

**PUBLIC VERSION
UNITED STATES INTERNATIONAL TRADE COMMISSION**

Washington, D.C.

In the Matter of

**CERTAIN VACUUM PACKAGING
MACHINES**

**Inv. No. 337-TA-496
(Temporary Relief
Proceeding)**

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UNITED STATES
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TRADE COMMISSION

ORDER NO. 36: INITIAL DETERMINATION CONCERNING TEMPORARY RELIEF

(December 16, 2003)

Pursuant to 19 U.S.C. §§ 1337(e) and (f) and 19 C.F.R. § 210.66(a), this Initial Determination concerns the motion of COMPLAINANTS, Tilia, Inc. and Tilia International, Inc., for temporary relief during this Section 337 investigation against RESPONDENTS, Applica, Inc., Applica Consumer Products, Inc., ZeroPack Co., Ltd., The Holmes Group, Inc., and The Rival Company, including the issues of remedy, the public interest, and bonding by the respondents pursuant to 19 U.S.C. §§ (e)(1), (f)(1), and (j)(3).

Having considered the briefs of the parties and COMMISSION INVESTIGATIVE STAFF on the temporary relief issues, and after having conducted six days of hearings on temporary relief generating 1,600 pages of transcript, and after having considered nearly 1,200 offered exhibits for the record as well as the oral arguments of the parties and Staff, the undersigned determines that temporary relief is not warranted, as set forth fully herein.

Delbert R. Terrill, Jr., Administrative Law Judge

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STATEMENT OF THE TEMPORARY RELIEF CASE

On July 8, 2003, COMPLAINANTS, Tilia, Inc. and Tilia International, Inc. (collectively, “Complainants” or “Tilia”), filed a Section 337 complaint with the Commission. The Complaint alleges violations of Section 337 in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain home vacuum packaging machines by reason of infringement of claims 3, 4, 6, 24, 25, and 34 of U.S. Patent No. 4,941,310 (“the ‘310 patent”) on the part of RESPONDENTS, Applicca, Inc.; Applicca Consumer Products, Inc. (collectively, “Applicca”); ZeroPack Co., Ltd. (“ZeroPack”); The Holmes Group, Inc. (“Holmes”); and The Rival Company (“Rival”) (collectively, “Respondents”).

Complainant Tilia, Inc. is a Delaware corporation having its principal place of business in San Francisco, California, and is the exclusive licensee of the ‘310 patent. Complainant Tilia International, Inc. is a Delaware corporation also having its principal place of business in San Francisco, California, and is a patent holding company that is the owner and licensor of the ‘310 patent to Tilia, Inc. as exclusive licensee. Both are wholly owned subsidiaries of Jarden Corporation, which is not a party to this case.

Respondent Applicca, Inc. is a Florida corporation having its principal place of business in Miami Lakes, Florida. Applicca Consumer Products, Inc. is an operating subsidiary of Applicca, Inc. Together, both companies are in the business of manufacturing and selling a range of home appliances, including home vacuum packaging machines, under the Black & Decker label. Respondent ZeroPack Co., Ltd. is a Korean company and Applicca’s manufacturer of vacuum packaging machines.

Respondent The Rival Company is a Delaware corporation with its principal place of business in Kansas City, Missouri. Rival is a wholly-owned subsidiary of Respondent The Holmes Group, Inc., a Massachusetts corporation with its principal place of business in Milford, Massachusetts. Rival and Holmes together manufacture various home appliances, including vacuum packaging machines under the “Rival Seal-A-Meal” label.

Concurrently with the filing of the Complaint, Tilia also filed a motion for temporary relief against Respondents, requesting that the Commission issue a temporary limited exclusion order and temporary cease and desist orders prohibiting the importation into and the sale within the United States after importation of certain home vacuum packaging machines that infringe claim 34 of the ‘310 patent during the course of the full investigation.

By publication of a Notice of Investigation in the Federal Register on August 18, 2003, the Commission instituted this investigation and provisionally accepted Tilia’s motion for temporary relief. See 68 Fed.Reg. 49521 (August 18, 2003).

Briefs were filed by the parties and a hearing for the purpose of determining the claim construction of the ‘310 patent (“Markman hearing”) solely for the purposes of temporary relief was conducted by the undersigned on September 9, 2003. Following that, an evidentiary hearing on the temporary relief issues took place before the undersigned on September 29-October 1 and October 7, 2003.¹ Complainants, Respondents and Staff filed initial post-hearing briefs on October 16,

¹ The September 29, 2003 session of the TEO hearing adjourned almost immediately after it began in order for the undersigned to conduct an in camera inspection of documents over which both parties asserted the attorney-client privilege or the attorney work product immunity during the discovery phase. The hearing resumed on the following day, September 30, 2003.

2003.² On October 23, 2003, the parties, individually, filed post-hearing reply briefs.³ On November 20, 2003, closing argument was conducted on the TEO issues.

In light of the expedited and abbreviated nature of discovery and proceedings relating to Complainants' TEO motion, the parties are cautioned that these findings and conclusions are provisional and are intended only for the purpose for which they are made, which is an initial determination of Complainants' request for temporary relief. These findings are not binding on the parties in the full investigation.

JOINT NARRATIVE STATEMENT OF ISSUES CONCERNING TEMPORARY RELIEF

On September 26, 2003, after pre-hearing briefs were filed, Complainants, Respondents and Staff submitted a Joint Narrative Statement of Issues ("JNSI") concerning temporary relief to be heard and decided. The issues set forth in the JNSI are as follows:

I. Jurisdiction and Standing

² On October 17, 2003, Respondents Holmes and Rival moved [496-025] for leave, hereby granted, to file out of time their joint TEO Post-hearing Brief and all Respondents' joint TEO Proposed Findings of Fact and Conclusions of Law. On the same date, Complainants moved [496-028] for leave, hereby granted, to file out of time a corrected TEO Post-hearing Brief. All parties consented to both motions. Accordingly, all references hereafter to these submissions are to the later-filed versions.

³ For convenience, the following abbreviations for the post-hearing briefs of Complainants, Respondents, and Staff shall be used throughout this Initial Determination:

CIB:	Complainants' Initial Post-hearing Brief	CRB:	Complainants' Reply Post-hearing Brief
RAZIB:	Respondents Applica and ZeroPack's Initial Post-hearing Brief	RAZRB:	Respondents Applica and ZeroPack's Reply Post-hearing Brief
RRHIB:	Respondents Holmes and Rival's Initial Post-hearing Brief	RRHRB:	Respondents Holmes and Rival's Reply Post-hearing Brief
SIB:	Staff's Initial Post-hearing Brief	SRB:	Staff's Reply Post-hearing Brief

- A. Whether Complainant Lacks Standing And/Or Consent by a Joint Owner of the '310 Patent
 - B. Whether the Commission Has Jurisdiction Over the Products and Each of the Parties at Issue
- II. Likelihood of Success on the Merits
- A. Claim Construction
 - B. Patent Infringement
 - 1. Whether There Is a Likelihood of Success on the Merits That the Black & Decker freshGUARD Home Vacuum Packaging Products Infringe Claim 34 of the '310 Patent
 - 2. Whether There Is a Likelihood of Success on the Merits That the Rival Seal-A-Meal Home Vacuum Packaging Products Infringe Claim 34 of the '310 Patent
 - C. Domestic Industry
 - 1. Technical Prong: Whether There Is a Likelihood of Success on the Merits That Complainants' FoodSaver Home Vacuum Packaging Articles or Activities Are Protected by the '310 Patent
 - 2. Economic Prong: Whether There Is a Likelihood of Success on the Merits That Domestic Activity Exists Sufficient to Satisfy the Economic Prong
 - D. Validity

1. Whether There Is a Likelihood of Success on the Merits on the Issue of Anticipation
 2. Whether There Is a Likelihood of Success on the Merits on the Issue of Obviousness
 3. Whether There is a Likelihood of Success on the Merits on the Issue of Inventorship
- E. Enforceability: Whether There Is a Likelihood of Success on the Merits on the Issue of Enforceability
- III. Irreparable Harm: Whether Complainants' Domestic Industry Will Be Irreparably Harmed by Respondents' Entry Into the Market in the Absence of Temporary Relief
- IV. Balance of Harms Between the Parties
- V. Effect on the Public Interest
- VI. Unclean Hands

STIPULATED FACTS FOR PURPOSES OF TEMPORARY RELIEF

The parties and Staff submitted the following stipulations to facts solely for the purposes of temporary relief. These stipulations are not binding on the parties, Staff, or the undersigned for the purposes of determining permanent relief in the full investigation.

- S1.** The parties agree that the Commission has personal jurisdiction over all parties. The parties also agree that Applica Consumer Products, Inc. and The Holmes Group, Inc. import and sell after importation the accused products.
- S2.** The original Dazey Seal-A-Meal® food sealer product was introduced in January 1968 as the Model 5000, also known as SAM-1. This appliance made it possible for a user to seal leftovers and the like in specially fabricated Seal-A-Meal® bags. The bags were boilable and FDA approved, and were specially engineered for use with the Seal-A-Meal® unit. The

SAM-1 could rest on a countertop or be hung on the wall. Submitted herewith as RX-40 are representative photographs which accurately show a 1968 version of SAM-1. Submitted herewith as RX-41 is a true and accurate copy of the Recipe and Instruction Book that was packaged with the SAM-1 shown in RX-40 and that bears a copyright notice with the year 1968. Submitted herewith as RX-42 are representative photographs which accurately show another version of a SAM-1.

- S3.** In or about 1974, Dazey introduced the Seal-A-Meal Model SAM-2. The SAM-2 differed from the original Seal-A-Meal in that it utilized an instant nichrome wire heater, requiring no pre-heating and would accept 10-inch wide material, other than SAMBAGS.
- S4.** At least as early as 1981, Dazey began marketing the Vacuum Seal-A-Meal® food sealer, Model SAM-3. The Dazey Vacuum Seal-A-Meal® included a storage compartment for boilable Seal-A-Meal roll or pouch material. The Dazey Vacuum Seal-A-Meal® featured a vacuum function, which permitted the user to vacuum pack foods while preserving freshness by eliminating unnecessary air in the pouch. In operation, the bottom panel of the bag mouth rested on the inactive heater and the top panel was caused to be placed over and to surround a vacuum nozzle. When the lid was held in a closed position, the vacuum motor would operate to remove air from the bag. Applying pressure to the right side of the lid would thereafter activate the sealing action, and a signal light would come on for as long as the sealing was taking place. Submitted herewith as RX-43 are representative photographs which accurately show a SAM-3. Also, submitted herewith as RX-44, is a true and accurate copy of the Instruction and Recipe Book that was packaged with the SAM-3 shown in RX-43.
- S5.** The Dazey Vacuum Seal-A-Meal® Model SAM-3 unit depicted in RX-43 contained an original Instruction And Recipe Book and is presented in the original packaging, which packaging is marked with an exhibit sticker bearing the exhibit number RPX-5. RPX-5 is, in fact, the same Dazey Vacuum Seal-A-Meal® Model SAM-3 product that was commercially available at least as early as the summer of 1981. This conclusion is confirmed by the date information stamped on the bottom of the unit. The number 041582 indicates that RPX-5 was manufactured on April 15, 1982. Thus, the Dazey Vacuum Seal-A-Meal® Model SAM-3 was already in production and on sale in 1981, and it would have been introduced to the market at least as early as the January 1981 Housewares Show.
- S6.** In 1988, Dazey revised the lid and vacuum system of the Vacuum Seal-A-Meal® to improve the product's performance. The improvement had to do with the activating switches that sequenced the vacuum and sealing cycles. However, the exterior appearance and the general operation of the unit remained the same.

- S7. Dazey sold the Vacuum Seal-A-Meal[®], Model SAM-3, until January 1997, when Dazey was acquired by The Rival Company (“Rival”).
- S8. Rival continued to sell the Vacuum Seal-A-Meal[®] for a number of years after it purchased Dazey.

RELEVANT STATUTES, REGULATIONS, AND PRECEDENT

Section 337 in General

Section 337 of the Tariff Act of 1930, as amended, declares unlawful the importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles that infringe a valid and enforceable United States patent if an industry in the United States relating to the articles protected by the patent exists or is in the process of being established. See 19 U.S.C. §§ 1337(a)(1)(B)(i) and (a)(2). Furthermore, Section 337 provides that the Commission shall investigate any alleged violation of this statute. See 19 U.S.C. § 1337(b)(1).

If the Commission determines as a result of such investigation that there is a violation of Section 337, it shall direct that the articles concerned, imported by any person violating the provisions of this section, be excluded from entry into the United States. See 19 U.S.C. § 1337(d)(1). In addition, or in lieu of taking such action, the Commission may issue an order directing such person to cease and desist from engaging in the unfair methods or acts involved. See 19 U.S.C. § 1337(f)(1). In determining whether to issue an exclusion order or cease and desist order, the Commission must consider the effect of such actions upon the public health and welfare, competitive

conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers. See 19 U.S.C. §§ 1337(d)(1) and (f)(1).

Jurisdiction

The Complaint alleges that Respondents have violated Section 337(a)(1)(B)(i) through the unlicensed importation, sale for importation, and/or sale within the United States after importation of certain home vacuum packaging machines that infringe one or more claims of the '310 patent. These allegations generally confer subject matter jurisdiction on the Commission. See Amgen, Inc. v. U.S. Int'l Trade Comm'n, 902 F.2d 1532, 1536 (Fed. Cir. 1990).

Further, Respondents answered the Complaint and participated in this investigation. This fact generally confers personal jurisdiction on the Commission. See Certain Miniature Hacksaws, Inv. No. 337-TA-237, Initial Determination (unreviewed by Commission in relevant part) at 4 (U.S.I.T.C., October 15, 1986).

