029468	Party Admission Gary Langbo Stephen Howard	No Domestic Industry Invalidity Non-Infringement Patent Misuse Unclean Hands	Admitted
RX-379C	G. Langbo Exhibit 41 - Correspondence between Shiv Dutt and Kevin Leatherwood [redacted]	WP000336718	WP000336719	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-380C	G. Langbo Exhibit 42 - Correspondence between Justin Reinke and Gregory Garavalia [redacted]	WP000336746	WP000336747	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-381C	G. Langbo Exhibit 43 - Chart of Maytag Models with target goals	WP000804120	WP000804173	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-382C	G. Langbo Exhibit 44 - Langbo email [redacted]	WP000805477	WP000805480	Gary Langbo Stephen Howard	Domestic Industry Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-383C	G. Langbo Exhibit 45 - Email [redacted]	WP000282053	WP000282054	Gary Langbo Stephen Howard	Domestic Industry Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-384C	G. Langbo Exhibit 46 - Tara Hartman email stating Document collection for LG ITC matter	WP000806476	WP000806477	Gary Langbo Stephen Howard	Domestic Industry Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-385C	G. Langbo Exhibit 47 - Email for 2007 Kenmore Weekly POS	WP000807042	WP000807044	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Withdrawn
RX-386C	G. Langbo Exhibit 48 - Email for [redacted]	WP000807110	WP000807111	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Admitted
RX-387C	G. Langbo Exhibit 49 - Email for Canadian deck [redacted]	WP000811316	WP000811318	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Admitted
RX-388C	G. Langbo Exhibit 50 - Email for J.D. Power Majap Satisfaction Results	WP000813768	WP000813774	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Admitted

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RX-389C	G. Langbo Exhibit 51 - Email for Pulse Report refrigeration on 1.12.08	WP000889262	WP000889265	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-390C	G. Langbo Exhibit 52 - Email [redacted]	WP000892953	WP000892954	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Withdrawn
RX-391C	G. Langbo Exhibit 53 - Email [redacted]	WP000985104	WP000985105	Gary Langbo Stephen Howard	Domestic Industry	Admitted
RX-392C	G. Langbo Exhibit 54 - Email regarding [redacted]	WP000985107	WP000985107	Gary Langbo Stephen Howard	Domestic Industry	Admitted
RX-393C	G. Langbo Exhibit 55 - Competitive analysis Highlights Key Product Gaps w/ SXS	WP000033865	WP000033865	Gary Langbo Stephen Howard	Invalidity Patent Misuse Unclean Hands	Admitted
RX-394C	G. Langbo Exhibit 56 - Confidential Premium Pricing	WP001152677	WP001152682	Gary Langbo Stephen Howard	Patent Misuse	Admitted
RX-395C	G. Langbo Exhibit 57 - Refrigeration Share of Floor Summary	WP000257764	WP000257799	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-396C	G. Langbo Exhibit 58 - Refrigeration Chart	WP000787322	WP000787361	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-397C	G. Langbo Exhibit 59 - Contact List	WP000785994	WP000785996	Gary Langbo Stephen Howard	Domestic Industry	Withdrawn
RX-398C	G. Langbo Exhibit 60 - Email regarding Whirlpool v. LG case	WP001156793	WP001156794	Gary Langbo Stephen Howard	Invalidity Non-Infringement Patent Misuse Unclean Hands	Withdrawn
RX-399C	G. Langbo Exhibit 61-WP001045960-WP001045962	WP001045960	WP001045962	Gary Langbo Stephen Howard		Withdrawn
RX-400C	G. Langbo Exhibit 62 - 2008 side-by-side model financials email	WP001042098	WP001042099	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-401C	G. Langbo Exhibit 63 - Email [redacted]	WP001171285	WP001171285	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted

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RX-402C	G. Langbo Exhibit 64 - Email about current WP refrigeration business	WP001043693	WP001043694	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-403C	G. Langbo Exhibit 65 - Email about Maytag Renaissance model line concerns	WP001036188	WP001036190	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-404C	G. Langbo Exhibit 66 - Tony Chang email about Maytag Renaissance model line concerns (Aug. 14, 2008).	WP001035822	WP001035826	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Withdrawn
RX-405C	G. Langbo Exhibit 67 - Letter from Randy Voss to Henry Marcy regarding consumer electronics show innovation- appliances	WP001185262	WP001185264	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-406C	G. Langbo Exhibit 68 - Kevin White to Philips [redacted]	WP000632311	WP000632311	Gary Langbo Stephen Howard	Domestic Industry Patent Misuse Unclean Hands	Admitted
RX-407C	G. Langbo Exhibit 69 - Correspondence from Dean Triermstra to Robert [redacted]	WP000643162	WP000643164	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Withdrawn
RX-408C	G. Langbo Exhibit 70 - Correspondence from Jose Valles to Gary [redacted]	WP001027860	WP001027862	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Admitted
RX-409C	G. Langbo Exhibit 71- Correspondence from Jose Valles to Gary T and Kenneth N [redacted]	WP001036361	WP001036363	Gary Langbo Stephen Howard	Patent Misuse Unclean Hands	Withdrawn
RX-410C	G. Langbo Exhibit 72- Ericka Wietecha to Joseph regarding a mystery shopper results plus top-line competitive research results	WP001043019	WP001043020	Gary Langbo Stephen Howard	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-411C	I. Kim Exhibit 6- Specifications for LG Refrigerator Model LSC27931	Ill Kim Ex.6		Ill Kim		Withdrawn (JX-51)
RX-412C	Ill Kim Exhibit 7- Owners Manual for LG Refrigerator model LSC 27391	Ill Kim Ex. 7		Ill Kim		Withdrawn (JX-52)
RX-413C	Ill Kim Exhibit 8- Design Schematic	LGKR0237805	LGKR0237805	Ill Kim		Withdrawn (JX-53)
RX-414C	Ill Kim Exhibit 9- Design Schematic	LGKR0237806	LGKR0237806	Ill Kim		Withdrawn (JX-54)
RX-415C	I. Kim Exhibit 10- Design Schematic	LGKR0236924	LGKR0236924	Ill Kim		Withdrawn (JX-40)

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US ITC Inv. 337-TA-632 LG Respondents' Confidential Admitted Trial Exhibit List

RX-416C	Ill Kim Exhibit 12- Service Manual for LG Refrigerator model LSC27931 (Aug. 28, 2008)	LGKR0243916	LGKR0243965	Ill Kim		Withdrawn (JX-41)
RX-417C	Ill Kim Exhibit 13- LGKR0236927 (Aug. 28, 2008)	LGKR0236927	LGKR0236927	Ill Kim		Withdrawn (JX-42)
RX-418C	Ill Kim Exhibit 17- User Manual for LG Refrigerator model LFX25971, LFX21971 (Aug. 28, 2008)			Ill Kim		Withdrawn (JX-43)
RX-419C	Ill Kim Exhibit 18- Refrigerator Service Manual for LG model LFX23961 (Aug. 28, 2008)			Ill Kim		Withdrawn (JX-44)
RX-420C	Ill Kim Exhibit 19- Design Schematic	LGKR0236933	LGKR0236933	Ill Kim		Withdrawn (JX-45)
RX-421C	I. Kim Exhibit 20- LG Design Schematic	LGKR0244008	LGKR0244008	Ill Kim		Withdrawn (JX-46)
RX-422C	I. Kim Exhibit 21- LG Design Schematic	LGKR0237809	LGKR0237809	Ill Kim		Withdrawn (JX-47)
RX-423C	Ill Kim Exhibit 26- Refrigerator Service Manual LG model LFX25971, LFX21971 (Aug. 28, 2008)	Ill Kim Ex.26		Ill Kim		Withdrawn (JX-48)
RX-425C	J. Willis Exhibit 3 Electrolux Kuhlen Gefrieren (August 29, 2008)	J. Willis Ex. 3	J. Willis Ex. 3	Self Authenticating Public Record James Willis		Withdrawn
RX-429C	J. Willis Exhibit 7- WP001185308 (August 29, 2008)	WP001185308	WP001185308	James Willis	Invalidity Non-Infringement	Withdrawn
RX-430C	J. Carrick Exhibit 5- WP001188616-636 (August 12. 2008)			Jay Carrick	Invalidity Non-Infringement Patent Misue Unclean Hands	Withdrawn
RX-431C	J. Carrick Exhibit 6- WP00118866 (Aug. 12, 2008)	WP001188666	WP001188666	Jay Carrick	Invalidity Non-Infringement Patent Misue Unclean Hands	Withdrawn
RX-432C	J. Carrick Exhibit 7- Letter to Paul R. Morico from Paul C. Goulet dated April 28, 2008 (Aug. 12, 2008)	J. Carrick Ex. 7	J. Carrick Ex. 9	Jay Carrick	Invalidity Non-Infringement Patent Misue Unclean Hands	Withdrawn
RX-433C	J. Carrick Exhibit 8 WP001188637-866 (Aug. 12, 2008)	WP001188637	WP001188665	Jay Carrick	Invalidity Non-Infringement Patent Misue Unclean Hands	Withdrawn