Temporary Relief

The Commission can temporarily exclude articles under investigation if, during the course of the investigation, the Commission determines that “there is reason to believe that there is a violation” of Section 337, unless after considering certain enumerated public interest factors, it finds that the articles should not be excluded. 19 U.S.C. § 1337(e)(1).

Temporary relief is granted only when there is a threat of irreparable harm to the domestic industry. See Certain Electrical Connectors and Products Containing Same, Inv. No. 337-TA-374, Unreviewed Initial Determination on Temporary Relief at 89, 1995 WL 345770 (U.S.I.T.C., September 8, 1995) (“Electrical Connectors”). “Irreparable harm” means harm that is likely to occur before the Commission is able to issue permanent relief, which in this investigation is the harm likely

to occur from the earliest effective date of temporary relief (in this instance, January 15, 2004 at the earliest) until the issuance of permanent relief on or about the target date of the investigation (in this instance, September 20, 2004 at the earliest). See Certain Hardware Logic Emulation Systems and Components Thereof, Inv. No. 337-TA-383, Unreviewed Initial Determination on Temporary Relief (Order No. 34) at 4, 1996 WL 965338 (U.S.I.T.C., July 8, 1996) (“Hardware Logic, TEO ID”), aff’d sub nom. Mentor Graphics Corp. v. U.S. International Trade Comm., 124 F.3d 226 (Fed. Cir. 1997) (Table) (unpublished disposition).

The temporary relief can be in the form of a temporary cease and desist order in addition to, or in lieu of, a temporary exclusion order, provided that the issuance of the cease and desist order is consistent with the public interest factors. See 19 U.S.C. § 1337(f)(1). Any temporary relief is granted by the Commission “to the same extent as preliminary injunctions . . . may be granted under the Federal Rules of Civil Procedure.” 19 U.S.C. § 1337(e)(3). More specifically, “[i]n determining whether to grant temporary relief, the Commission will apply the standards the U.S. Court of Appeals for the Federal Circuit uses in determining whether to affirm lower court decisions granting preliminary injunctions.” 19 C.F.R. § 210.52(a). As a general rule in such cases, such relief “is an extraordinary remedy to be granted only where the right to relief is clear and unequivocal.” McData Corp. v. Brocade Communications Systems, Inc., 233 F.Supp.2d 1315, 1319 (D. Del. 2002) (“McData”).

In concert with Federal court practice under 35 U.S.C. § 283, a complainant seeking temporary relief under Section 337 must establish:

1. a reasonable likelihood of success on the merits;
2. irreparable harm if temporary relief is not granted;

3. a balance of hardships tipping in its favor; and
4. the temporary relief's favorable impact on the public interest.

See Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343, 1350 (Fed. Cir. 2001) (“Amazon.com”); also see Hardware Logic, *supra*, TEO ID at 5. “These factors, taken individually, are not dispositive; rather the district court must weigh and measure each factor against the other factors and against the form and magnitude of the relief requested.” Hybritech, Inc. v. Abbott Labs., 849 F.2d 1446, 1451 (Fed. Cir. 1988) (“Hybritech”). Further, while granting temporary relief requires analysis of all four factors, an Administrative Law Judge may “deny a motion based on a patentee’s failure to show any one of the four factors – especially either of the first two – without analyzing the others.” Jack Guttman, Inc. v. Kopykake Enterprises, Inc., 302 F.3d 1352, 1356 (Fed. Cir. 2002); accord, McData, *supra*.

Concerning the requirement of “likelihood of success on the merits,” the party seeking temporary relief must show, consistent with the burdens of proof required at trial, that (1) its patent was infringed, and (2) any challenges to the validity and enforceability of its patent “lack substantial merit.” See Purdue Pharma L.P. v. Boehringer Ingelheim GmbH, 237 F.3d 1359, 1366 (Fed. Cir. 2001). If the respondent raises a substantial question concerning validity by asserting an invalidity defense that the patentholder is unable to prove “lacks substantial merit,” then temporary relief will not issue. See Genentech, Inc. v. Novo Nordisk, 108 F.3d 1361, 1364 (Fed. Cir. 1997) (“Genentech”). “Thus, the patent challenger retains the burden of establishing invalidity, and the applicant for preliminary injunctive relief retains the burden of showing a reasonable likelihood that the attack on the validity of the patent would fail.” Impax Laboratories, Inc. v. Aventis Pharmaceuticals, Inc., 235

F.Supp.2d 390, 392 (D. Del.2002) (“Impax Labs”), quoting Robert L. Harmon, Patents and the Federal Circuit § 13.2(b) (5th ed.2001).

Concerning the factor of “irreparable harm,” preliminary injunctive relief is generally available “to preserve the legal interests of the parties against future infringement which may have market effects never fully compensable in money.” Atlas Powder Co. v. Ireco Chemicals, 773 F.2d 1230, 1233 (Fed. Cir. 1985) (emphasis in original). Such injury is measured by the aggregate effect of the alleged unfair acts. Certain Recombinantly Produced Human Growth Hormones, Inv. No. 337-TA-358, USITC Pub. 2764, Unreviewed Initial Determination on Temporary Relief at 81- 93, 1994 WL 930196 (U.S.I.T.C., January 26, 1994) (“Growth Hormones”); Electrical Connectors, supra at 95. Consistently with that principle, irreparable harm is presumed when a clear showing of patent validity and infringement has been made. Amazon.com, supra, 239 F.3d at 1350, citing Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys., 132 F.3d 701, 708 (Fed. Cir.1997). “This presumption derives in part from the finite term of the patent grant, for patent expiration is not suspended during litigation, and the passage of time can work irremediable harm.” Id.

Concerning the requirement of “balancing hardships,” the magnitude of the threatened injury to the patent owner should be considered in light of the strength of the showing of the likelihood of success on the merits. See H.H. Robertson Co. v. United Steel Deck, Inc., 820 F.2d 384, 390 (Fed. Cir. 1987). In so doing, however, “[i]mportant considerations in weighing the balance of hardship include, but are not limited to, whether the hardship to the alleged infringer would be merely temporary in duration, and whether the infringer had yet entered the market.” Impax Labs, supra, 235 F.Supp.2d at 396. “The hardship on a preliminarily enjoined manufacturer who must withdraw its

product from the market before trial can be devastating.” Illinois Tool Works v. Grip-Pak Inc., 906 F.2d 679, 683 (Fed. Cir. 1990) (“Illinois Tool Works”).

Finally, with regard to considering the “public interest,” a factor in determining whether temporary relief is warranted as well as whether Section 337 relief is justified overall, “[t]he public has an interest in the enforcement of valid patents.” Corning Glass Works v. Sumitomo Electric U.S.A., Inc., 674 F.Supp. 1074, 1077 (S.D.N.Y. 1987). And yet, “[t]ypically, in a patent infringement case, although there exists a public interest in protecting rights secured by valid patents, the focus of the district court’s public interest analysis should be whether there exists some critical public interest that would be injured by the grant of preliminary relief.” Hybritech, supra, 849 F.2d at 1458. Courts have properly counterbalanced the public interest in the protection of patent rights against an alleged infringer’s “continuing right to compete,” which must be viewed as legitimate at this early stage of a Section 337 investigation if the complainant’s showing of likelihood of success on the merits at trial is remote. See Illinois Tool Works, supra, 906 F.2d at 684.

Patent Infringement

In General

Patent infringement analysis consists of two steps. “The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device or process accused of infringing.” Dow Chemical Co. v. United States, 226 F.3d 1334, 1338 (Fed. Cir. 2000), quoting Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), aff’d, 517 U.S. 370 (1996) (“Markman”). The former inquiry is question of law, whereas the latter is a question of fact. Id. To prevail, the patentee must prove by a preponderance of the evidence that the accused device infringes one or more claims of

the patent either literally or under the doctrine of equivalents. See Bayer AG v. Elan Pharmaceutical Research Corp., 212 F.3d 1241, 1247 (Fed. Cir. 2000) (“Bayer”).

Claim Construction

While claim construction is a necessary first step in determining infringement, an Administrative Law Judge considering temporary relief is not required to interpret claims conclusively at such an early stage of the case and may in his discretion interpret the claims at a later time when parties have presented a fuller picture of the claimed invention and prior art. See McData, supra, 233 F.Supp.3d at 1320, citing Sofamor Danek Group, Inc. v. DePuy-Motech, Inc., 74 F.3d 1216, 1221 (Fed. Cir. 1996).⁴ “In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to ‘particularly point [] out and distinctly claim[] the subject matter which the patentee regards as his invention.’” Honeywell International, Inc. v. International Trade Commission, 341 F.3d 1332, 1338 (Fed. Cir. 2003) (“Honeywell”); Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193, 1201-02 (Fed. Cir. 2002), cert. denied, 123 S.Ct. 2230 (2003) (“Texas Digital”). Claim terms “bear a presumption that they mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art.” Honeywell, supra; Texas Digital, supra, 308 F.3d at 1202. What is more, “unless compelled otherwise,” a claim term is to be given “the full

⁴ As an aid to the parties in this investigation, the undersigned conducted a Markman hearing at a very early stage of the temporary relief phase in order to afford the parties an opportunity to narrow their initial differences on claim construction as much as possible, solely in order to construe the claims for the limited purpose of temporary relief and without prejudice to changing claim constructions upon further discovery during the course of the full investigation. Although Markman hearings are typically held, if at all, at the close of discovery (see, e.g., Toter Inc. v. City of Visalia, 44 U.S.P.Q.2d 1312, 1997 WL 715459 (E.D.Cal.,1997)), the intention behind the preliminary Markman proceeding in this instance was to limit discovery during the temporary relief phase to a consistent interpretation of the claims that would avoid the need for a wide-ranging and time-consuming foray into alternative constructions.

range of its ordinary meaning as understood by persons skilled in the relevant art.” Honeywell, supra; Texas Digital, supra.

Dictionaries, encyclopedias, and treatises which were publicly available at the time a patent was issued are permissible and particularly useful resources to assist a tribunal in determining the ordinary and customary meaning of claim term. Texas Digital, supra, 308 F.3d at 1202-03. After examining the claim language to determine the possible meanings that would have been attributed to the claim terms by those skilled in the art, the intrinsic record (i.e., the specification and prosecution history) must be consulted to determine which of these possible meanings is most consistent with the use of the words by the inventor and to determine whether the presumption of ordinary meaning is rebutted (e.g., by the inventor acting as his own lexicographer). Texas Digital, supra, 308 F.3d at 1203-05. Ordinary meaning is discerned, if possible, before intrinsic evidence is consulted, however, because “consulting the written description and prosecution history as a threshold step in the claim construction process, before any effort is made to discern the ordinary and customary meanings attributed to the words themselves, invites a violation of our precedent counseling against importing limitations into the claims.” Texas Digital, supra, 308 F.3d at 1204. “For example, if an invention is disclosed in the written description in only one exemplary form or in only one embodiment, the risk of starting with the intrinsic record is that the single form or embodiment so disclosed will be read to require that the claim terms be limited to that single form or embodiment.” Id.

Extrinsic evidence of the meaning of certain terms may also be used to aid the court’s understanding of the patent, such as expert and inventor testimony. See O.I. Corp. v. Tekmar Company, Inc., 115 F.3d 1576, 1581 (Fed. Cir. 1997). However, “[i]f the intrinsic evidence resolves

any ambiguity in a disputed claim, extrinsic evidence cannot be used to contradict the established meaning of the claim language.” DeMarini Sports, Inc. v. Worth, Inc., 239 F.3d 1314, 1322-23 (Fed. Cir. 2001). “Where the patent documents are unambiguous, expert testimony regarding the meaning of a claim is entitled to no weight. [citation omitted]. Any other rule would be unfair to competitors who must be able to rely on the patent documents themselves, without consideration of expert opinion that then does not even exist, in ascertaining the scope of a patentee’s right to exclude.” Texas Digital, 308 F.3d at 1212 (internal quotation marks omitted).

In interpreting particular limitations within each claim, “adding limitations to claims not required by the claim terms themselves, or unambiguously required by the specification or prosecution history, is impermissible.” Dayco Products, Inc. v. Total Containment, Inc., 258 F.3d 1317, 1327 (Fed. Cir. 2001) (citing Laitram Corp. v. NEC Corp., 163 F.3d 1342, 1347 (Fed. Cir. 1998) (“[A] court may not import limitations from the written description into the claims.”)). Further, a patent is not limited to its preferred embodiments in the face of evidence of broader coverage by the claims. See Caromed Corp. v. Sophomore Danek Group, Inc., 253 F.3d 1371, 1382-83 (Fed. Cir. 2001); Electro Med. Systems S.A. v. Cooper Life Sciences, 34 F.3d 1048, 1054 (Fed. Cir. 1994) (“Particular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments.”).

Claims amenable to more than one construction should, when it is reasonably possible to do so, be construed to preserve their validity. See Karsts Mfg. Corp. v. Cleveland Golf Co., 242 F.3d 1376, 1384 (Fed. Cir. 2001). However, a claim cannot be construed contrary to its plain language. See Rhine v. Casio, Inc., 183 F.3d 1342, 1345 (Fed. Cir. 1999). Claims cannot be judicially rewritten in order to preserve their validity because “if the only claim construction that is consistent

with the claim's language and the written description renders the claim invalid, then . . . the claim is simply invalid." Id.

Pursuant to 35 U.S.C. § 112, ¶ 6, "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." An applicant may therefore "claim an element of a combination functionally, without reciting structures for performing those functions." Apex, Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1371 (Fed. Cir. 2003) ("Apex").

Literal Infringement

It is well-established that literal infringement analysis is a question of fact. See Tegal Corp. v. Tokyo Electron America, Inc., 257 F.3d 1331, 1350 (Fed. Cir. 2001). Literal infringement requires the patentee to prove that the accused device contains each limitation of the asserted claim(s). See Bayer, supra, 212 F.3d at 1247. Each element of a claim is considered material and essential, and in order to show literal infringement, every element must be present in the accused device. See London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1538 (Fed. Cir. 1991). If any claim limitation is absent from the accused device, there is, as a matter of law, no literal infringement of that claim. See Bayer, supra, 212 F.3d at 1247.

Patent Claim Invalidity

In General

A patent is presumed valid. 35 U.S.C. § 282; see also Richardson-Vicks, Inc. v. The Upjohn Co., 122 F.3d 1476, 1480 (Fed. Cir. 1997) (citing 35 U.S.C. § 282) ("Richardson-Vicks"). The party

challenging a patent's validity must rebut this presumption by clear and convincing evidence. See Richardson-Vicks, supra, 122 F.3d at 1480; Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044 (Fed. Cir. 1988).

Since the claims of a patent measure the invention at issue, the claims must be interpreted and given the same meaning for purposes of both validity and infringement analyses. As with an infringement analysis, an analysis of invalidity involves two steps: the claim scope is first determined, and then the properly construed claim is compared with the prior art to determine whether the claimed invention is anticipated and/or rendered obvious. Amazon.com, supra, 239 F.3d at 1351.

A determination that an independent claim is invalid does not automatically mean that one of its dependent claims is also invalid. See 35 U.S.C. § 282 (“Each claim of a patent shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim”); see also Continental Can Co., USA v. Monsanto Co., 948 F.2d 1264, 1266 (Fed. Cir. 1991) (each claim carries an independent presumption of validity and stands or falls independent of the other claims). However, if the validity of a dependent claim is not argued separately from the independent claim from which it depends, its validity will stand or fall with the independent claim. See Richardson-Vicks, supra, 122 F.3d at 1480.

Anticipation – 35 U.S.C. §§ 102(a), (b) and (e)(2)

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 or a foreign country, before the invention thereof by the applicant for patent.” 35 U.S.C. § 102(a).

Under 35 U.S.C. § 102(b), a patent is invalid as anticipated if “the invention was patented or described in a printed publication in this or a foreign 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)(2), 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 by the applicant for patent” 35 U.S.C. § 102(e)(2). Anticipation is a question of fact. Texas Instruments, Inc. v. U.S. Int’l. Trade Comm., 988 F.2d 1165, 1177 (Fed.Cir. 1993).

Under the foregoing statutory provisions, 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 Systems, Inc. v. Kent Sate University, 212 F.3d 1272, 1282 (Fed.Cir. 2000). 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). However, the degree of enabling detail contained in the reference does not have to exceed that contained in the patent at issue. See In re Paulsen, *supra*, 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).

Inventorship – 35 U.S.C. § 102(f)

A patent may also be deemed invalid if the applicant named as the inventor “did not himself invent the subject matter sought to be patented” 35 U.S.C. § 102(f). To prove derivation under § 102(f), “the party asserting invalidity must prove both prior conception of the invention by another and communication of that conception to the patentee” by clear and convincing evidence. Eaton Corp. v. Rockwell International Corp., 323 F.3d 1332, 1344 (Fed. Cir. 2003) (“Eaton”). The communication must be sufficient to enable one of ordinary skill in the art to make the patented invention. Id. Derivation as a question of fact. Id.

The patent statute provides that when an invention is made by two or more persons, they shall apply for the patent jointly. 35 U.S.C. § 116; also see Certain EPROM, EEPROM, Flash Memory, and Flash Microcontroller Semiconductor Devices, and Products Containing Same, Inv. No. 337-TA-395, USITC Pub. No. 3136, Commission Opinion at 7 (October 1998) (“EPROM”). Where there is joint inventorship, the patent must issue to all inventors. 35 U.S.C. §§ 102(f), 116, and 256.

The issuance of a patent creates a presumption that the named inventor is the true and only inventor. Ethicon, Inc. v. United States Surgical Corp., 135 F.3d 1456, 1460 (Fed.Cir.), cert. denied, 525 U.S. 923 (1998) (“Ethicon II”). “In order to rebut this presumption, a party challenging patent validity for omission of an inventor must present clear and convincing evidence that the omitted individual actually invented the claimed invention.” See Acromed Corp. v. Sofamor Danek Group, Inc., 253 F.3d 1371, 1379 (Fed.Cir. 2001). Inventorship is a question of law. Ethicon II, supra.

“Conception is the touchstone of inventorship.” Burroughs Wellcome Co. v. Barr Laboratories, Inc., 40 F.3d 1223, 1227 (Fed.Cir. 1994), cert. denied, 516 U.S. 1070 (1996). It is the “formation in the mind of the inventor, of a definite and permanent idea of the complete and

operative invention as it is hereafter to be applied in practice.” Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1376 (Fed.Cir. 1986) (“Hybritech”). “An idea is sufficiently ‘definite and permanent’ when ‘only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation.’” Ethicon II, supra, 135 F.3d at 1460. “The conceived invention must include every feature of the subject matter claimed in the patent.” Id. Moreover, in the case of patent claims having means-plus-function language, “the contributor of any disclosed means of a means-plus-function claim element is a joint inventor as to that claim, unless one asserting sole inventorship can show that the contribution of that means was simply a reduction to practice of the sole inventor’s broader concept.” Ethicon II, supra, 135 F.3d at 1463; quoted in EPROM, supra.

To be a joint inventor, “an individual must make a contribution to the conception of the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention.” Fina Oil & Chemical Co. v. Ewen, 123 F.3d 1466, 1473 (Fed.Cir. 1997) (“Fina”). However, each of the joint inventors does not have to make the same type or amount of contribution to the invention; each needs to perform only a part of the task which produces the invention. Ethicon II, supra. Further, a co-inventor need not make a contribution to every claim of a patent; a contribution to one claim is enough. Id. “Thus, the critical question for joint conception is who conceived, as that term is used in the patent law, the subject matter of the claims at issue.” Id.

A person does not qualify as a joint inventor by merely assisting the actual inventor after conception of the claimed invention. Ethicon II, supra. “One who simply provides the inventor with

well-known principles or explains the state of the art without ever having ‘a firm and definite idea’ of the claimed combination as a whole does not qualify as a joint inventor.” Id.

In order to be considered a joint inventor, there must be clear and convincing evidence corroborating the individual’s contribution. Fina, supra, 123 F.3d at 1474. In Ethicon II, the Federal Circuit noted in this regard that:

an inventor’s testimony respecting the facts surrounding a claim of derivation or priority of invention cannot, standing alone, rise to the level of clear and convincing proof. Price v. Symsek, 988 F.2d 1187, 1194, 26 USPQ2d 1031, 1036 (Fed.Cir. 1993). The rule is the same for an alleged co-inventor’s testimony. See Hess, 106 F.3d at 980. Thus, an alleged co-inventor must supply evidence to corroborate his testimony. See Price, 988 F.2d at 1194. Whether the inventor’s testimony has been sufficiently corroborated is evaluated under a “rule of reason” analysis. Id. at 1195. Under this analysis, “[a]n evaluation of all pertinent evidence must be made so that a sound determination of the credibility of the [alleged] inventor’s story may be reached.” Id.

Corroborating evidence may take many forms. Often contemporaneous documents prepared by a putative inventor serve to corroborate an inventor’s testimony. See id. at 1195-96. Circumstantial evidence about the inventive process may also corroborate. See Knorr v. Pearson, 671 F.2d 1368, 1373, 213 USPQ 196, 200 (CCPA 1982) (“[S]ufficient circumstantial evidence of an independent nature can satisfy the corroboration rule.”) Additionally, oral testimony of someone other than the alleged inventor may corroborate. See Price, 988 F.2d at 1195-96.

Ethicon II, supra, 135 F.3d at 1461; quoted in EPROM, Initial Determination at 97-98 (March 19, 1998, Pub. vers. April 29, 1998).

Obviousness -- 35 U.S.C. § 103(a)

Pursuant to 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, *supra*, 122 F.3d at 1479; also see Wang Laboratories, 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”). See Smiths Industries Medical Systems, Inc. v. Vital Signs, Inc., 183 F.3d 1347, 1354 (Fed. Cir. 1999) (“Smiths Industries”) (citing Graham v. John Deere Co., 383 U.S. 1, 17 (1966) (“Graham”)).

In order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that “there is a reason, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the references, and that would also suggest a reasonable likelihood of success.” Smiths Industries, *supra*, 183 F.3d at 1356; also see United States Surgical Corporation v. Ethicon, Inc., 103 F.3d 1554, 1564 (Fed. Cir. 1997); Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus, Inv. No. 337-TA-337, Commission Opinion at 18 (U.S.I.T.C., August 3, 1993). When an obviousness determination relies on the combination of two or more references, “[t]he suggestion to combine may be found in explicit or implicit teachings within the references themselves, from the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved . . . the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the

obviousness, of making the combination.” WMS Gaming, Inc. v. Int’l Game Technology, 184 F.3d 1339, 1355 (Fed. Cir. 1999).

“Secondary considerations,” or “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. See Graham, supra, 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); 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 (Fed. Cir. 1986) (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. See Richardson-Vicks, supra, 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)

(“Demaco”); Certain Crystalline Cefadroxil Monohydrate, Inv. No. 337-TA-293, Commission Opinion at 17 (U.S.I.T.C., March 15, 1990) (“Cefadroxil”). 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.” Demaco, supra, 851 F.2d at 1393.

Inequitable Conduct

Patent applicants are required to prosecute patent applications “with candor, good faith, and honesty.” See Bristol-Myers Squibb Co. v. Rhone-Poulenc Rorer, Inc., 326 F.3d 1226, 1233 (Fed. Cir. 2003) (“A breach of this duty can take several forms: affirmative misrepresentation of a material fact, failure to disclose material information, or submission of false material information.”) (“Bristol-Myers”); see also 37 C.F.R. §§ 1.56, 10.18(b) (2002). Moreover, “a breach of this duty, when coupled with an intent to deceive or mislead the PTO, constitutes inequitable conduct, which, when proven, renders the patent unenforceable.” Bristol-Myers, supra, 326 F.3d at 1233. The party alleging inequitable conduct bears the burden of proof under the “clear and convincing evidence” standard. Id.

Domestic Industry

In General

In connection with a complaint based upon patent infringement, a violation of Section 337 can be found “if an industry in the United States, relating to the articles protected by the . . . patent . . . concerned, exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2). The test for the “existence” of a domestic industry that is required for federally-registered intellectual property rights calls for a lesser showing than the test of “injury” to a domestic industry that is required for

other Section 337 grounds. See H. R. Rep. No. 100-40, pt. I, at 155-57 (1987) (discussing amendment to Section 337 eliminating requirement of injury to domestic industry for intellectual property-based complaints).

Domestic Industry Requirements for Patents

With respect to Complainants' allegations of patent infringement, the domestic industry required by Section 337(a)(2) is that portion of a complainant's activities and facilities in the United States devoted to exploitation of the patent at issue. See Certain Agricultural Tractors Under 50 Power Take-off Horsepower, Inv. No. 337-TA-380, Order No. 39 at 2, 1996 WL 965732 (U.S.I.T.C., August 8, 1996), reconsidered, Order No. 47 (U.S.I.T.C., August 21, 1996) and Order No. 48 (U.S.I.T.C., August 21, 1996) (summary determination finding domestic industry exploiting certain registered trademarks); Certain Sickle Guards Intended for Use in Mowing Machines, Inv. No. 337-TA-247, Initial Determination (U.S.I.T.C., February 18, 1987), Certain Vacuum Bottles and Components Thereof, Inv. No. 337-TA-108, Commission Opinion (U.S.I.T.C., October 13, 1982); Certain Airtight Cast Iron Stoves, Inv. No. 337-TA-69, Commission Opinion (U.S.I.T.C., December 31, 1980). A domestic industry need not be found for each claim asserted to be infringed; there need only be a domestic industry for one claim of the asserted patent. 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 16 (U.S.I.T.C., January 16, 1996) ("Microsphere Adhesives").

Additionally, Section 337(a)(3) sets forth the following economic criteria for determining the existence of a domestic industry in such investigations:

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 . . . 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). Given that the statute uses the disjunctive “or,” a complainant can demonstrate the existence of a domestic industry by satisfying any one of the three tests set forth in Section 337(a)(3). See, e.g., Certain Microlithographic Machines and Components Thereof, Inv. No. 337-TA-468, Order No. 27 at 4 (U.S.I.T.C., July 17, 2002); Certain Plastic Encapsulated Integrated Circuits, Inv. No. 337-TA-315, Initial Determination at 83 (U.S.I.T.C., October 15, 1991) (unreviewed by Commission in relevant part). Moreover, the existence of a domestic industry is measured at the time the complaint is filed. Bally/Midway Mfg. Co. v. U.S. Int’l Trade Comm’n, 714 F.2d 1117, 1122 (Fed. Cir. 1983).

Unclean Hands

“It is a principle of general application that courts, and especially courts of equity, may appropriately withhold their aid where the plaintiff is using the [patent] right asserted contrary to the public interest.” Morton Salt Co. v. G.S. Suppiger Co., 314 U.S. 488, 492 (1942). This principle is often expressed through the maxim that “he who comes into equity must come with clean hands.” Keystone Driller Co. v. General Excavator Co., 290 U.S. 240, 241 (1933) (“Keystone Driller”).

In Keystone Driller, a patent infringement case involving five patents covering parts of a ditching machine, the patentholder was accused of having suppressed evidence of a prior use that

would have invalidated one of the patents at issue. See *Keystone Driller*, supra, 290 U.S. at 243. The Supreme Court found that this inequitable conduct as to one patent rendered all five patents unenforceable, even though the five patents did not share a common parent application or prosecution history with one another. See *id.* at 241-42. The Court held that a key element for finding all of the patents unenforceable by reason of the patentholder's "unclean hands" as to one patent is to show that "some unconscionable act of one coming for relief has an immediate and necessary relation to the equity that he seeks in respect of the matter in litigation." See *id.*, 290 U.S. at 245. In this instance, the Court found that the claims of all of the patents supplemented each other and covered "important, if not essential, parts of the same machine." The Court also found that the patentholder's conduct rose to the level of unconscionability that had a direct effect on all five patents, rendering them all unenforceable. See *id.*, 290 U.S. at 246.