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RX-434C	J. Kim Exhibit 11 Specifications for LG model LFX25971, LFX21971. (Sept. 10, 2008)	J. Kim Ex. 11				Withdrawn (JX-56)
RX-436C	J. Kim Exhibit 13- Website displaying Black Kenmore Elite 25.0 cu. ft. TRIO Ice & Water Dispensing Bottom-Freezer Refrigerator (September 10, 2008)	J. Kim Exhibit 13	J. Kim Exhibit 13	J. Kim		Withdrawn (JX-57)
RX-438C	J Pastryk Ex. 201 Picture drawn of duct and icemaker of refrigerator	J Pastryk Ex. 201	J Pastryk Ex. 201	Jim Pastryk	Invalidity Non-Infringement	Withdrawn
RX-439C	J Pastryk Ex. 202 Picture drawn of refrigerator compartment labeling crusher blade, outlet crusher, blade, and ourter wall	J Pastryk Ex. 202	J Pastryk Ex. 202	Jim Pastryk	Invalidity Non-Infringement	Admitted
RX-441C	M. Nelson Exhibit 210 Supoena Duces Tecum and Ad Testificandum for Mark Nelson (Sep. 11, 2008)	M. Nelson Ex. 210	M. Nelson Ex. 233	Mark Nelson	Invalidity Non-Infringement	Withdrawn
RX-448C	R. Caligiuri Exhibit 6- Pictures and analysis of different claim numbers	R. Caligiuri Ex. 6	R. Caligiuri Ex. 19	Robert Caligiuri	Invalidity Non-Infringement	Withdrawn
RX-449C	R. Caligiuri Exhibit 7- Personal Notes written on pictures and analysis of different claim numbers	R. Caligiuri Ex. 7	R. Caligiuri Ex. 20	Robert Caligiuri	Non-Infringement	Withdrawn
RX-453C	S. Kaplan Exhibit 5- Policy Implications of Antidumping Measures			Seth Kaplan		Withdrawn (JX-38)
RX-458C	S. Kaplan Exhibit 10- Deposition Transcript of Stephen Howard			Seth Kaplan Stephen Howard	Domestic Industry Invalidity	Withdrawn
RX-459C	S. Kaplan Exhibit 11- Correspondence from V. Milloy to P. Goulet enclosing Exhibit 5 to Expert Report of Seth Kaplan			Seth Kaplan	Domestic Industry	Withdrawn
RX-460C	S. Kaplan Exhibit 12- Kaplan cited document along with Whirlpool email	LGUS0121932; WP000985104; WP000985107	LGUS0121965; WP000985105; WP000985107	Seth Kaplan		Withdrawn (JX-39)
RX-461C	S. Kaplan Exhibit 13- Deposition Transcript of Gary Langbo			Seth Kaplan Gary Langbo	Domestic Industry Invalidity	Withdrawn
RX-462C	S. Kaplan Exhibit 14- Rebuttal Expert Report of Seth Kaplan			Seth Kaplan	Domestic Industry Invalidity	Withdrawn
RX-463C	T. Kniffen Exhibit 5- Hand drawing of Ice making freezing compartment of the fresh food compartment			Todd Kniffen	Domestic Industry Invalidity Non-Infringement	Admitted

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RX-465C	T. Kniffen Exhibit 7- Complainants' Second Supplemental Domestic Industry Contentions			Todd Kniffen		Withdrawn (JX-30)
RX-466C	T. Kniffen Exhibit 8- Whirlpool Amana Refrigeration Design Engineering Procedure			Todd Kniffen	Invalidity Non-Infringement	Withdrawn
RX-474C	T. Kniffen Exhibit 16 - April 7, 2008 Current Network	WP001203761	WP001203761	Todd Kniffen	Domestic Industry Invalidity Non-Infringement	Admitted
RX-475C	T. Kniffen Exhibit 17 - Competitive Product Teardown email from Bryan Grimsley	WP000280775	WP000280778	Todd Kniffen	Invalidity Patent Misuse Unclean Hands	Admitted
RX-476C	T. Kniffen Exhibit 18 - Todd Kniffen regarding latest teardown schedule	WP000248127	WP000248130	Todd Kniffen	Invalidity Patent Misuse Unclean Hands	Withdrawn
RX-477C	T. Kniffen Exhibit 19 - Email regarding former LG, Samsung, and Trade Partners Employees	WP000684191	WP000684195	Todd Kniffen	Invalidity Non-Infringement Patent Misuse Unclean Hands	Admitted
RX-478C	T. Kniffen Exhibit 20 -Todd Kniffen regarding Bottom Mount CUFT Costs	WP000796420	WP000796421	Todd Kniffen	Invalidity Patent Misuse Unclean Hands	Admitted
RX-479C	T. Kniffen Exhibit 21- Email regarding Kenmore Elite by LG wit Ice & Water Thru/ on the door	WP000684120	WP000684124	Todd Kniffen	Invalidity Patent Misuse Unclean Hands	Admitted
RX-480C	T. Kniffen Exhibit 22 - Picture drawn of side-by-side refrigerator with doors open and ice maker labeled			Todd Kniffen	Invalidity Non-Infringement	Admitted
RX-481C	T. Kniffen 23 - Todd Kniffen regarding Bottom Mount Strategy	WP000281740	WP000281741	Todd Kniffen	Patent Misuse Unclean Hands	Admitted
RX-482C	T. Kniffen 24 - Email regarding Arizona trip to sales people on the floor at three Sears store	WP000348961	WP000348970	Todd Kniffen	Patent Misuse Unclean Hands	Withdrawn
RX-483C	V. Myers Exhibit 74 - Picture drawn labeling protrusion			Verne Myers	Domestic Industry Invalidity Non-Infringement	Admitted
RX-485C	V. Myers Exhibit 76 - Picture drawn of top view of ice bucket			Verne Myers	Domestic Industry Invalidity Non-Infringement	Admitted

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RX-486C	V. Myers Exhibit 77 - Confidential Component and Subcomponent chart			Gregory Hortin Verne Myers	Domestic Industry	Admitted
RX-487C	V. Myers Exhibit 78 - Email about Next Generation Ice & Water Nov. 15, 1995	WP000895144	WP000895148	Gregory Hortin Verne Myers		Withdrawn (JX-64)
RX-488C	V. Myers Exhibit 79 - 95-96 CD&TM Year End Planning	WP000011653	WP000011678	Gregory Hortin Verne Myers		Withdrawn (JX-65)
RX-489C	V. Myers Exhibit 80 - WP Ice Dispenser/ Ice Storage Bin Meeting Notes along with Next Gen. Ice Maker CQIS Summary for SXS- All Brands	WP000011717	WP000011719	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-490C	V. Myers Exhibit 81 - CT&ED Product Focus Report for October 1997	WP000016207	WP000016218	Gregory Hortin Verne Myers		Withdrawn (JX-66)
RX-491C	V. Myers Exhibit 82 - Email regarding findings for Concept Selection Milestone 1	WP000895062	WP000895063	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-492C	V. Myers Exhibit 83 - In-Door-Ice Storage CSM1 from 12.11.97 PT. Review	WP000011700	WP000011716	Gregory Hortin Verne Myers		Withdrawn (JX-67)
RX-493C	V. Myers Exhibit 84 - CT&ED Refrigeration Products Group Overall Strategy	WP000044982	WP000044989	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-494C	V. Myers Exhibit 85 - CT&ED Refrigeration and Air Treatment Major Project Budgets	WP000255200	WP000255200	Gregory Hortin Verne Myers	Domestic Industry Invalidity Non-Infringement	Withdrawn
RX-495C	V. Myers Exhibit 86 - Jerry Weinstein CT&ED Visit	WP000989908	WP000989910	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-496C	V. Myers Exhibit 87 - Tentative 1999 Project Portfolio Manpower and Profit Plan Projections	WP000255209	WP000255210	Gregory Hortin Verne Myers	Domestic Industry Invalidity Non-Infringement	Withdrawn
RX-497C	V. Myers Exhibit 88 - 1999 CT&ED Refrigeration Portfolio	WP000950222	WP000950240; WP000011720	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-498C	V. Myers Exhibit 89 - 1999 Project Rankings - CT&ED Refrigeration & Air Treatment for April 5,1999	WP000254689	WP000254690	Gregory Hortin Verne Myers	Domestic Industry Invalidity Non-Infringement	Withdrawn
RX-499C	V. Myers Exhibit 90 - 1999 Project Rankings-CT & ED Refrigeration & Air Treatment for June 18, 1999	WP000254923	WP000254924	Gregory Hortin Verne Myers	Domestic Industry Invalidity Non-Infringement	Withdrawn

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RX-500C	V. Myers Exhibit 91 - Agenda- Katherine Massimo Visit from 6.28.1999	WP000044980	WP000044981	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-501C	V. Myers Exhibit 92 - Agenda- Philip Pejovich Review for 9.01.99V.	WP000044875	WP000044876	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-502C	V. Myers Exhibit 93 - Nihat Cur email regarding In-Door-Ice Storage and Dispensing Project	WP000044880	WP000044880	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-504C	V. Myers Exhibit 94 -Agenda for Steve Paddock and Adrian Micu Visit to CT&ED	WP000044877	WP000044879	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-505C	V. Myers Exhibit 95 - In-Door-Ice and Contoured Door Production Ramp-up Whirlpool Conquest, Kenmore Elite, and Kitchen-Aid Superba	WP001151292	WP001151296	Self Authenticating Gregory Hortin Verne Myers		Withdrawn (JX-68)
RX-506C	V. Myers Exhibit 96 - Next Generation Ice and Water System	WP000011690	WP000011699	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-507C	V. Myers Exhibit 97 -Project Manfred	WP000065329	WP000065332	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-508C	V. Myers Exhibit 98 -Figure 6 Refrigerator Compartment			Verne Myers	Domestic Industry Invalidity	Withdrawn
RX-510C	Gregory Hortin Exhibit 118- Hand drawing of GE Product pre-IDI			Gregory Hortin	Invalidity	Withdrawn
RX-511C	Gregory Hortin Exhibit 119- Hand drawing of IDI system			Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-512C	Gregory Hortin Exhibit 120- Hand drawing of IDI system			Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-513C	Gregory Hortin Exhibit 121- Hand drawing of IDI front view			Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-514C	Gregory Hortin Exhibit 122- Hand drawing of fill-tube			Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-515C	Gregory Hortin Exhibit 123-[redacted]	WP001203155	WP001203190	Self Authenticating Gregory Hortin Verne Myers		Withdrawn (JX-31)
RX-517C	Gregory Hortin Exhibit 125- Pictures of refrigerator compartments			Gregory Hortin	Invalidity Non-Infringement	Withdrawn

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RX-518C	Gregory Hortin Exhibit 126- Pictures of refrigerator compartments being labeled with "ice opening"			Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-519C	Gregory Hortin Exhibit 127- Pictures of refrigerator compartments being labeled with "ice opening"			Gregory Hortin	Invalidity Non-Infringement	Admitted
RX-520C	Gregory Hortin Exhibit 128- Hand drawing of Tempest Left French Door			Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-521C	Gregory Hortin Exhibit 129- Email from Debi Steel to Kenneth N [redacted]	WP000628026	WP000628026	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-546C	Email from 10-12-07 regarding the difference between IDI and any IDI2 execution.	WP000805027	WP000805027	Thomas Schwyn	Invalidity Non-Infringement Patent Misue	Withdrawn
RX-547C	Table of product features	WP000258925	WP000258928	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-548C	Product Innovation Sheet	WP000261537	WP000261597	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-549C	2008 KM SxS Mini Rev. 1	WP000001294	WP000001309	Gary Langbo Stephen Howard	Domestic Industry Invalidity Patent Misue Unclean Hands	Withdrawn
RX-550C	Detailed pictures of different parts of the refrigerator	WP000658397	WP000658420	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-552C	Whirlpool Consumers Online (WCO) Community Activity Request Form	WP000074218	WP000074228	Gary Langbo Stephen Howard	Invalidity Non-Infringement	Withdrawn
RX-559C	Deposition Designation of Andrew Oltman				Invalidity Non-Infringement	Withdrawn
RX-560C	Deposition Designation of Darryl Harmon				Invalidity Non-Infringement	Withdrawn
RX-561C	Deposition Designation of Devinder Singh				Invalidity Non-Infringement	Withdrawn
RX-562C	Deposition Designation of James Willis				Invalidity Non-Infringement	Withdrawn
RX-563C	Deposition Designation of Jim Pastryk				Invalidity Non-Infringement	Withdrawn

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RX-564C	Deposition Designation of Mark Nelson				Invalidity Non-Infringement	Withdrawn
RX-565C	Deposition Designation of Stephen Howard					Withdrawn
RX-566C	Deposition Designation of Todd Kniffen					Withdrawn
RX-567C	Direct Witness Statement of Si Yun An					Admitted
RX-568C	Direct Witness Statement of Myung Ryul Lee					Admitted
RX-569C	Direct Witness Statement of Young Ho Noh					Admitted
RX-570C	Direct Witness Statement of Warren Bessler					Admitted
RX-575C	Deposition Designation of Gary Langbo					Withdrawn
RX-576C	Deposition Designation of Thomas Schwyn					Withdrawn
RX-577C	Deposition Designation of Verne Myers					Withdrawn
RX-578C	Deposition Counter Designation of Jiyoung Kim			Jiyoung Kim	Invalidity Non-Infringement	Withdrawn
RX-579C	Deposition Counter Designations of Ill Shin Kim			Ill Shin Kim	Invalidity Non-Infringement	Withdrawn
RX-580C	Deposition Counter Designations of Young Ho Noh			Young Ho Noh	Invalidity Non-Infringement	Withdrawn
RX-581C	Deposition Counter Designations of Oh Chul Kwon			Oh Chul Kwon	Invalidity Non-Infringement	Withdrawn
RX-582C	Warren Bessler Rebuttal Witness Statement			Warren Bessler	Invalidity Non-Infringement	Admitted
RX-583C	Si Yu An Rebuttal Witness Statement			Si Yu An	Invalidity Non-Infringement	Admitted
RX-586C	Supplemental Witness Statement of Myung-Ryul Lee			Myung-Ryul Lee	Invalidity Non-Infringement	Admitted
RX-587C	Stephen Howard Deposition Exhibit 12, Confidential Exhibit 1 to First Amended Complaint			S. Howard S. Kaplan	No Domestic Industry Secondary Consideration of Non-Obviousness	Admitted