In *Precision Instrument Manufacturing Co. v. Automotive Maintenance Machinery Co.*, 324 U.S. 806 (1945) ("Precision Instrument"), the Supreme Court revisited the unclean hands doctrine in the context of another patent infringement case. In this instance, an application that led to one of the patents in suit was filed by an employee of the defendant, Precision Instrument. However, the alleged inventor on that application had obtained his information indirectly from plaintiff Automotive's inventor who had been named on two other patents. During prosecution of the application, the PTO declared an interference between one of the Automotive applications and the Precision Instrument employee's application. Precision Instrument's alleged inventor then filed a false statement concerning the dates of invention. When Automotive discovered the fraud, the parties settled the interference without notifying the PTO of the inequitable conduct. In the settlement agreements, the defendants assigned all of their rights in the patents to Automotive and

acknowledged the validity of the claims that would issue on the applications. The suit that ended up before the Supreme Court had been brought to enforce the agreements and the patents.

The Supreme Court found on the basis of the facts before it that “[t]he history of the patents and contracts in issue is steeped in perjury and undisclosed knowledge of perjury.” See Precision Instrument, supra, 324 U.S. at 816. Further, the Court stated in connection with the interference proceeding settlement that “[o]utside settlements of interference proceedings are not ordinarily illegal. But where, as here, the settlement is grounded upon knowledge or reasonable belief of perjury which is not revealed to the Patent Office or to any other public representative, the settlement lacks that equitable nature which entitles it to be enforced and protected in a court of equity.” Id. at 819. Applying the unclean hands doctrine of Keystone Driller, the Court declared both patents at issue to be unenforceable.

The Federal Circuit addressed the “unclean hands” doctrine for the first time in Consolidated Aluminum Corp. v. Foseco International Limited, 910 F.2d 804 (Fed. Cir. 1990) (“Foseco”). In that case, patentholder Consolidated sued Foseco and four other parties for infringement of six patents relating to the manufacture and use of ceramic foam filters for molten metal, particularly aluminum. The earliest-issued patent was found to be unenforceable for inequitable conduct by reason of Consolidated’s intentional withholding from the PTO of the best mode for practicing the invention and disclosure instead of a fictitious, inoperative mode, which allowed Consolidated in prosecuting a later-issued patent to then disclose the best mode and argue against a prior art rejection based on the earlier patent. The trial court found that Consolidated had engaged in a broad pattern of inequitable conduct which directly related to all four patents because the failure to disclose the best

mode in the first patent directly affected the second patent, which was an improvement on the first, as well as the third and fourth patents that were continuations of the second.

The Federal Circuit affirmed the District Court's finding that all four patents were unenforceable by reason of the clean hands doctrine because "the prosecution histories of the patents-in-suit establish that Consolidated's inequitable conduct in prosecution the '917 patent had 'immediate and necessary relation' . . . to the equity Consolidated seeks, namely enforcement of the '081, '212 and '303 patents." Foseco, *supra*, 910 F.2d at 810, *citing* Keystone Driller, *supra*. The best-mode concealment in the first patent, the Court held, "enabled Consolidated to present the [best mode element] as part of the invention disclosure in the [later patent] specification and as a basis for its successful arguments in prosecuting the applications that became the other patents-in-suit." *Id.*, 910 F.2d at 811. In prosecuting the second patent, when the PTO Examiner rejected the claims on the basis of the original '917 patent, the Federal Circuit continued, "Consolidated responded with an argument it could not have made if it had not concealed the [best mode element], i.e., that the '917 patent did not suggest or inherently disclose the invention." *Id.* In a similar way, the Court found, the concealment also permeated the prosecution of the two later continuation applications. *Id.* at 812.

The Commission first considered the "unclean hands" doctrine in Certain Large Video Matrix Display Systems and Components Thereof, Inv. No. 337-TA-75, and decided that the patent at issue was not unenforceable for that reason. Certain Large Video Matrix Display Systems and Components Thereof, Inv. No. 337-TA-75, Commission Opinion, 1981 WL 178456 (U.S.I.T.C., June 1, 1981). In that case, Respondent SSIH argued that one or more of the other patents originally asserted by complainant S-W in the Section 337 investigation were procured through inequitable

conduct by reason of S-W's failure to inform the PTO of an on-sale bar that did not directly relate to the procurement of the '762 patent at issue, but nevertheless tainted its enforceability before the Commission along with the other patents. The Commission rejected SSIH's argument, finding the other patents to be valid and thereby finding the import of the inequitable conduct allegation to be lessened.

The Federal Circuit affirmed the Commission's Opinion in SSIH Equipment S.A. v. U.S. International Trade Commission, 718 F.2d 365 (Fed. Cir. 1983) ("SSIH"). The Federal Circuit rejected as a matter of law SSIH's "supposition that all of the patents are so interrelated that S-W's 'unclean hands' with respect to the later patents renders the '762 patent unenforceable" because "[t]he acts which are alleged to have taken place all occurred after the '762 patent issued and do not deal with the invention claimed in the '762 patent. Moreover, the '762 patent issued almost three years before any of the other patents were applied for. Keystone Driller and its progeny would deny enforcement of the '762 patent only if S-W were to have committed a fraud on the Commission itself. [Citations omitted] Such a situation does not exist here." SSIH, *supra*, 718 F.2d at 378-79.

The Commission again considered the "unclean hands" doctrine in Certain Excimer Laser Systems for Vision Correction Surgery and Components Thereof and Methods for Performing Such Surgery, Inv. No. 337-TA-419, Commission Opinion, 2000 WL 633593 (U.S.I.T.C., March 6, 2000); Initial Determination, 1999 WL 1581757 (U.S.I.T.C., September 24, 1999) ("Laser Vision Correction"). In that investigation, the respondent, Nidek, alleged that the '418 patent at issue was unenforceable by reason of inequitable conduct during PTO prosecution on the part of an inventor named on an application that was declared to be in interference with the parent application of the '418 patent. The Administrative Law Judge rejected Nidek's allegation of "infectious inequitable

conduct” based on Keystone Driller, but the Commission took no position on the issue after review of the ID.

In the ID in Laser Vision Correction, the ALJ found that the “immediate and necessary relation” required by Keystone Driller had not been established between the ‘418 patent and the alleged inequitable conduct. According to the ALJ, Nidek’s “infectious inequitable conduct” argument was based on the common subject matter (corneal laser surgery) and ownership of the ‘418 patent and the patents that resulted from the “tainted” interference proceeding, but those “tainted” patents did not bear “a sufficiently close relationship to the ‘418 Patent to satisfy the ‘immediate and necessary’ relationship” of Keystone Driller because the ‘418 Patent was not directly involved in any of the interference proceedings, its invention date was never at issue or challenged in the interference proceeding, it did not rely upon the “tainted” patents for its invention date, and it issued prior to the alleged inequitable conduct. Accordingly, Nidek’s defense of the ‘418 patent’s unenforceability was denied.

The foregoing precedents make clear that the key element to finding whether the doctrine of “unclean hands” renders a patent at issue unenforceable by reason of inequitable conduct is that the inequitable conduct must bear “an immediate and necessary relation to the equity that [the patentholder] seeks in respect of the matter in litigation.” See Keystone Driller, supra, 290 U.S. at 245. In so determining, the application of the “unclean hands” doctrine by the trier of fact is “not bound by formula or restrained by any limitation that tends to trammel the free and just exercise of discretion.” See id., 290 U.S. at 245-46.

PROCEDURAL HISTORY

On August 18, 2003, the undersigned issued Order Nos. 1 and 2 – a Protective Order and an Order designating this proceeding as “more complicated.” On the next day, August 19, 2003, the undersigned issued Order Nos. 3 and 4 establishing ground rules for both the Temporary Exclusion Order (“TEO”) portion of the proceeding as well as the non-TEO portion of the proceeding and the procedural schedule for the TEO portion, respectively.

On September 9, 2003, a Markman hearing was held regarding the interpretation of the terms of claim 34 of the ‘310 patent solely for the purposes of temporary relief. Seven claim terms were identified as being in dispute in the briefs submitted by all parties prior to the Markman hearing. On September 17, 2003, the undersigned issued Order no. 5, setting forth claim construction of claim 34 of the ‘310 patent for purposes of temporary relief only. Order No. 5 interpreted claim 34, the sole claim at issue for temporary relief purposes, and entered conclusions of law on that interpretation. See Section II.A., infra.

On September 5, 2003, Respondents Applica, and ZeroPack moved to compel Tilia to answer fully Respondents’ outstanding interrogatories numbered 48 and 49, for a determination of the sufficiency of Tilia’s objections and answers to Respondents’ requests for admission numbered 16-18, 28-30, 40-42, 52-54, 64-66, and 76-78, which Complainants had refused to admit or deny and to which Complainants had interposed objections, and to compel Ms. Linda Graebner, Complainants’ CEO and designated corporate representative for deposition under Rule 30(b)(6) of the Federal Rules of Civil Procedure, to complete her testimony as a corporate representative and to testify in her individual capacity. On September 12, 2003, Complainants filed a response in opposition to both motions. Staff did not respond to the motions.

Respondents' Interrogatory Nos. 48 and 49 sought Complainants' identification of language in the asserted claims of the '310 patent that recite a limitation or element that Complainants contend is not disclosed to a person having ordinary skill in the relevant art based on two prior-art patents. Similarly, Respondents' Request for Admission Nos. 16-18, 28-30, 40-42, 52-54, 64-66, and 76-78 all seek Complainants' admission or denial that the prior art references disclose specific claim limitations. In both instances, Complainants objected on the ground that the request was vague, ambiguous, or unintelligible, and on the ground that it was premature because it relates to claims not at issue in Complainants' motion for temporary relief. Complainants also objected to the interrogatories on the ground that they seek information that is subject to the attorney-client privilege and the attorney work-product immunity. Complainants further objected to the requests for admission on the ground that the claims had not yet been construed by the undersigned for purposes of Complainants' motion for temporary relief, and that Complainants' response would be supplemented once the undersigned did so.

In their response to the motions, Complainants asserted that they had supplemented their responses to Interrogatory Nos. 48 and 49, stating that most of the elements of the '310 patent are not disclosed in the two prior-art patents identified by Respondents. Complainants also asserted that there was no basis for compelling them to respond to the Requests for Admission because they were all vague and ambiguous, asking about claim 34 as "properly interpreted," which Complainants were at a loss to understand because the undersigned had not yet interpreted the claim terms. On September 17, 2003, in Order No. 6, the undersigned granted in part Respondents' motion to compel. Noting that Order No. 5 also issued on September 17, 2003, the undersigned interpreted the disputed claim terms of claim 34 of the '310 patent for purposes of temporary relief only, the undersigned

therefore directed Complainants (i) to answer Interrogatory Nos. 48 and 49 fully with regard to claim 34 of the '310 patent, in light of Order No. 5; (ii) to admit or deny, in light of Order No. 5, Respondents' Request for Admission Nos. 16-18, 28-30, 40-42, 52-54, 64-66, and 76-78 of Respondents' First Set of Requests for Admission; and (iii) to Ms. Linda Graebner for deposition to complete her testimony as a corporate representative and to testify in her individual capacity.

On September 8, 2003, Applica and ZeroPack moved for a summary determination denying the TEO motion of Tilia for lack of proof of irreparable harm. On September 22, 2003, Complainants and Staff filed responses in opposition to Respondents' motion. In their motion for summary determination, Respondents contended that Complainants had failed to fulfill the "irreparable harm" requirement for TEO relief based on: (i) certain public statements made by Complainants' senior management to the financial media precluded a finding that Complainants face irreparable harm in the absence of temporary relief; (ii) Complainants' grant to Flaem Nuova S.p.A. ("Flaem") of a royalty-free license to practice the '310 patent, thereby negating Complainants' assertion that Respondents' activities would cause irreparable harm; and (iii) the fact that Complainants had unduly delayed filing their motion for temporary relief. On September 23, 2003, in Order No. 10, the undersigned denied Respondents Applica and ZeroPack's motion for summary determination. The undersigned ruled that statements made by Complainants' senior management to the financial press to the effect that the company's FoodSaver vacuum packaging business had a successful first half of this year was not a prediction of future events, which Complainants' allegations in its TEO motion of irreparable harm had concentrated upon. The undersigned also noted Staff's recitation to similar public statements by Respondents' management setting forth their intention to compete vigorously in the vacuum packaging market over the remainder of this year.

Such statements, the undersigned concluded, lent sufficient credence to Complainants' allegations of irreparable harm. Such credence raised a factual dispute that defeated summary determination, particularly when all factual inferences must be drawn in Complainants' favor as is always the case on summary determination. With regard to the Flaem license, the facts were disputed as to whether those machines, which compete with Complainants' machines in the U.S. market under a royalty-free license of the '310 patent from Complainants, have different benefits and features from Complainants' machines. Even though it is true that irreparable harm can be negated by proof that the patentee has engaged in a pattern of granting licenses under the patent, the sole license to Flaem did not establish a "pattern" of licensing on Tilia's part, and the fact that the license is royalty-free resolved no dispute about the competitive relationship of the Flaem and Tilia machines to one another or to Respondents' devices. Finally, in connection with Complainants' alleged delay in filing its motion for TEO, Respondents alleged that Tilia first learned of the ZeroPack machine in January 2003, perhaps as early as mid-2002, and filed an infringement suit against ZeroPack in the Northern District of California in January 2003. Tilia did not request temporary relief in that action. The instant motion for temporary relief was not filed at the Commission with the Section 337 complaint until July 2003. However, inasmuch as Applica's shipments of accused products (including ZeroPack machines) did not begin until May 2003, and it was not clear when Tilia's management first became aware of the ZeroPack machines' importation and sale in the United States or of the sum total of its allegedly infringing features, the undersigned concluded that these facts suggested at most a two-month delay on Tilia's part in filing its Section 337 complaint, which would not warrant summary determination of no irreparable harm under the circumstances.