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RX-588C	Seth Kaplan Expert Report with Exhibit 2			S. Kaplan	No Domestic Industry Secondary Consideration of Non-Obviousness	Withdrawn

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Exhibit	Summary	Bates	Exhibit	Sponsoring Witness	Purpose	Status
RDX-009	Lee Domonstrative 1- Prior Art Side By Side Refrigerator			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-013	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-014	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-015	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-016	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-017	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-018	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-019	Claim Chart '130 patent v. DE 08205720			Warren Bessler	Invalidity	Admitted
RDX-020	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-021	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-022	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-023	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-024	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-025	Claim Chart '130 patent v. '165 Application			Warren Bessler	Invalidity	Admitted
RDX-026	Claim Chart '130 patent v. Japanese Laid Open Patent Application S49-50545			Warren Bessler	Invalidity	Admitted
RDX-027	Door-mounted ice bin with motorized auger v. No door-mounted ice bin with motorized auger			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-028	LG's refrigerator v. "130 Patent Disclosure			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-029	The LG Ice Bin v. The '130 Patent Ice Bin			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-030	Ice Dispensing LG v. Figure 9.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-031	LG's Bin Design v. '130 Patent's Bin Design			Warren Bessler	Invalidity Non-Infringement	Admitted

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Exhibit	Summary	[illegible]	[illegible]	Sponsoring Witness	Purpose	Status
RDX-032	Water supply of the accused LG French door refrigerator			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-033	Water supply of the accused LG side-by-side refrigerator			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-034	Water spilling LG v. '130 patent			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-035	The location of the LG ice moaker and ice bin			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-036	Air flow of the accused LG French door refrigerator			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-037	Exemplary LG patents related to LG's in-door ice making system			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-038	Drawing of top freezer refrigerator (LG)			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-039	Drawing of side by side refirgerator (LG)			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-040	Drawing of french door bottom freezer refrigerator (LG)			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-041	Drawing of side by side refigerator (WP)			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-042	Drawing Ice Makers			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-043	Drawing of Augers and Dispense System			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-044	Drawing of LG ice dispenser			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-045	Drawing of Auger Motor			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-046	Side by Side (LG) New			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-047	Bottom Freezer (LG) New			Myung Ryul Lee	Invalidity Non-Infringement	Admitted

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Exhibit	Summary	Redacted	Produced	Sponsoring Witness	Subject	Status
RDX-048	Computer Model Bravo II Project			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RDX-049	Whirlpool model number ED25QFXN pictures of different compartments			Myung Ryul Lee	Invalidity Non-Infringement	Withdrawn
RDX-058	130 Patent Claim 1: Refrigerator compartments			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-059	130 Patent Claim 1: Picture of refrigerator detailing the different compartments.			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-060	Freezer Compartment and Door vs. Fresh Food Compartment and Door.			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-061	Icemaker within the freezer compartment.			Warren Bessler	Domestic Industry Invalidity Non-Infringement	Admitted
RDX-062	Whirlpool Patents 6148624 and 6082130			Warren Bessler	Non-Infringement	Admitted
RDX-063	Gould Patent			Warren Bessler	Non-Infringement	Admitted
RDX-064	Interview Summary			Warren Bessler	Non-Infringement	Admitted
RDX-065	Accused LG French Door Refrigerator vs. Gould Patent			Warren Bessler	Non-Infringement	Admitted
RDX-066	Issues associated with locating Ice Bin but not Ice Maker on the door: Highlighted sections of refrigerator compartments include front cover, latching mechanism, and and ice level snesing mechanism.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-067	Issues associated with locating Ice Bin but not Ice Maker on the door: Highlighted sections of refrigerator compartments include the latching mechanism and the front cover.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-068	Issues associated with locating Ice Bin but not Ice Maker on the door: Highlighted sections of refrigerator compartments include ice level sensing mechanism, shut-off arm, sensing finger, and ice level sensing finger.			Warren Bessler	Invalidity Non-Infringement	Admitted

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Exhibit	Summary	Beg Bates	End Bates	Sponsoring Witness	Remarks	Status
RDX-069	Issues associated with locating Ice Bin but not Ice Maker on the door: Picture of refrigerator with enlarged picture of ice maker.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-070	LG Ice Bin: Pictures of Ice Bins.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-071	LG Ice Bin: Pictures of specific compartment.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-072	LG Ice Bin: Pictures of specific compartment.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-073	LG Ice Bin: Pictures of Ice Bin along with different compartments.			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-074	Water Spilling			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-075	Old Whirlpool Ice Bin			Warren Bessler	Domestic Industry Invalidity	Admitted
RDX-076	New Whirlpool Ice Bin			Warren Bessler	Domestic Industry Invalidity	Admitted
RDX-077	New Whirlpool Ice Bin: New Auger and Blades.			Warren Bessler	Domestic Industry Invalidity	Admitted
RDX-078	New Whirlpool Ice Bin: No Visible Auger and Blades.			Warren Bessler	Domestic Industry Invalidity	Admitted
RDX-079	Whirlpool Ice Bins: Design of new bins covers outlet of old bin.			Warren Bessler	Domestic Industry Invalidity	Admitted
RDX-080	Video of Whirlpool model ED5PBAXVY00			Warren Bessler	Domestic Industry Invalidity	Admitted
RDX-081	Video of LG model LSC27931			Warren Bessler	Invalidity Non-Infringement	Admitted
RDX-082	Video of LG model LSC21943			Si Yun An	Invalidity Non-Infringement	Admitted
RDX-083	Video of LG model LFX25971			Si Yun An	Invalidity Non-Infringement	Admitted
RDX-084	Animation of LG side-by-side refrigerator			Si Yun An	Invalidity Non-Infringement	Admitted

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Exhibit	Summary	Bates	Number	Sponsoring Witness	Purpose	Status
RDX-085	Animation of LG French-Door Refrigerator			Si Yun An	Invalidity Non-Infringement	Admitted
RPX-001	LG Side by Side Refrigerator LSC27931			Myung Ryul Lee Robert Caliguiri Si Yun An Warren Bessler	Non-Infringement	Withdrawn
RPX-002	LG French Door Refrigerator LFX25971			Myung Ryul Lee Robert Caliguiri Si Yun An Warren Bessler	Non-Infringement	Withdrawn
RPX-003	Whirlpool Side by Side IDI Refrigerator EDPBAXVY00			Myung Ryul Lee Robert Caliguiri Si Yun An Warren Bessler Gregory Hortin Verne Myers	Non-Infringement	Withdrawn
RPX-004	Whirlpool Side by Side Refrigerator with Old Bin GC5NHAXS				Non-Infringement	Withdrawn
RPX-005	Whirlpool Refrigerator ED25				Invalidity	Withdrawn
RX-001	US Patent 6082130					Withdrawn (JX-1)
RX-002	US Prosecution History 6082130					Withdrawn (JX-2)
RX-004	Complainants' List of Proposed Claim Constructions			Self Authenticating Whirlpool Witness		Withdrawn (JX-27)
RX-005	US Prosecution File History 6148624			Warren Bessler Robert Caliguiri Thomas Schwyn Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-009	European appliance company Electrolux appliance catalog in April 1987			Warren Bessler	Invalidity	Admitted
RX-010	A Samsung appliance catalog from March 1993			Warren Bessler	Invalidity	Admitted
RX-011	Office Action of US Prosecution History for 6082130 Patent			Warren Bessler	Invalidity Non-Infringement	Withdrawn
RX-012	Interview Summary of US Prosecution History for 6082130 Patent			Warren Bessler	Invalidity Non-Infringement	Admitted

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Exhibit	Summary	Bates	Bates	Sponsoring Witness	Purpose	Status
RX-087	Japanese Laid Open Utility Model Application S49-50545 filed Sept. 19, 1972 and laid open May 10 1974.					Withdrawn
RX-088	English Translation of Japanese Laid Open Patent Application S49-50545 filed Sept. 19, 1972 and laid open May 10 1974.					Withdrawn
RX-104	Whirlpool Webpage for refrigerator ED5HVEXV URL: http://www.whirlpool.com/catalog/product_printer_friendly.jsp?par=74&cat=96&subcatalog...			Gary Langbo Seth Kaplan	Invalidity Non-Infringement	Withdrawn
RX-105	Whirlpool Webpage for refrigerator ED5HHAXV URL: http://www.whirlpool.com/catalog/product_printer_friendly.jsp?par=74&cat=96&subcatalog...			Gary Langbo Seth Kaplan	Invalidity Non-Infringement	Withdrawn
RX-106	Whirlpool Webpage for refrigerator ED5FHAXV URL: http://www.whirlpool.com/catalog/product_printer_friendly.jsp?par=74&cat=96&subcatalog...			Gary Langbo Seth Kaplan	Invalidity Non-Infringement	Withdrawn
RX-107	Whirlpool Webpage for refrigerator model ED5FHEXV URL: http://www.whirlpool.com/catalog/product_printer_friendly.jsp?par=74&cat=96&subCatalog...			Gary Langbo Seth Kaplan	Invalidity Non-Infringement	Withdrawn
RX-108	LG News Release: LG Electronics Refreshes Three-Door Refrigerator Category With First Vertical Ice and Water Dispenser	LGUS0219101	LGUS0219103	Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-109	LG Webpage for refrigerator model LSC27910ST URL: http://us.lge.com/products/model/modelprint/home%20appliances_refrigerators_side-by-side...			Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-113	LG Webpage for Refrigerator model LSC27931ST URL: http://us.lge.com/products/models/modelprint/home%20appliances_refrigerators_side-by-side...			Seth Kaplan Gary Langbo Young Ho Noh	Invalidity Non-Infringement	Withdrawn
RX-137	Best Buy flyer Expand the functionality of the refrigerator with Centralpark Connection freatures CEIVA Whirlpool's Digital Photo Frame Partner	WP001074486	WP001074486	Thomas Schwyn	Invalidity Non-Infringement	Withdrawn

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Exhibit	Summary	Date of	Entered	Sponsoring Witness	Purpose	Status
RX-167	Whirlpool Corporation and Whirlpool Patents Company v. LG and GE Federal Rule 36 Decision October 10,2008			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-169	GE Service Handbook- Refrigerator and Freezer 1975-1990 GE Models 1975-1990 Hotpoint Models 1989-1990 RCA Models			Warren Bessler	Invalidity	Admitted
RX-170	Brief of Plaintiffs- Cross Appellants Whirlpool Corporation and Whirlpool Patents Company February 13, 2008					Withdrawn
RX-175	National Appliance Catalog, 1994			Myung Ryul Lee	Invalidity	Withdrawn
RX-176	Electrolux Appliance Catalog Electrolux Kuhlen-Gefrieren, April 1987					Withdrawn
RX-179	US Patent 4,176,527			Self Authenticating Public Record		Withdrawn (JX-17)
RX-180	US Patent 3,146,601			Self Authenticating Public Record		Withdrawn (JX-7)
RX-181	US Patent 5,369,335			Self Authenticating Public Record	Non-Infringement Invalidity	Withdrawn
RX-182	US Patent 5,082,335			Self Authenticating Public Record Robert Caliguiri Thomas Schwyn	Non-Infringement Invalidity	Withdrawn
RX-183	US Patent 7,337,617 B2			Robert Caliguiri Thomas Schwyn Warren Bessler	Non-Infringement Invalidity	Admitted
RX-184	US Patent 6,148,624			Self Authenticating Public Record		Withdrawn
RX-185	US Patent 6,945,068 B2			Self Authenticating Public Record		Withdrawn (JX-63)
RX-186	US Patent 6,904,765 B2			Self Authenticating Public Record		Withdrawn (JX-59)
RX-187	US Patent 4,047,633			Warren Bessler	Invalidity	Admitted
RX-188	German Patent 8,205,720			Warren Bessler	Invalidity	Admitted

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Exhibit	Summary	Identified	Admitted	Sponsor/Witness	Purpose	Status
RX-190	US Patent 4,227,383			Self Authenticating Public Record		Withdrawn (JX-18)
RX-191	US Patent 5,056,688			Self Authenticating Public Record		Withdrawn (JX-26)
RX-192	US Patent 4,306,757			Warren Bessler	Invalidity	Admitted
RX-193	US Patent 4,084,725			Self Authenticating Public Record		Withdrawn (JX-15)
RX-194	US Patent 3,621,668			Self Authenticating Public Record		Withdrawn (JX-11)
RX-195	Japanese Laid Open Utility Model Application S51-21165 ("the '165 application)			Self Authenticating Public Record		Withdrawn
RX-196	US Patent 4,801,182			Warren Bessler	Invalidity	Admitted
RX-197	US Patent 6,148,624			Robert Caliguiri Thomas Schwyn Warren Bessler	Non-Infringement Invalidity	Admitted
RX-198	Japanese Laid Open Utility Model Application S50-56263			Self Authenticating Public Record		Withdrawn
RX-199	Japanese Laid Open Patent Application H06-018140			Self Authenticating Public Record		Withdrawn
RX-200	Japanese Laid Open Utility Model Application S51-21164			Self Authenticating Public Record		Withdrawn
RX-201	Japanese Laid Open Utility Model Application S51-21165			Self Authenticating Public Record		Withdrawn
RX-202	Japanese Laid Open Utility Model Application S51-21166			Self Authenticating Public Record		Withdrawn
RX-203	Japanese Laid Open Utility Model Application S51-21167			Self Authenticating Public Record		Withdrawn
RX-204	Japanese Laid Open Utility Model Application S51-21168			Self Authenticating Public Record		Withdrawn
RX-205	Japanese Laid Open Utility Model Application S51-21169			Self Authenticating Public Record		Withdrawn

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Exhibit	Summary	Date ID	Date Admitted	Sponsoring Witness	Purpose	Status
RX-206	Japanese Laid Open Utility Model Application S51-21170			Self Authenticating Public Record		Withdrawn
RX-207	Japanese Laid Open Utility Model Application S51-21171			Self Authenticating Public Record		Withdrawn
RX-208	Japanese Laid Open Utility Model Application S51-21172			Self Authenticating Public Record		Withdrawn
RX-209	Japanese Laid Open Utility Model Application S51-21173			Self Authenticating Public Record		Withdrawn
RX-210	Japanese Laid Open Utility Model Application S51-21185			Self Authenticating Public Record		Withdrawn
RX-211	Japanese Laid Open Utility Model Application S51-148755			Self Authenticating Public Record		Withdrawn
RX-212	Japanese Laid Open Utility Model Application S51-148756			Self Authenticating Public Record		Withdrawn
RX-213	Japanese Laid Open Patent Application S49-50545			Self Authenticating Public Record		Withdrawn
RX-214	Japanese Laid Open Patent Application S49-50546			Self Authenticating Public Record		Withdrawn
RX-215	Japanese Laid Open Patent Application S52-17244			Self Authenticating Public Record		Withdrawn
RX-216	Japanese Laid Open Patent Application S56-47454			Warren Bessler	Invalidity	Admitted
RX-217	Japanese Laid Open Patent Application S56-47453			Self Authenticating Public Record		Withdrawn
RX-218	Japanese Laid Open Patent Application S56-78971			Self Authenticating Public Record		Withdrawn
RX-219	Japanese Laid Open Patent Application H03-267666			Self Authenticating Public Record		Withdrawn
RX-220	Japanese Laid Open Patent Application S82-7258			Self Authenticating Public Record		Withdrawn
RX-221	Japanese Laid Open Patent Application H06-213546			Warren Bessler	Invalidity	Admitted
RX-222	Japanese Laid Open Patent Application H11-287550			Self Authenticating Public Record		Withdrawn