Finally, also on September 8, 2003, Complainants moved for summary determination that Complainants had established a domestic industry under the '310 patent. On September 22, 2003, Respondents filed a response in opposition to Complainants' motion, and Staff filed a response partly in support and partly in opposition to Complainants' motion. In their motion for summary determination, Complainants contended that both the technical and economic prongs of Section 337's domestic industry requirement had been met as to the practice of the '310 patent by 18 of Complainants' FoodSaver vacuum packaging machine models.⁵ Complainants provided a claim chart and an expert declaration of Ehsan Alipour to show that at least Complainants' Vac 550 FoodSaver model practices claim 34. Additionally, Complainants contended that the economic prong of the domestic industry requirement had been met by reason of Tilia's (1) domestic research and development and regulatory compliance efforts; (2) significant expenditures on labor and capital for research and development, quality assurance, customer service, technical support, testing, and consumer education for the FoodSaver machines; (3) domestic manufacturing of the packaging, bags and accessories for Tilia's FoodSaver machines; (4) leasing of substantial office and laboratory space in the United States; and (4) investment in equipment for its various divisions. Respondents, in opposition to Complainants' motion, argued that the FoodSaver machine was produced entirely outside the United States, in China, and that other allegedly "domestic" activities, such as packaging, had not been shown to be performed in the United States. They further argued that there is a material factual issue in dispute as to whether bags and accessories of the FoodSaver machine should be included within the scope of the domestic industry and that Complainants had not provided adequate

⁵ Complainant's motion was not limited in scope to the temporary relief proceeding alone. It was directed to the domestic industry requirement for the full investigation as well.

responses to their discovery requests concerning details of domestic activities. Respondents also argued that the domestic activities of Complainants' licensee, Flaem, should be considered in determining whether a domestic industry exists. With respect to the technical prong of the domestic industry requirement, Respondents argued that Complainants' expert, Alipour, had failed in his analysis to apply the claim construction for temporary relief purposes that was set forth in Order No. 5. Further, Respondents contended that Alipour's opinion was biased by his ties to Complainants as a former employee. Finally, Respondents argued that discovery had not yet been completed on the domestic industry issue. Staff, in its response, contended that Complainants' research and development on machines covered by claim 34, plant, equipment and labor dedicated to those activities, and the manufacture of plastic bags for use in Complainants' home vacuum packaging machines warrant partial summary determination that the economic prong of the domestic industry requirement had been met. However, Staff took no position on any of Complainants' other economic grounds. As to the technical prong, Staff contended that Complainants' motion was filed prior to the issuance of Order No. 5 construing claim 34, and the summary determination motion therefore did not address that construction, particularly with regard to the claim's coverage of the bags used in the FoodSaver machine. On September 24, 2003, the undersigned issued Order No. 12 denying Complainants' motion for summary determination on domestic industry. The undersigned concluded that summary determination of both the economic and technical prongs of the domestic industry requirement were premature given the present state of discovery into these issues noting that the motion was directed toward fulfillment of the entire requirement for the full investigation, not just the TEO motion. At that early stage of expedited discovery, the undersigned found that it was

simply too early to grant summary determination when Respondents and Staff had barely had an adequate opportunity to explore the domestic industry issues in discovery.

On September 17, 2003, Complainants moved in limine to preclude the testimony and strike the expert witness report of James B. Gambrell (“Gambrell Report”) or, in the alternative, to limit Gambrell’s testimony and the usage of his report to the procedures of the U.S. Patent and Trademark Office. On September 22, 2003, Respondents filed a response in opposition to Complainants’ motion. On September 23, 2003, Staff filed a response partly in support of Complainants’ motion. In their motion, Complainants contended that the Gambrell Report went beyond the requirement of Ground Rule 9.3 limiting the testimony of legal experts to procedures of the U.S. Patent and Trademark Office. Complainants further contended that Gambrell did not have sufficient expert credentials to opine on USPTO procedures. Finally, Complainants contended that expert testimony on USPTO procedures was not needed in this investigation, especially at the TEO phase of the investigation, and should not be allowed. Respondents, in their opposition to the motion, contended that by seeking to exclude Gambrell’s testimony, Complainants were trying to hide problems with the validity and enforceability of the ‘310 patent. In particular, Respondents argued that Gambrell would explain the prosecution history of the ‘310 patent, identify information that the inventor allegedly withheld from the PTO or misrepresented to the PTO in violation of applicable PTO procedures, and describe the relevance of that information to the prosecution of the application that matured into the ‘310 patent. Staff, in its response, contended that the overwhelming portion of Gambrell’s testimony went beyond testifying as to the procedures of the USPTO. On September 24, 2003, in Order No. 15, the undersigned granted Complainants’ motion. Although the Ground Rules stated that motions in limine to exclude evidence or testimony to be presented at a hearing on

temporary relief are strongly disfavored, they may be made if good cause is shown. See Ground Rule D3.3. The undersigned concluded that complainants had shown good cause for doing so in this instance given that it was readily apparent from Respondents' response to Complainants' motion that their primary purpose for offering Gambrell's testimony was to conveniently insert evidence of the '310 patent's alleged invalidity and unenforceability into the record of the TEO proceeding. Noting that Ground Rule 9.3 clearly forbade this tactic, the undersigned noted that while expert opinion of an attorney on PTO procedures may be helpful when the nature or regularity of that procedure has an impact in deciding an infringement case, in this instance the Gambrell Report did not point to any particular PTO procedure that plays a decisive role in this case. Instead, the undersigned noted that it had attempted to characterize what the inventor and his patent attorney knew at the time of his application reciting the transcript of an arbitration proceeding in which Gambrell had no personal role. The undersigned ruled that while the TEO process is very short, that does not mean that parties are free to resort to shortcuts in the manner of introducing evidence into the record. The undersigned further ruled that the evidence that Respondents sought to offer could be introduced into the record through inventor testimony and other evidence. Finally noting that Gambrell's expertise added nothing whatsoever to this evidence and legal argument the undersigned granted the motion.

On September 22, 2003, Complainants moved to compel Respondents to answer fully Complainants' outstanding interrogatories; (ii) to determine the sufficiency of Respondents' objections and answers to Complainants' requests for admission and to order that certain requests for admission be admitted or, alternatively, to compel answers to the same; (iii) to strike the expert report and preclude the testimony of Dr. Albert V. Karvelis or, alternatively, to compel Respondents to produce Dr. Karvelis to complete his deposition and appear with all materials upon which he

based his opinion; and (iv) to compel Respondents to produce certain documents improperly withheld or redacted by Respondents. On September 24, Respondents filed their response in opposition to the motion. Staff did not respond to the motion. In their motion, Complainants contended that Respondents had (i) objected and refused to answer Complainants' Interrogatory Nos. 18, 33, 40 and 68; (ii) objected and refused to admit or deny Complainants' Requests for Admission Nos. 18-33; (iii) refused to produce Karvelis, their expert witness on infringement, for an adequate period of time beyond 4.5 hours to finish his deposition and with materials upon which he relied; and (iv) improperly designated many documents as privileged and withheld or redacted those documents, and have produced an inadequate privilege log. In their response in opposition to the motion, Respondents contended that the motion did not comply with Ground Rule D3.1 concerning certification of good-faith efforts to resolve motions before their filing and asserted that much of the motion had already been dealt with in discussions between counsel and was therefore moot. Respondents also contended that Ground Rule 3.5's requirement that each page of the contested discovery requests must be attached to the motion to compel had not been met. As for the interrogatories and requests for admission, Respondents contended that they had adequately addressed these requests in supplemental responses. Concerning the deposition of Karvelis, Respondents contended that the motion was now moot because the parties had agreed to hold the continuation of that deposition on Thursday, September 25, 2003. However, Respondents remarked that their deposition of Complainants' expert was also limited in time and did not include materials that the expert had relied upon. Concerning Respondents' assertions of privilege on their privilege log, Respondents contended that Complainants had failed to engage in dialogue to resolve disputes over the assertions of privilege by both parties. In particular, Respondents contended that they had

properly asserted privilege over materials involving Respondents' patent agent, Frank Marino, and over communications that had not included an attorney as either sender or recipient. On September 24, 2003, in Order No. 17, the undersigned granted Complainants' motion. With regard to Respondents' answers to Complainants' Interrogatory Nos. 18, 33, 40 and 68, the undersigned found that Respondents had merely answered, and supplementally at that, to Nos. 18, 33, and 40 and that they "ha[d] not yet discovered the requested information." Regarding the questions addressing Respondents' market surveys for their products, importations of their products, and inventory of their products and interrogatory No. 68, which Respondents flatly refused to answer a question directed to their current plans for introducing into the U.S. market new vacuum packaging machines, the undersigned found these questions to be relevant and material to temporary relief. Accordingly, the undersigned directed Respondents to respond fully to these questions. With regard to Respondents' denials of Complainants' Request for Admission Nos. 18-33, Respondents had denied admissions that each of their vacuum packaging machines had particular elements of claim 34 on the ground that the requests for admission "[were] inextricably linked to one another and because they parse claim language in ways that are inconsistent with Judge Terrill's claim construction." The undersigned found that these responses, served on Complainants after Order No. 5 was issued establishing the claim construction for temporary relief purposes, were wholly inadequate and that Respondents were fully capable of admitting or denying whether their products contained certain claim elements; particularly since they were the ones who, in conjunction with Complainants and Staff, "parsed" the claim language at the Markman hearing that led to Order No. 5. The undersigned ruled that admitting or denying these requests should lead to a simplification and narrowing of disputed issues, and as a result Respondents were directed to do so. With regard to the continued Karvelis

deposition, the undersigned concluded that the parties had already agreed to complete it on Thursday, September 25, 2003, and that Respondents were compelled to do so. Finally, with regard to Respondents' assertions of privilege over documents identified in their privilege log, the undersigned directed Respondents to submit all documents to the him for in camera inspection and determination of the privileged status of each document.

On September 23, 2003, the Applica Respondents moved to compel Tilia to produce all documents relating to the arbitration proceeding held in Switzerland in 2001 between Tilia and Flaem Nuova, S.p.A. ("Flaem") that were allegedly in the possession, custody, or control of (a) Tilia, (b) any of its representatives or agents, including Tilia's present and past legal counsel, (c) any entity to which Tilia is related in any way, or (d) any entity as to which it would be reasonable to expect such entity to provide those documents to Tilia upon request and under circumstances minimizing any burden on such entity. On September 25, 2003, Tilia filed a response in opposition to the motion. Staff did not respond to the motion. According to Respondents, on August 20, 2003 they had served requests on Tilia for production of documents relating to the arbitration proceeding between Tilia and Flaem. On September 10, 2003, Tilia produced the transcript of the arbitration proceeding and two faxes that were exhibits in that proceeding. Respondents asserted that there were additional exhibits to the proceeding, as well as pleadings or briefs relating to it, that Tilia had in its possession, custody or control that it should be compelled to produce. According to Complainants, the Swiss arbitration between Tilia and Flaem was an informal arbitration in which there was no discovery and "exhibits were not shared prior to the hearing as they would be in a typical court or more formal arbitration proceeding" and according to Complainants' arbitration counsel at his deposition, "[t]here [had been] no discovery. No documents were exchanged between the parties.

People showed up at the arbitration with the exhibits.” Complainants further asserted that it and its counsel “[did] not have, and ha[d] never had, a full set of the briefs, exhibits, and transcripts from the arbitration. Complainant ha[d] produced in full what it [did] have of these arbitration items.” On September 26, 2003, in Order No. 19, the undersigned granted Respondents’ motion. The undersigned noted that “federal courts have consistently held that documents are deemed to be within the ‘possession, custody or control’ for purposes of Rule 34 [of the Federal Rules of Civil Procedure, the analog of Commission Rule 210.30(a)(1)] if the party has actual possession, custody or control, or has the legal right to obtain the documents on demand.” Prokosch v. Catalina Lighting, Inc., 193 F.R.D. 633, 636 (D. Minn. 2000) (“Prokosch”). The undersigned further found that courts have sometimes broadly interpreted this rule “to require production if the party has practical ability to obtain the documents from another, irrespective of his legal entitlement to the documents.” Thus, the undersigned ruled that “control” did not require the party receiving the discovery request to have “legal ownership or actual physical possession of the documents at issue; rather, documents are considered to be under a party’s control when that party has the right, authority, or practical ability, to obtain the documents from a non-party to the action” Id. But, the undersigned additionally noted that “a party seeking production of documents bears the burden of establishing the opposing party’s control over those documents.” Camden Iron and Metal, Inc. v. Marubeni America Corp., 138 F.R.D. 438, 441 (D. N.J. 1991). Complainants stated in their response to the motion that they did not have “possession” of any responsive documents, but never stated that they did not have “custody” or “control.” Complainants had indicated to Respondents that they “[were] not aware of anything” in their own files and those of their counsel in this proceeding, “or anyone else’s files currently or formerly associated with Tilia, that ha[d] not been produced.” However, they did not state anything

about any efforts to contact others involved in the arbitration over whom they could exercise “control,” meaning the legal right to obtain the documents on demand. The undersigned concluded that the facts presented were different from Certain Screen Printing Machines, Vision Alignment Devices Used Therein, and Component Parts Thereof, Inv. No. 337-TA-488, Order No. 5 (April 23, 2003) (“Screen Printing, Order No. 5”), in which the undersigned denied the complainant’s request to compel the production of design documents not in the possession of the respondents, but instead in the possession of a vendor of the respondents over whom they had no legal control. In that case, the undersigned found that the complainant had presented no evidence to counter the affidavit of the respondents’ management that they were unable, legally or practically, to obtain the requested documents from the vendor. See Screen Printing, Order No. 5 at 5. In other words, respondents in Screen Printing affirmatively denied having “control” over the requested documents, which was not true here. Instead, here, Complainants refused to say.