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Exhibit	Summary	Begin	End	Sponsoring Witness	Bates	Status
RX-223	Japanese Laid Open Patent Application S49-111279			Self Authenticating Public Record		Withdrawn
RX-224	Japanese Laid Open Patent Application S49-121166			Self Authenticating Public Record		Withdrawn
RX-225	Japanese Laid Open Patent Application S50-62136			Self Authenticating Public Record		Withdrawn
RX-226	Japanese Laid Open Patent Application S50-62137			Self Authenticating Public Record		Withdrawn
RX-227	Japanese Laid Open Patent Application S50-62138			Self Authenticating Public Record		Withdrawn
RX-228	Japanese Laid Open Patent Application S50-62139			Self Authenticating Public Record		Withdrawn
RX-229	US Patent 4,084,725			Self Authenticating Public Record		Withdrawn (JX-15)
RX-230	US Patent 4,100,761			Self Authenticating Public Record		Withdrawn (JX-16)
RX-231	US Patent 4,176,527			Self Authenticating Public Record		Withdrawn (JX-17)
RX-232	US Patent 4,227,383			Self Authenticating Public Record		Withdrawn (JX-18)
RX-233	US Patent 4,649,717			Self Authenticating Public Record		Withdrawn (JX-19)
RX-234	Japanese Laid Open Patent Application S50-93367			Self Authenticating Public Record		Withdrawn
RX-235	US Patent 4,227,383			Self Authenticating Public Record		Withdrawn (JX-18)
RX-236	US Patent 4,649,717			Self Authenticating Public Record		Withdrawn (JX-19)
RX-237	US Patent 4,756,165			Self Authenticating Public Record		Withdrawn (JX-20)
RX-238	Japanese Laid Open Patent Application S52-60966			Self Authenticating Public Record		Withdrawn

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Exhibit #	Sponsor	Objs.	Entered	Source/Witness	Action	Status
RX-239	US Patent 4,942,979			Self Authenticating Public Record		Withdrawn (JX-21)
RX-240	US Patent 4,970,871			Self Authenticating Public Record		Withdrawn (JX-22)
RX-241	Japanese Laid Open Patent Application S52-126462			Self Authenticating Public Record		Withdrawn
RX-242	US Patent 5,033,273			Self Authenticating Public Record		Withdrawn (JX-4)
RX-243	US Patent 5,050,777			Self Authenticating Public Record		Withdrawn (JX-5)
RX-244	US Patent 5,160,094			Self Authenticating Public Record		Withdrawn (JX-23)
RX-245	US Patent 5,187,950			Self Authenticating Public Record		Withdrawn (JX-24)
RX-246	US Patent 2,785,539			Self Authenticating Public Record		Withdrawn (JX-3)
RX-247	US Patent 3,025,683			Self Authenticating Public Record		Withdrawn (JX-6)
RX-248	US Patent 3,146,601			Self Authenticating Public Record		Withdrawn
RX-249	Japanese Laid Open Patent Application S52-132460			Self Authenticating Public Record		Withdrawn
RX-250	US Patent 3,226,939			Self Authenticating Public Record		Withdrawn (JX-8)
RX-251	US Patent 3,545,217			Self Authenticating Public Record		Withdrawn (JX-9)
RX-252	US Patent 3,602,007					Withdrawn (JX-10)
RX-253	US Patent 3,621,668			Self Authenticating Public Record		Withdrawn (JX-11)
RX-254	US Patent 3,635,043			Self Authenticating Public Record		Withdrawn (JX-12)

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Exhibit No.	Summary	Bates No.	Entered	Sponsoring Witness	Issue(s)	Status
RX-255	Japanese Laid Open Patent Application S55-181167			Self Authenticating Public Record		Withdrawn
RX-256	US Patent 3,747,363			Self Authenticating Public Record		Withdrawn (JX-13)
RX-257	US Patent 3,798,923			Self Authenticating Public Record		Withdrawn (JX-14)
RX-258	Japanese Laid Open Patent Application S63-125766			Self Authenticating Public Record		Withdrawn
RX-259	Japanese Laid Open Patent Application H03-93379			Self Authenticating Public Record		Withdrawn
RX-260	Korean Laid Open Utility Model 1999-0050287			Self Authenticating Public Record		Withdrawn
RX-261	US Patent 3,146,601			Self Authenticating Public Record		Withdrawn
RX-262	US Patent 3,308,632			Self Authenticating Public Record		Withdrawn (JX-28)
RX-263	US Patent 3,422,994			Self Authenticating Public Record	Invalidity	Withdrawn
RX-264	Korean Laid Open Utility Model 1999-029012			Self Authenticating Public Record		Withdrawn
RX-265	US Patent 3,537,132			Verne Myers Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-266	US Patent 3,537,273			Verne Myers Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-267	US Patent 3,308,632			Self Authenticating Public Record		Withdrawn (JX-28)
RX-268	US Patent 3,545,217			Self Authenticating Public Record		Withdrawn
RX-269	US Patent 3,561,231			Verne Myers Gregory Hortin Robert Caliguiri	Invalidity	Admitted

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Exhibit	Description	Identified	Admitted	Sponsoring Witness	Purpose	Status
RX-270	US Patent 3,602,007					Withdrawn (JX-10)
RX-271	US Patent 3,602,441			Self Authenticating Public Record		Withdrawn (JX-29)
RX-272	US Patent 3,621,668			Self Authenticating Public Record		Withdrawn (JX-11)
RX-273	US Patent 3,635,043			Self Authenticating Public Record		Withdrawn (JX-12)
RX-274	US Patent 3,640,088			Verne Myers Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-275	US Patent 3,747,363			Self Authenticating Public Record		Withdrawn (JX-13)
RX-276	US Patent 3,798,923			Self Authenticating Public Record		Withdrawn (JX-14)
RX-277	US Patent 3,824,805			Self Authenticating Public Record	Invalidity	Withdrawn
RX-278	US Patent 3,602,007					Withdrawn (JX-10)
RX-279	US Patent 3,902,331			Self Authenticating Public Record	Invalidity	Withdrawn
RX-280	US Patent 4,047,633			Self Authenticating Public Record		Withdrawn
RX-281	US Patent 4,084,725			Self Authenticating Public Record		Withdrawn (JX-15)
RX-282	US Patent 4,306,423			Gregory Hortin Robert Caligiuri	Invalidity	Withdrawn
RX-283	US Patent 4,136,803			Self Authenticating Public Record	Invalidity	Withdrawn
RX-284	US Patent 4,265,089			Gregory Hortin Robert Caligiuri	Invalidity	Withdrawn
RX-285	US Patent 4,209,999			Gregory Hortin Robert Caliguiri Verne Myers	Invalidity	Withdrawn

US ITC Inv. 337-TA-632 LG Respondents' Public Admitted Trial Exhibit List

Exhibit	Summary	Date	Bates	Sponsoring Witness	Purpose	Status
RX-286	US Patent 4,227,383			Self Authenticating Public Record		Withdrawn (JX-18)
RX-287	US Patent 4,176,527			Self Authenticating Public Record		Withdrawn (JX-17)
RX-288	US Patent 4,142,378			Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-289	US Patent 4,306,757			Self Authenticating Public Record		Withdrawn
RX-290	US Patent 4,619,380			Self Authenticating Public Record	Invalidity	Withdrawn
RX-291	US Patent 3,937,032			Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-292	US Patent 4,627,556			Self Authenticating Public Record	Invalidity	Withdrawn
RX-293	US Patent 4,635,444			Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-294	US Patent 4,801,182			Self Authenticating Public Record		Withdrawn
RX-295	US Patent 4,942,979			Self Authenticating Public Record		Withdrawn (JX-21)
RX-296	US Patent 5,050,777			Self Authenticating Public Record		Withdrawn
RX-297	US Patent 5,056,688			Self Authenticating Public Record		Withdrawn (JX-26)
RX-298	US Patent 5,077,985			Gregory Hortin Robert Caliguiri Verne Myers	Invalidity	Withdrawn
RX-299	US Patent 5,117,654			Self Authenticating Public Record	Invalidity	Withdrawn
RX-300	US Patent 5,211,462			Gregory Hortin Robert Caliguiri Verne Myers	Invalidity	Withdrawn
RX-301	US Patent 5,240,150			Warren Bessler	Invalidity	Admitted