On September 22, 2003, Respondents moved to compel Complainants to produce all documents listed on its privilege log for which Tilia had not provided the information required to establish Tilia’s claim of privilege. On September 26, 2002, Complainants filed a response in opposition to the motion. Staff did not respond to the motion. According to Respondents, Complainants’ privilege log as produced on September 9, 2003 was inadequate in justifying the withholding of documents on work-product grounds, in describing the contents of documents, and in identifying authors and recipients and that these problems had not been corrected by Complainants in their September 17, 2003 response to Respondents’ objections. Complainants, in their response in opposition to the motion, argued that the motion was unripe because the parties have not concluded their informal efforts to resolve the dispute, particularly since Respondents had not

requested the production of any particular document. Therefore, Complainants argued that no document should be produced, before an in camera inspection had been completed. On September 26, 2003, in Order No. 22, the undersigned granted Respondents' motion in part and denied it in part. The undersigned noted his finding that it was evident that Complainants and Respondents had been unable to come to a meeting of the minds as to just what Complainants claimed to be privileged and not privileged. Noting that the issuance of a privilege log is not an opportunity for the issuer to play "hide the ball" or for the recipient to complain about every entry and that meeting and conferring among counsel to identify specific problems in discovery was essential in an expedited proceeding, the undersigned concluded that the that opportunity had clearly been missed by counsel for the parties in this instance. Accordingly, the undersigned directed that the parties do so before any in camera inspection of documents in dispute on the privilege log would be conducted.

On September 23, 2003, Complainants moved to strike the rebuttal expert report of Arthur H. Freeman responding to the expert report of David E. Bell. Tilia also sought to preclude testimony regarding the contents of the Freeman Rebuttal Report. On September 26, 2003, Respondents filed a response in opposition to the motion. Staff did not respond to the motion. Complainants sought to strike the Freeman Rebuttal Report and Freeman's hearing testimony thereon, submitted by Respondents partly in rebuttal to the Bell Expert Report that rendered an "opinion on the likely impact on Tilia created by the actions of its competitors in the home vacuum packaging machine market." Respondents also submitted in response to the Bell Expert Report an expert rebuttal report of Andrew R. Wechsler. The Wechsler Rebuttal Report opined that "Complainants and their experts ha[d] failed to consider factors other than Respondents that could account for all or almost all of

Tilia's alleged harm." According to Wechsler, "[t]he HVPMS⁶ market include[d] competitors whose products [were] covered by the '310 Patent, those whose products [were] *not* covered by the '310 Patent, *and* Respondents whose '310 Patent coverage is at issue in this proceeding." The Freeman Rebuttal Report was offered by Respondents to support the Wechsler Rebuttal Report by showing that the machines of entities other than Respondents in the market, namely, Kenmore and Deni, also infringed claim 34 of the '310 patent. Respondents, in their opposition, contended that Freeman's analysis should not be stricken because it was not only responsive to the Bell Expert Report, but "[was] especially relevant because the issue [of whether Kenmore and Deni branded products compete[d] with Tilia and [were] encompassed by claim 34 of the '310 patent] was ignored by Mr. Bell." According to Respondents, Wechsler opined that the Kenmore and Deni brands had strong names that sold at lower price points than Tilia's products, and that these facts contradicted Complainants' argument that the same aspect of Respondents' products caused Tilia harm. On September 30, 2003, in Order No. 26, the undersigned denied Complainants' motion. The undersigned found that the Freeman Rebuttal Report was not superfluous. Noting that the theory expounded by Wechsler and Freeman appeared to be that other products in the market that Tilia either licensed or did not consider infringing competed with Tilia in the same way that Respondents' products do, so there could be no harm to Tilia from Respondents if there was no harm to Tilia from those products. If some of those products were covered by claim 34 of the '310 patent, that would make the theory much stronger. Thus, the undersigned concluded that there was no reason to strike Freeman's report or testimony on this key issue.

⁶ Standing for "Home Vacuum Packaging Machines."

On September 24, 2003, Complainants moved to compel documents listed on Respondents Holmes and Rival's privilege log. In Order No. 24, issued on September 30, 2003, the undersigned directed Rival/Holmes to submit to the undersigned for in camera review all documents listed on its privilege log. Rival/Holmes delivered the documents. Upon in camera review, the undersigned directed Rival/Homes to deliver to Complainants a substantial number of documents listed on the privilege log.

As a result of Order No. 22, issued on September 26, 2002, the parties stipulated to a list of fourteen disputed documents which Complainants submitted to the undersigned for in camera review. Having conducted in camera review, the undersigned at trial on September 30, 2003, followed up by Order No. 27 issued on October 1, 2003, ordered Complainants to release certain documents to Respondents, but two documents were held under advisement pending the receipt of correspondence from Complainants' counsel as to whether there was an attorney-client privilege under the laws of South Korea that covered those documents (having to do in relevant part with advice from South Korean counsel). Notwithstanding that fact, Complainants released one of the two documents, document 384, to Respondents and accordingly the document was, therefore, no longer privileged. See Winbond Electronics Corp. v. International Trade Com'n, 262 F.3d 1363, 1376 (Fed. Cir. 2001) (patentee's inadvertent waiver of attorney-client privilege in a patent infringement litigation is a general waiver "for all purposes"); Genentech, Inc. v. U.S. Intern. Trade Com'n, 122 F.3d 1409, 1417 (Fed. Cir. 1997) (same). As for the other document, by letter dated September 30, 2003, counsel for Complainants informed the undersigned that the privilege law of the United States applied to communications with foreign attorneys if those communications "touch[] base with the United States." VLT Corp. v. Unitrode Corp., 194 F.R.D. 8, 15 (D. Mass.

2000).” Counsel for Complainants also stated in their letter that “[a] document ‘touches base with the United States’ if it has more than an incidental connection to the United States and the United States has ‘the most direct and compelling interest in the communication.’ *Id.* at 16.” The undersigned concluded that Document 383 did not “touch[] base with the United States” noting that the legal advice discussed therein only had to do with the advice of Korean counsel concerning events in South Korea. Accordingly, the undersigned directed that document 383 was directed to be released to Respondents.

On October 1, 2003, Respondents moved to have received into evidence a twenty minute video of the deposition of the sole named inventor of the ‘310 patent, Hanns Kristen, and for leave for Respondents to use twenty minutes of their allotted time to have this video testimony played in open court. The Respondents argued that such was necessitated because Kristen had refused to attend the trial despite the issuance of a subpoena ad testificandum requiring his presence. In the alternative, Respondents requested that the undersigned draw certain negative factual inferences from Kristen’s deposition testimony. At the TEO hearing on October 1, 2003, the motion was argued before the undersigned and the undersigned directed that the parties to submit further briefing on the motion. On October 2, 2003, in Order No. 29, the undersigned granted in part Respondents’ motion. The undersigned concluded that Kristen had made a concerted effort to evade service of the subpoena issued him and that Kristen had a personal financial interest in Jarden Corporation, the parent company of Tilia, which is dependent on Tilia’s future profitability. Further, the undersigned noted that Kristen had been represented by Tilia’s counsel during the TEO phase of this investigation, even though Tilia’s counsel had on occasion disavowed that representation and had done so again during the argument on this motion. The undersigned therefore concluded that Tilia

had a vested interest in Kristen's testimony and Kristen had a vested interest in the financial success of Tilia, on which this proceeding has an impact. Finally, the undersigned found that Kristen's testimony, the sole named inventor on the '310 patent, was essential to the defenses raised by Respondents on the validity and enforceability of the '310 patent and that it would be difficult for the undersigned to assess Kristen's credibility as a witness solely from video-based testimony. As the undersigned had made clear on many occasions, live witness testimony was imperative on such important issues. Given that Kristen assented to be deposed; the undersigned found that was no reason for him to avoid testifying at trial. Since the interests of Tilia and Kristen were evidently intertwined, the undersigned noted that it behooved Tilia to make every effort to have Kristen appear at this trial in person and accordingly granted Respondents' motion in part. Finally, the undersigned informed Tilia that if Kristen failed to appear, the undersigned was prepared to dismiss the TEO phase of this proceeding.

During the October 7, 2003 session of the TEO hearing, Respondents moved into evidence exhibits RX-563C, RX-564C, and RX-565C consisting of designated portions of the transcript of an arbitration proceeding conducted from April 30-May 3, 2001 by the International Chamber of Commerce in Geneva, Switzerland, between Tilia, Inc. and Flaem Nuova, S.p.A. (the "Arbitration Exhibits"). The Arbitration Exhibits included selected portions of the testimonies of Riccardo Abate (RX-563C), Ezio Breda (RX-564C), and Franco Aiolfi (RX-565C), employees of Flaem Nuova (the "Flaem Nuova witnesses"). The undersigned received these exhibits into evidence over the objection of Tilia. The undersigned also received Complainants' counter-designated portions of the arbitration transcript (CX-134C). The undersigned further offered the parties an opportunity to brief the admissibility of the Arbitration Exhibits. Respondents submitted their brief on October 14, 2003,

and Complainants submitted theirs on October 15, 2003. Staff did not submit a brief. The parties did not dispute that the Arbitration Exhibits were hearsay, but Respondents offered the exhibits under the exception set forth in Rule 804(b)(1) of the Federal Rules of Evidence for “[t]estimony given as a witness at another hearing of the same or a different proceeding, or in a deposition taken in compliance with law in the course of the same or another proceeding, if the party against whom the testimony is now offered, or, in a civil action or proceeding, a predecessor in interest, had an opportunity and similar motive to develop the testimony by direct, cross, or redirect examination.” Fed. R. Evid. 804(b)(1). The “declarants” in this instance were Abati, Breda and Aiolfi, all of whom resided in Italy and as such residents, they were beyond the power of the Commission to serve subpoenas. See 19 U.S.C. §§ 1333(a) and (b) (Commission subpoenas may require attendance of witnesses at investigation hearing “from any place in the United States”); Certain Hot Air Corn Poppers and Components Thereof, Inv. No. 337-TA-101, Order No. 13, 1981 WL 178600 (U.S.I.T.C., September 25, 1981) (“The International Trade Commission . . . is given nationwide subpoena powers.”). Notwithstanding this fact, Respondents applied for, and the undersigned issued, a subpoena duces tecum to Flaem Nuova, S.p.A. and a subpoena ad testificandum to Abate, both addressed to said parties in Italy, on August 26, 2003.⁷ No motions to quash the subpoenas were filed by Flaem Nuova or Abate. Complainants argued that Respondents had failed to show that they could not procure the attendance of the Flaem Nuova witnesses by “other reasonable means,” such as voluntary testimony. Complainants further contended that Respondents had failed to show that they could not have procured the Flaem Nuova witnesses’ depositions or hearing testimonies “by

⁷ Respondents listed Abate or a corporate representative of Flaem Nuova on their witness lists for the TEO proceeding on the issues of invalidity, irreparable harm, domestic industry and unclean hands.

process” through Letters Rogatory under the Hague Convention of 1970. Complainants further contended that they had not had an adequate opportunity or the motive during the arbitration proceeding to cross-examine the Flaem Nuova witnesses, as Fed. R. Evid. 804(b)(1) requires in order for such testimony to be admitted as evidence. Finally, Complainants argued that admitting the testimony of the Flaem Nuova witnesses would be inconsistent with the undersigned’s other evidentiary rulings and unfair to Complainants. On October 20, 2003, in Order No. 31, the undersigned affirmed the admission into evidence of the transcript of an arbitration between Tilia and Flaem Nuova. Noting that courts have in cases involving subpoenas served domestically have stated that “[i]f the words ‘or other reasonable means’ [in Fed. R. Evid. 804(b)(1)] are to have any meaning at all, . . . it is clear that they must be interpreted as meaning something other than ‘by process,’ the undersigned concluded that one reasonable means was by a request to the witness for voluntary attendance, at least where such a request had a reasonable likelihood of success.” Creamer v. General Teamsters Local Union 326, 560 F.Supp. 495, 499 (D.Del. 1983). Further, the undersigned found that another court, however, had noted in connection with a case involving foreign witnesses that “[i]n civil cases, it has long been the rule that inability to procure attendance by ‘process or other reasonable means’ is satisfied by demonstration of inability to serve a subpoena.” Zenith Radio Corp. v. Matsushita Elec. Ind. Co., 505 F.Supp. 1190, 1249 (E.D. Pa. 1980), rev’d on other grounds, 475 U.S. 574 (1986). Noting that the court in Creamer had acknowledged this difference when it took note of Zenith and distinguished that case from its own by stating that “the unavailable witness [in Zenith] was either overseas or had refused to appear voluntarily. Where the witness is not in this country, it can be reasonably inferred that a request for voluntary appearance would be unavailing.” the undersigned found that the evidence presented by

Complainants in their brief suggested that the general counsel of one of Respondents had paid a visit to Flaem Nuova in Italy on or about July 23, 2003, before Respondents sought subpoenas from Flaem Nova and Abate on August 26, 2003, contrary to Complainants' erroneous assertions in their brief that the visit occurred after the subpoenas had been served. Complainants speculated from this mistaken inference that "Respondents [had] not like[d] what they heard or saw when they visited Italy and that they made a conscious decision that they would be better off with a cold record instead of a live witness and fair discovery." If this were true, however, the undersigned queried as to why Respondents would have applied for and obtained their subpoenas after the trip, as the correct facts show? Instead, contrary to Complainants' mistaken inference, the undersigned concluded that it was more likely than not that Respondents had liked what they had heard when they visited Flaem Nuova, and therefore sought the subpoenas under the belief that the Flaem Nuova witnesses would accept them and testify voluntarily, and then the Flaem Nuova witnesses had second thoughts about testifying against Tilia. Finally, the undersigned concluded that there was not any reasonable inference to be drawn that the Flaem Nuova witnesses would have testified voluntarily at the TEO hearing. Concerning the availability of alternative process under of the Hague Convention of 1970, the undersigned noted that such was certainly available to Section 337 litigants before the Commission for the purpose of procuring documents and information located in a foreign territory. See Certain Coamoxiclav Products, Potassium Clavulanate Products, and Other Products Derived from Clavulanic Acid, Inv. No. 337-TA-479, Order No. 3, 2002 WL 31324342 (U.S.I.T.C., October 15, 2002). However, the undersigned further noted that such was an "optional" procedure, not a mandatory one. See Societe Nationale Industrielle Aerospatiale v. U.S. District Court for the Southern District of Iowa, 482 U.S. 522, 541 (1987) ("Aerospatiale"); also see Certain HSP

Modems, Software and Hardware Components Thereof, and Products Containing Same, Inv. No. 337-TA-439, Order No. 23, 2001 WL 357344 (U.S.I.T.C., March 16, 2001). Indeed, in Aerospatiale, the undersigned related that the Supreme Court had noted that there are important reasons not to view the Hague Convention as a mandatory procedure, noting with particular importance to the instant case:

. . . [W]e cannot accept petitioners' invitation to announce a new rule of law that would require first resort to Convention procedures whenever discovery is sought from a foreign litigant. Assuming, without deciding, that we have the lawmaking power to do so, we are convinced that such a general rule would be unwise. In many situations the Letter of Request procedure authorized by the Convention would be unduly time consuming and expensive, as well as less certain to produce needed evidence than direct use of the Federal Rules. [Footnote omitted] A rule of first resort in all cases would therefore be inconsistent with the overriding interest in the “just, speedy, and inexpensive determination” of litigation in our courts. See Fed. Rule Civ. Proc. 1.

Aerospatiale, *supra*, 482 U.S. at 542-43. Here, given the time pressures of a TEO proceeding, the undersigned concluded that undertaking the procedures of the Hague Convention would have been highly unlikely to produce the testimony sought by Respondents from the Flaem Nuova witnesses in a timely manner. While noting that it may have been possible (but not necessarily so) to invoke the Hague Convention to elicit live or deposition testimony from the Flaem Nuova witnesses in time for the hearing in the full investigation, the undersigned concluded that it was reasonable to find that such process was not available for purposes of the TEO and that the Flaem Nuova witnesses were, therefore, “unavailable” under Fed. Rule Evid. 804(b)(1). Regarding Complainants’ alleged lack of adequate opportunity to cross-examine the Flaem Nuova witnesses during the arbitration proceeding, Complainants raised several instances during the testimony in which Complainants’ counsel was purportedly precluded from examining the witnesses about certain documents that were “not part of

the limited arbitration record,” or “surprised” by the testimony offered by the witnesses, or not motivated by the same considerations that are present here. The undersigned concluded that none of these arguments had any merit. Concerning Complainants’ citation to a portion of the arbitration transcript where Tilia’s counsel purportedly was not allowed to question the Flaem Nuova witnesses on a bill of lading, the transcript immediately following that portion showed that the arbitrator thereupon promptly admitted the document into the record without objection from opposing counsel, and Tilia’s counsel proceeded to question the witnesses extensively about it. With regard to the Tilia counsel’s “surprise” during the arbitration proceeding at Abate’s testimony to the effect that he had invented the vacuum packaging machine covered by the ‘310 patent instead of the named inventor on the patent, Hanns Kristen, Complainant referred to only one instance where counsel indicated his “surprise” and ignored Tilia’s counsel’s extensive cross-examination of Abate on his purported inventorship immediately following the counsel’s profession of “surprise.” Further, concerning Complainants’ alleged lack of motive in the arbitration proceeding similar to their motives here to develop testimony at that proceeding, Complainants said only that “there are many significant differences between a licensing dispute involving only Flaem Nuova and Tilia and administered by a foreign arbitrator on the one hand, and the current full-blown patent infringement investigation involving numerous parties and enormous stakes on the other hand.” Judging from the testimony of Abate at the arbitration proceeding purporting to show that the ‘310 patent was invalid for improper inventorship, the undersigned noted that it was hard for the undersigned to comprehend what those “differences” might be. Finally, in connection with Complainants’ contention that the admission of the Arbitration Exhibits would be inconsistent with the undersigned’s other evidentiary rulings in this proceeding and unfair to Complainants, this argument, too, was devoid of merit. The

rulings in question pertaining to depositions of Rule 30(b)(6) designees, corporate officers “and, in the case of ZeroPack, a person outside the United States” dealt with the depositions of principals and employees of parties in this case, not to third-parties. See, e.g., TEO Hg. Tr. 23:21-24:13 (denying admission of Rule 30(b)(6) deposition testimony of party opponents and deposition testimony of CEO of ZeroPack). The undersigned described that Complainants had had ample means of securing such testimony voluntarily, or of seeking sanctions in the alternative. Accordingly, the undersigned received into evidence Exhibits RX-563C, RX-564C, RX-565C, and CX-134C.

During the October 7, 2003 session of the TEO hearing, Respondents sought the admission into evidence of exhibit RX-342C, consisting of a document entitled “FoodSaver Machine Discrete Choice Study Management Presentation” that was prepared by [

] for Tilia and found by Respondents through discovery in Tilia’s business records. Given Tilia’s objection to the admissibility of the document as hearsay, the undersigned offered the parties an opportunity to brief its admissibility prior to ruling. Respondents submitted their brief on October 10, 2003, and Complainants submitted theirs on October 14, 2003. Staff did not submit a brief.

Rule 803(6) of the Federal Rules of Evidence provides as follows:

The following are not excluded by the hearsay rule, even though the declarant is available as a witness:

* * *

(6) Records of Regularly Conducted Activity. – A memorandum, report, record, or data compilation, in any form, of acts, events, conditions, opinions, or diagnoses, made at or near the time by, or from information transmitted by, a person with knowledge, if kept in the course of a regularly conducted business activity, and if it was the regular practice of that business activity to make the memorandum, report, record or data compilation, as shown by the

testimony of the custodian or other qualified witness, or by certification that complies with Rule 902(11), Rule 902(12), or a statute permitting certification, unless the source of information or the method or circumstances of preparation indicate lack of trustworthiness. The term “business” as used in this paragraph includes business, institution, association, profession, occupation, and calling of every kind, whether or not conducted for profit.

Fed. R. Evid. 803(6) (emphasis added). According to Respondents, Tilia furnished [] with highly confidential business information about [] from which the report was created. This information included [] as well as Tilia’s []. As such, Respondents maintained, the document was trustworthy because Tilia furnished at least part of the information upon which the [] report is based. Respondents also argued that Tilia’s CEO, Linda Graebner, testified at the TEO hearing in connection with Tilia’s irreparable harm allegation that competition from []

[] Specifically regarding this, Graebner testified as follows:

[]

According to Respondents, RX-342C contained the information that Graebner referred to in the foregoing testimony and upon which Tilia had relied [] in support of its allegations of irreparable harm during these TEO proceedings. Complainants responded in opposition that Graebner explicitly testified, in response to a question from Respondents’ counsel, that she was not referring to [] report when she stated, “[]” Complainants further maintained that Respondents had failed to satisfy the

portion of Rule 803(6) that requires “testimony of the [business record’s] custodian or other qualified witness” to verify that each of the elements of Rule 803(6) have been met. Complainants also argued that the relevant case law on Rule 803(6) emphasizes day-to-day reliance as a requisite foundation for showing the reliability of incorporated documents offered as exceptions to the hearsay rule, which Tilia had not proven regarding [] report. On October 23, 2003, in Order No. 32, the undersigned denied the admission of Respondents’ exhibit RX-342C. Noting that there was no dispute that [] report was hearsay, was prepared for Tilia by a third party, and was found during discovery in Tilia’s records, the undersigned related that a hearsay document created by a third party and retained by another business can be admissible under the hearsay exception of Fed. R. Evid. 803(6) as a regularly-kept record of the latter business. See Air Land Forwarders, Inc. v. United States, 172 F.3d 1338, 1342-43 (Fed. Cir. 1999) (“Air Land Forwarders”). But, the undersigned further noted that in order for such a hearsay document to be admitted into the record as evidence, the exception to the hearsay rule set forth in Rule 803(6) requires a showing “by the testimony of the custodian or other qualified witness” that the document was “kept in the course of a regularly conducted business activity” and that “it was the regular practice of that business activity to make the memorandum.” See Fed. R. Evid. 803(6). The undersigned concluded that this meant that there are “two factors, indicating reliability, that would allow an incorporated document to be admitted based upon the foundation testimony of a witness with first-hand knowledge of the record keeping procedures of the incorporating business, even though the business did not actually prepare the document. The first factor is that the incorporating business rely upon the accuracy of the document incorporated and the second is that there are other circumstances indicating the trustworthiness of the document.” Op. cit. at 1342 (emphasis added). When reviewing the proposed

exhibit in light of the above, the undersigned concluded that Respondents had made no showing that Graebner was either a “custodian” of the [] report or was otherwise qualified by first-hand knowledge of Tilia’s record keeping procedures to testify as to the report’s incorporation into Tilia’s records and use in Tilia’s day-to-day activities. Further, the undersigned found that her testimony did not support Respondents’ contention that it is one of the [] that Tilia does. Additionally, the undersigned found that Graebner’s testimony did not satisfy the prerequisite for admissibility under Rule 803(6) that Tilia relied upon the [] report in its day-to-day activities. See Air Land Forwarders, *supra*, 172 F.3d at 1342. Therefore, the undersigned ruled that Respondents could not use Graebner’s testimony in order to demonstrate that the [] report was kept in the course of Tilia’s regularly conducted business activity, that it was Tilia’s regular practice to make or have made such a report, or that Tilia relied upon the accuracy of that report. Accordingly, the undersigned denied the receipt of Exhibit RX-342C into evidence.

During the trial, the parties utilized several plastic bags of different products, but none of the parties offered specific physical samples of the plastic bags into evidence as exhibits. In view of the importance of designating such items as exhibits to the decision in this case, the undersigned, in Order No. 33 issued on November 6, 2003, opened the record and admitted into evidence on administrative notice (subject to any objections as provided below) several plastic bags as JPX-1 through JPX-5.

On December 1, 2003, Respondents moved to compel Complainants to produce documents responsive to Respondents’ outstanding Requests for Production Nos. 175-193. Respondents also requested a shortening of the time in which Complainants could respond to this motion to one day. The purpose for Respondents’ motion was to compel the production of documents from Tilia that

were relevant to Respondents' written submission to the Commission on remedy, the public interest, and bonding by Respondents, which was due to the Commission on December 8, 2003. See 19 C.F.R. § 210.67(b). On December 2, 2003, in Order No. 34, the undersigned denied Respondents' motion. The undersigned concluded that the Commission's TEO Rules state that "[t]he initial determination may, but is not required to, address the issues of remedy, the public interest, and bonding by the respondents" 19 C.F.R. § 210.66(a). The undersigned also concluded that he "may, but is not required to, make findings on the issues [of temporary relief]." 19 C.F.R. § 210.61(b)(3). The undersigned stated that he intended to address these issues and make such findings in the TEO ID, just as Administrative Law Judges in the past have done. See, e.g., Certain Hardware Logic Emulation Systems and Components Thereof, Inv. No. 337-TA-383, TEO Initial Determination (Order No. 34) at 144-53 (July 8, 1996, public version August 16, 1996), adopted by Commission, Commission Opinion on Remedy, the Public Interest, and Bonding (October 15, 1996). Of course, any findings made by the undersigned could be superceded by Commission findings. 19 C.F.R. § 210.67(a). The undersigned further noted that the Commission's Rules of Practice and Procedure for TEO proceedings authorize Administrative Law Judges to compel discovery on matters relating to remedy, the public interest and bonding while the motion for temporary relief is pending before him. 19 C.F.R. § 210.67(a). In that regard, the Commission's Rules also require that ALJs "shall set all discovery deadlines" for a TEO proceeding. 19 C.F.R. § 210.61. In this investigation, discovery on all TEO matters, including these matters, was completed on September 19, 2003, in accordance with the TEO procedural schedule and the Ground Rules, except for those requests that required orders to compel. See Order No. 4 (August 19, 2003), Order No. 3, Appendix D, Ground Rule D2 (August 19, 2003). The TEO record closed on October 7, 2003, when the TEO

hearing ended, but for the entry of five physical exhibits by judicial notice. See Order No. 33 (November 6, 2003). It was that record for which TEO discovery has been permitted and, at times, compelled; as for matters outside of the record, discovery is not compelled, the undersigned further held. Rather, the purpose of compelling discovery is to unearth “information [that] appears reasonably calculated to lead to the discovery of admissible evidence.” 19 C.F.R. § 210.27(b) (emphasis added). As for the written submissions to the Commission that are filed before the TEO ID is issued pursuant to Commission Rule 210.67(b), they may include, in addition to “information and evidence already on the record,” “additional information and evidence germane to the issues of appropriate relief, the statutory public interest factors, and bonding by respondents.” 19 C.F.R. § 210.67(b) (emphasis added). This may be evidence that is not in the record, and may be evidence that was produced through discovery, but it is not evidence that the undersigned must compel a party to produce for TEO purposes after the TEO record has been closed.

**ISSUE SPECIFIC POSITIONS OF PARTICIPANTS, DISCUSSION,
ANALYSIS AND FINDINGS ON TEMPORARY RELIEF**

I. Jurisdiction and Standing

A. Whether Complainant Lacks Standing And/Or Consent by a Joint Owner of the ‘310 Patent

Complainants’ Position

Complainants contend that they have standing in this investigation because they are the sole owners of the ‘310 patent. Because a Swiss arbitration proceeding in 2000 determined that Complainants were the sole owners of the ‘310 patent, and in light of the express license agreement with Flaem and a long record of actions by Flaem consistent with Tilia’s status as sole owner, they further argue that ownership question favors themselves.