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Exhibit	Summary	Header	Footer	Sponsoring Witness	Purpose	Status
RX-302	English Translation of Japanese Laid Open Utility Model Application S49-69157			Self Authenticating Public Record		Withdrawn
RX-303	US Patent 5,269,154			Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-304	US Patent 5,272,888			Warren Bessler	Invalidity	Admitted
RX-305	US Patent 5,273,219			Gregory Hortin Robert Caliguiri Verne Myers	Invalidity	Withdrawn
RX-306	US Patent 5,323,691			Self Authenticating Public Record	Invalidity	Withdrawn
RX-307	US Patent 5,619,901			Self Authenticating Public Record	Invalidity	Withdrawn
RX-308	US Patent 6,010,037			Warren Bessler	Invalidity	Admitted
RX-309	US Patent 6,109,476			Self Authenticating Public Record	Invalidity	Withdrawn
RX-310	US Patent 6,414,301			Self Authenticating Public Record	Invalidity	Withdrawn
RX-311	British Patent No.: 1,283,264 Appl. No. 24666/70			Self Authenticating Public Record	Invalidity	Withdrawn
RX-312	British Patent No.: 1,459,629 Appl. No. 21968/74			Self Authenticating Public Record	Invalidity	Withdrawn
RX-313	UK Patent Application No.: 2,242,731 Appl. No. 9,105,160			Gregory Hortin Robert Caliguiri	Invalidity	Withdrawn
RX-314	German Patent No.: 2,025,322					Withdrawn
RX-315	German Patent No.: 8,205,720					Withdrawn
RX-316	French Patent No.: 2,087,721					Withdrawn
RX-317	Japanese Laid Open Patent Application S49-106642			Warren Bessler	Invalidity	Admitted
RX-318	Japanese Laid Open Patent Application S50-106642					Withdrawn
RX-319	Japanese Laid Open Patent Application H05-280848					Withdrawn
RX-320	Japanese Laid Open Patent Application S52-120453					Withdrawn

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Exhibit	Description	Date ID	Date Admitted	Sponsoring Witness	Purpose	Status
RX-321	Japanese Laid Open Patent Application S52-120454					Withdrawn
RX-322	Japanese Laid Open Patent Application S52-120455					Withdrawn
RX-323	Japanese Laid Open Patent Application S49-69157					Withdrawn
RX-324	Japanese Laid Open Patent Application S50-56261					Withdrawn
RX-325	Japanese Laid Open Patent Application S50-56262			Warren Bessler	Invalidity	Admitted
RX-326	US Patent 3,602,007					Withdrawn (JX-10)
RX-327	US Patent 4,801,182					Withdrawn
RX-328	US Patent 5,240,150					Withdrawn
RX-329	US Patent 2,697,918			Self Authenticating Public Record	Invalidity	Withdrawn
RX-359	D. Harmon Exhibit 102 - UK Patent 2,242,731 A			Daryl Harmon	Invalidity	Admitted
RX-360	D. Harmon Exhibit 103 - US Patent 4,227,383			Daryl Harmon		Withdrawn (JX-18)
RX-361	D. Harmon Exhibit 104 - US Patent 3,537,132			Daryl Harmon	Invalidity	Admitted
RX-363	Japanese Laid Open Patent Application S49-50545			Warren Bessler	Invalidity	Admitted
RX-364	D. Harmon Exhibit 107 - US Certified Translation of Japanese Laid Open Patent Application S49-50545			Self Authenticating Public Record Warren Bessler	Invalidity	Withdrawn
RX-372	Japanese Laid Open Patent Application S51-21165			Warren Bessler Myung Ryul Lee	Invalidity	Admitted
RX-373	D. Harmon Exhibit 116 - US Certified Translation of Japanese Laid Open Application S51-21165					Withdrawn
RX-424	J. Willis Exhibit 2- US Patent 3545217 (August 29, 2008)	J. Willis Ex. 2	J. Willis Ex. 7	James Willis	Invalidity	Admitted
RX-426	J. Willis Exhibit 4- US Certified Translation of Japanese Laid Open Paten Application S49-50545 (August 29, 2008)	J. Willis Ex. 4	J. Willis Ex. 11	James Willis	Invalidity	Admitted
RX-427	J. Willis Exhibit 5- US Certified Translation of Japanese Laid Open Patent Application S51-21165 (August 29, 2008)	J. Willis Ex. 5	J. Willis Ex. 16	James Willis	Invalidity	Admitted

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Exhibit	Summary	Depos.	Exhibit	Sponsor/Witness	Purpose	Status
RX-428	J. Willis Exhibit 6- US Patent 3,146,601(August 29, 2008)	J. Willis Ex. 6	J. Willis Ex. 12	James Willis	Invalidity Non-Infringement	Admitted
RX-435	J. Kim Exhibit 12 Specifications for LG model LSC21943 (Sept. 10, 2008)	J. Kim Ex. 12	J. Kim Ex. 13	Ji Young Kim	Invalidity	Withdrawn
RX-437	J Pastryk Exhibit 200- US Patent 6,082,130 (Sept. 9, 2008)	J.Pastryk Ex. 200	J.Pastryk Ex. 214	Jim Pastryk	Domestic Industry Invalidity Non-Infringment	Admitted
RX-440	J Pastryk Exhibit 203 US Patent 6148624	J Pastryk Ex. 203	J Pastryk Ex. 211	Jim Pastryk	Invalidity Non-Infringement	Admitted
RX-442	M. Nelson Exhibit 211 US Patent 6,286,324 B1 (Sep. 11, 2008)	M. Nelson Ex 211	M. Nelson Ex 226	Mark Nelson	Invalidity Non-Infringement	Admitted
RX-443	R. Caligiuri Exhibit 1- US Patent 6,082,130	R. Caligiuri Ex. 1	R. Caligiuri Ex. 16	Robert Caligiuri	Domestic Industry Invalidity Non-Infringment	Admitted
RX-444	R. Caligiuri Exhibit 2- US File Prosecution History 6,082,130	R. Caligiuri Ex. 2	R. Caligiuri Ex. 101	Robert Caligiuri	Domestic Industry Invalidity Non-Infringment	Withdrawn
RX-445	R. Caligiuri Exhibit 3- US Patent 3,146,601	R. Caligiuri Ex. 3	R. Caligiuri Ex. 9	Robert Caligiuri	Invalidity Non-Infringement	Admitted
RX-446	R. Caligiuri Exhibit 4- US Patent 4,084,725	R. Caligiuri Ex. 4	R. Caligiuri Ex. 4	Robert Caligiuri		Withdrawn (JX-15)
RX-447	R. Caligiuri Exhibit 5- US Certified Translation of Japanese Laid Open Patent Application S51-21165	R. Caligiuri Ex. 5	R. Caligiuri Ex. 15	Robert Caligiuri	Invalidity	Withdrawn
RX-450	S. Kaplan Exhibit 2- The Review of Economics and Statistics May 1996			Seth Kaplan	Domestic Industry Invalidity	Withdrawn
RX-451	S. Kaplan Exhibit 3- The New Palgrave Dictionary of Economics and the Law			Seth Kaplan	Domestic Industry Invalidity	Withdrawn
RX-452	S. Kaplan Exhibit 4- Canadian Journal of Economics			Seth Kaplan	Domestic Industry Invalidity	Withdrawn
RX-454	S. Kaplan Exhibit 6- The Response of Domestic Prices to Expected Exchange Rates			Seth Kaplan	Domestic Industry Invalidity	Withdrawn
RX-455	S. Kaplan Exhibit 7- Export Handbook Accounting, Finance, and Tax Guide			Seth Kaplan	Domestic Industry Invalidity	Withdrawn

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Exhibit	Sponsor	Date	Identified	Sponsored/Witness	Purpose	Status
RX-456	S. Kaplan Exhibit 8- Brookings Trade Forum 1998			Seth Kaplan	Domestic Industry Invalidity	Withdrawn
RX-457	S. Kaplan Exhibit 9- US Patent 6082130			Seth Kaplan	Domestic Industry Invalidity	Withdrawn
RX-464	T. Kniffen Exhibit 6- WP Webpage with various refrigerators displayed			Todd Kniffen	Invalidity Non-Infringement	Withdrawn
RX-467	T. Kniffen Exhibit 9- US Patent 6082130			Todd Kniffen	Invalidity Non-Infringement	Admitted
RX-468	T. Kniffen Exhibit 10- WP Webpage detailing side-by-side refrigerator ED5FHEXV			Todd Kniffen	Invalidity	Admitted
RX-469	T. Kniffen Exhibit 11- WP Webpage detailing side-by-side refrigerator ED5LVAXV			Todd Kniffen	Invalidity	Admitted
RX-470	T. Kniffen Exhibit 12- WP Webpage detailing side-by-side refrigerator ED5LVAXV labeling price			Todd Kniffen	Invalidity	Admitted
RX-471	T. Kniffen Exhibit 13- WP Webpage detailing side-by-side refrigerator ED5FHEXV			Todd Kniffen	Invalidity	Admitted
RX-472	T. Kniffen Exhibit 14 - WP Webpage detailing side-by-side refrigerator GC3NHAXV			Todd Kniffen	Invalidity	Admitted
RX-473	T. Kniffen Exhibit 15 - WP Webpage detailing side-by-side refrigerator GC3JHAXT			Todd Kniffen	Invalidty	Admitted
RX-484	V. Myers Exhibit 75 - US Patent 6082130			Verne Myers	Domestic Industry Invalidity Non-Infringement	Admitted
RX-503	US Patent 5,369,963			Self Authenticating Public Record	Invalidity Non-Infringement	Withdrawn
RX-509	V. Myers Exhibit 99 -US Patent 6050097			Verne Myers	Domestic Industry Non-Infringement	Admitted
RX-516	Gregory Hortin Exhibit 124- US File History of US Patent 6082130			Gregory Hortin	Invalidity Non-Infringement	Withdrawn
RX-522	US Patent 7,017,354			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-523	US Patent 7,134,292			Myung Ryul Lee	Invalidity Non-Infringement	Admitted

US ITC Inv. 337-TA-632 LG Respondents' Public Admitted Trial Exhibit List

Exhibit	Summary	Begin	Ended	Sponsoring Witness	Purpose	Status
RX-524	US Patent 7,240,510			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-525	US Patent 6,904,765			Self Authenticating Public Record		Withdrawn (JX-59)
RX-526	US Patent 7,401,470			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-527	US Patent 7,237,393			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-528	US Patent 7,272,949			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-529	US Patent 7,228,703			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-530	US Patent 7,080,518			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-531	US Patent 6,857,279			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-532	US Patent 7,240,512			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-533	US Patent 7,240,511			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-534	US Patent 7,021,066			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-535	US Patent 7,392,665			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-536	US Patent 7,222,498			Self Authenticating Public Record		Withdrawn (JX-60)
RX-537	US Patent 7,076,967			Self Authenticating Public Record		Withdrawn (JX-61)
RX-538	US Patent 6,945,068			Self Authenticating Public Record		Withdrawn (JX-63)
RX-539	US Patent 7,111,473			Myung Ryul Lee	Invalidity Non-Infringement	Admitted

US ITC Inv. 337-TA-632 LG Respondents' Public Admitted Trial Exhibit List

Exhibit	Summary	Begin	End	Sponsoring Witness	Purpose	Status
RX-540	US Patent 7,263,854			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-541	US Patent 7,017,364			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-542	US Patent 6,964,177			Self Authenticating Public Record		Withdrawn (JX-62)
RX-543	US Patent 7,228,701			Myung Ryul Lee	Invalidity Non-Infringement	Admitted
RX-544	Japanese Laid Open Patent Application S50-74555			Self Authenticating Public Record		Withdrawn
RX-545	Deposition Designations					Withdrawn
RX-551	Secondary Cooling Path in Refrigerator	WP000615363	WP000615374	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Withdrawn
RX-553	Whirlpool Use and Care Guide: ED27DQ, ED25DQ, ED22DQ, ED22HD	WP000215243	WP000215272	Warren Bessler	Invalidity Non-Infringement	Admitted
RX-554	Whirlpool Refrigerator Model ED27DQXWW01	WP000099524	WP000099551	Gregory Hortin Verne Myers	Invalidity Non-Infringement	Admitted
RX-555	Dr. Bessler Curriculum Vita			Warren Bessler	Invalidity Non-Infringement	Admitted
RX-556	Respondents Proposed Claim Constructions			Warren Bessler	Invalidity Non-Infringement	Admitted
RX-557	Complainants' Responses to Respondents' Fourth Set of Interrogatories to Complainants with Exhbits A-I			Thomas Schwyn	Invalidity Non-Infringement	Admitted
RX-558	Specification Sheet for LG model LFC25770, LFC21770 URL: http://us.lge.com/download/product/file/1000004126/LFC25770_LFC21770ss.pdf			Young Ho Noh	Invalidity Non-Infringement	Admitted
RX-571	US Patent 6,810,680			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-572	US Patent 6,915,644			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn

US ITC Inv. 337-TA-632 LG Respondents' Public Admitted Trial Exhibit List

Exhibit	Summary	Revised	Entered	Sponsoring Witness	Purpose	Status
RX-573	US Patent 6,971,730			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-574	US Patent 7,240,980			Thomas Schwyn	Patent Misuse Unclean Hands	Withdrawn
RX-584	Korean Patent 10-0176944			Myung Ryul Lee	Invalidity	Withdrawn
RX-585	Korean Patent 1999-0050287			Myung Ryul Lee	Invalidity	Withdrawn
RX-589	Order 13: 337-TA-552 Certain Flash Memory Devices			S. Kaplan	No Domestic Industry Secondary Consideration of Non-Obviousness	Withdrawn
RX-590	USITC Publication 4010 USITC Inv. 337-TA-552 Certain Flash Memory Devices			S. Kaplan	No Domestic Industry Secondary Consideration of Non-Obviousness	Withdrawn
RX-591	Initial Determination on Violation. USITC Inv. 337-TA-546 Certain Male Prophylactic Devices			S. Kaplan	No Domestic Industry Secondary Consideration of Non-Obviousness	Withdrawn
RX-592	USITC Publication 4005. USITC Inv. 337-TA-546 Certain Male Prophylactic Devices			S. Kaplan	No Domestic Industry Secondary Consideration of Non-Obviousness	Withdrawn

IN THE MATTER OF CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **Inv. No. 337-TA-632**

PUBLIC CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BONDING** has been served by hand upon, the Commission Investigative Attorney, **Lisa Murray, Esq.**, and the following parties as indicated on April 6, **2009**.

Marilyn R. Abbott, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112A
Washington, D.C. 20436

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IN THE MATTER OF CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **Inv. No. 337-TA-632**

CERTIFICATE OF SERVICE - PAGE 2

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IN THE MATTER OF CERTAIN REFRIGERATORS AND COMPONENTS THEREOF **Inv. No. 337-TA-632**

CERTIFICATE OF SERVICE - PAGE 3

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