Respondents' Position

Respondents contend that Complainants do not have standing to seek relief from the Commission because Mr. Luigi Abate is at least a co-inventor of the '310 patent and, accordingly, owns a pro rata undivided interest in the entire patent. Additionally, Respondents note that Complainants have not secured Mr. Abate's consent for this action and, consequently, do not have standing.

Commission Investigative Staff's Position

Staff argues that the evidence shows that the '310 patent is owned by Tilia, Inc and that there is no evidence that the '310 patent is owned in whole or in part by another so as to deprive Tilia of standing to file the complaint in this investigation.

Discussion, Analysis and Conclusion

Where a patent is owned by joint inventors, "each co-inventor presumptively owns a pro rata undivided interest in the entire patent, no matter what their respective contributions." Ethicon II, supra, 135 F.3d at 1465. Where the named inventors on the face of a patent are incorrect, the patent is invalid if that inventorship is not corrected. Pannu v. Iolab Corp., 155 F.3d 1344, 1348-51 (Fed. Cir. 1998).

The Commission has no power in Section 337 investigations to correct inventorship. Certain Sortation Systems, Parts Thereof, and Products Containing Same, Inv. No. 337-TA-460, Initial Determination at 256, 2002 WL 31598012 (U.S.I.T.C., October 22, 2002), unreviewed in relevant part, Commission Opinion, 2003 WL 1712556 (U.S.I.T.C., February 19, 2003); Certain EPROM, EEPROM, Flash Memory, and Flash Microcontroller Semiconductor Devices, and Products Containing Same, Inv. No. 337-TA-395, USITC Pub. No. 3136, Commission Opinion at 9

(U.S.I.T.C., October 1998). Therefore, when a patent at issue in a Section 337 investigation has been shown to have incorrect inventorship, the patent is unenforceable by the Commission unless and until the inventorship is corrected by action of the U.S. Patent and Trademark Office or a Federal district court. See Certain Methods of Making Carbonated Candy Products, Inv. No. 337-TA-292, USITC Pub. No. 2390, Commission Opinion at 24 , 1991 WL 790063 (U.S.I.T.C., June 1991).

Respondents have raised as an issue whether Hanns Kristen, the only inventor named on the face of the '310 patent, is the correct and sole inventor. If he is not, then the proper inventor(s) or co-inventor(s) must be identified and the '310 patent must be corrected by the PTO or a Federal district court before Section 337 relief can be granted. However, for the reasons more fully set forth later herein in connection with the issue of invalidity for improper inventorship, the evidence of record at this juncture does not support a finding that Tilia lacks standing to sue as the proper owner of the '310 patent.

While a substantial question has been raised about the derivation of the invention of the '310 patent under 35 U.S.C. § 102(f) that warrants further discovery in this investigation, the evidence adduced to date of the existence of a co-inventor with Hanns Kristen is inconclusive. The evidence consisting of a transcript of the out-of-court sworn testimony of a third-party witness before an arbitrator for the International Chamber of Commerce in Switzerland and a fax showing a sketch by that witness raises more questions than it answers and is not as strong as live testimony would be in calling into question inventorship, thereby challenging Tilia's standing.

Furthermore, as Staff pointed out in its post-hearing reply brief (SRB 1-4), the mere fact that someone other than Kristen may be a co-inventor of the '310 patent does not necessarily mean that Tilia has no standing to sue Respondents as the rightful owner of the patent. It is true that, "as a

matter of substantive patent law, all co-owners must ordinarily consent to join as plaintiffs in an infringement suit [footnote omitted]. Consequently, one co-owner has the right to impede the other co-owner's ability to sue infringers by refusing to voluntarily join in such a suit.” Ethicon II, supra, 135 F.3d at 1467. Further, each co-owner’s “freedom to exploit the patent without a duty to account to other co- owners also allows co-owners to freely license others to exploit the patent without the consent of other co-owners.” Id. at 1468. Therefore, “[q]uestions of patent ownership are distinct from questions of inventorship.” Ethicon II, supra, 135 F.3d at 1465. “[I]nventorship is a question of who actually invented the subject matter claimed in a patent. Ownership, however, is a question of who owns legal title to the subject matter claimed in a patent, patents having the attributes of personal property.” Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993) (“Beech Aircraft”). “[W]ho ultimately possesses ownership rights in that subject matter has no bearing whatsoever on the question of who actually invented that subject matter.” Id.

Here, Tilia’s ownership interest in the ‘310 patent emanates from assignments made to it by Hanns Kristen, the named inventor on the patent. The ‘310 patent is presumed to be valid. 35 U.S.C. § 282. Hence, until such time as it is shown conclusively that there is another co-inventor and the ‘310 patent is corrected accordingly, the patent shows on its face that Kristen is the sole inventor, that Tilia is the exclusive assignee, and, consequently, that Tilia has standing. Further, even if there is another co-inventor, there is no evidence in the record that such co-inventor has consented to the assignment to Tilia or to Tilia’s lawsuit, refused to consent to the assignment to Tilia or to Tilia’s

lawsuit, or assigned or licensed any rights in the '310 patent that he or she may have to anyone else, including any of the Respondents.⁸

Accordingly, there is insufficient evidence of record at this juncture to divest Tilia of standing to sue Respondents in this investigation.

B. Whether the Commission Has Jurisdiction Over the Products and Each of the Parties at Issue

Complainants' Position

Tilia argues that Applica, Inc., ZeroPack Co., Ltd., and The Rival Company import, sell for importation, and/or sell after importation the accused products in their own capacities and through their agents. Additionally, Tilia notes that Applica Inc. and The Rival Company have such extensive overlapping control personnel with the respective parties that have admitted to subject matter jurisdiction that they are proper parties to this investigation and should be bound by any remedy.

Respondent Applica's Position

Applica contends that Applica, Inc.⁹ is not properly before the Commission because it does not import into the United States, sell for importation, or sell within the United States any of the accused products.

⁸ Staff points out that in Ethicon II, the district court dismissed Ethicon's infringement suit against U.S. Surgical, not because Ethicon lacked standing ab initio, but because the patent was first corrected to add the co-inventor and the late-added co-inventor then licensed U.S. Surgical retroactively to practice the patent, thereafter warranting dismissal on grounds of license. See SRB 1-4, citing Ethicon II, supra, 135 F.3d at 1459-60. Here, by contrast, there has been no correction of the '310 patent, and no evidence shows that any purported co-inventor has granted a license to Respondents to practice the '310 patent or has otherwise impeded Tilia's right to sue Respondents in any way.

⁹ Although Applica and ZeroPack originally argued that there is no personal jurisdiction over ZeroPack, that position was dropped in Applica's initial post-hearing brief. See RAZIB 5.

Respondent Rival's Position

Rival does not contest jurisdiction over the parties and the products.

Commission Investigative Staff's Position

The Staff takes the view that the Complaint properly states a cause of action under Section 337 of the Tariff Act of 1930. Thus, Staff argues that the Commission has jurisdiction over the subject matter of this investigation. Further, Staff notes that all respondents have responded to the complaint and participated in the investigation, thereby submitting to the personal jurisdiction of the Commission.

Discussion, Analysis and Conclusion

The Complaint and Notice of Investigation state a cause of action under section 337 of the Tariff Act of 1930, as amended. Thus, the Commission has jurisdiction over the subject matter of this investigation. See Amgen, Inc. v. U.S. International Trade Commission, 902 F. 2d 1531, 1536 (Fed. Cir. 1990).

Further, all Respondents except Applica, Inc. agree that the Commission has personal jurisdiction over them and their accused products. **S 1** . Respondent Applica, Inc. contests personal jurisdiction on the ground that it does not import into the United States, sell for importation, or sell within the United States after importation any of the accused products. See RAZIB 5.

Applica, Inc. is a holding company that does not manufacture, design, or engineer any products. See Schulman Tr. 730:3-12; **FF 1** . A holding company, however, has been found to be a proper respondent even when the actual importation, sale for importation, or sale in the United States after importation is performed by one of the holding company's subsidiaries. See Certain Set-top Boxes and Components Thereof, Inv. No. 337-TA-454, USITC Pub. No. 3564, Initial Determination

at 9, 2002 WL 31556392 (U.S.I.T.C., June 21, 2002), unreviewed in relevant part, Commission Opinion (U.S.I.T.C., November 2002) (“Set-top Boxes”). Accordingly, the personal jurisdiction of the Commission over Applica, Inc. is proper.

Moreover, each of the named respondents responded to the Complaint and Notice of Investigation and participated in the hearing. For this reason as well, the Commission has personal jurisdiction over each of the respondents. See Set-top Boxes, *supra*, Initial Determination at 6.

II. Likelihood of Success on the Merits

A. Claim Construction

At the September 9, 2003 Markman hearing, seven claim terms of claim 34 were identified in briefs submitted by all parties and Staff prior to the Markman hearing as being in dispute.¹⁰ Claim 34, in its entirety, reads as follows (with disputed terms highlighted in bold):

34. An apparatus for vacuum sealing a **plastic bag having overlying first and second panels defining an evacuative chamber and overlying heat sealable panel portions terminating at an open end of said bag communicating with said evacuative chamber**, said apparatus comprising

a base defining an upper support surface adapted to receive the open end and sealable panel portions of said bag thereon,

a hood mounted on said base and movable to a closed position to position a frontal side thereof over the open end and sealable panel portions of said bag, said hood and base defining **a vacuum chamber** therebetween adapted to receive the open end of said bag in exposed relationship therein, said

¹⁰ For convenience, the statements submitted by the parties for the Markman hearing are referred to hereafter as follows:

CB:	Complainants’ Brief	HRB:	Brief of Respondents Holmes Group, Inc. and Rival Co.
SB:	Staff’s Brief	AZB:	Brief of Respondents Applica Inc., Applica Consumer Products, Inc., and Zeropack Co., Ltd.

vacuum chamber comprising **trough means** defined on said base for collecting liquids and particles therein during vacuum sealing of said bag,

static seal means circumventing said vacuum chamber and disposed between said base and said hood for directly engaging outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position to form a static seal isolating the open end of said bag and said vacuum chamber from ambient and to maintain the open end of said bag in communication with the evacuative chamber thereof,

evacuation means communicating with said vacuum chamber for selectively evacuating said vacuum chamber and the evacuative chamber of said bag, and

heat sealing means, including a heating element mounted forwardly on one of said base and said hood, for selectively forming an air-tight heat seal across the sealable panel portions of said bag to maintain said vacuum within the evacuative chamber of said bag.

Complaint, Exhibit CX-1 ('310 patent, col. 12:12-48) (emphasis added).

On September 17, 2003, Order No. 5 was issued in which the foregoing disputed claim terms were construed, for the purposes of temporary relief only and without binding the parties on permanent relief. The findings and conclusions of that Order are repeated hereinbelow. Where additional claim construction issues arose later in the TEO proceeding, they are discussed either in this section or in relevant portions of the later infringement analysis.

1. **“[A] plastic bag having overlying first and second panels defining an evacuative chamber and overlying heat sealable panel portions terminating at an open end of said bag communicating with said evacuative chamber”**

The dispute among the parties over this claim term is twofold. First, they disputed whether this term, found in the preamble of claim 34, is a substantive limitation of the claim. Complainants and Staff contended that it is not because it is in the preamble, not in the list of elements “comprising” the invention. CB 8-10; SB 3-5. Respondents, on the other hand, contended that it is

because it is necessary to the claim. HRB 15-17; AZB 11-14. Second, they disputed the meaning of the word “overlying.” Complainants and Staff contended that “overlying first and second panels” refers to the two flat plastic panels of a simple bag which are joined together at the edges and therefore “overlie” one another. CB 9-10; SB 4. Respondents countered that “overlie” means “lie over: lie or rest upon,” and therefore one panel must lie on the other panel without any other structure in between them. HRB 16-17; AZB 14-15.¹¹

A preamble limits the claimed invention if it recites essential structure or steps, or if it is “necessary to give life, meaning, and vitality” to the claim. Eaton Corporation v. Rockwell International Corporation, 323 F.3d 1332, 1339 (Fed. Cir. 2003); Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305 (Fed. Cir. 1999) (“Pitney Bowes”). Conversely, a preamble is not limiting “where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” Catalina Marketing International, Inc. v. Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed. Cir. 2002) (“Catalina”); Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir.1997). “No litmus test defines when a preamble limits claim scope.” Catalina, supra; Corning Glass Works v. Sumitomo Electric U.S.A., Inc., 868 F.2d 1251, 1257 (Fed. Cir.1989). However, one guidepost is that “dependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and

¹¹ On September 16, 2003, Complainants filed a “Supplemental Submission Regarding Claim Construction” in which they conceded that the “plastic bag” claim term in the preamble is a substantive limitation of claim 34. Complainants also revised their interpretation of the claim term to refer to “a bag comprised of two pieces of plastic sealed together on three sides to form the boundaries for the area to be evacuated and which has internal protuberances forming channels through which air can escape.” On the same day, Respondents Applica and ZeroPack filed a response objecting to Complainants’ submission. Inasmuch as Staff’s positions on the foregoing issues remained unchanged, however, they remain in dispute and will be addressed here.

claim body to define the claimed invention.” Catalina, supra; Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 620 (Fed. Cir.1995) (“[W]hen 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.” (emphasis in original)). Another is that when the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope. Catalina, supra; Pitney Bowes, supra; 182 F.3d at 1306.

Here, the words in the preamble “a plastic bag having overlying first and second panels defining an evacuative chamber and overlying heat sealable panel portions terminating at an open end of said bag communicating with said evacuative chamber” are not superfluous. They define, for purposes of the entire claim, the particular type of bag that works in the inventive apparatus. They also are referred back to repeatedly in the claim as the antecedent basis for all of the other elements listed in the claim.¹²

First, the bag must have an “evacuative” chamber. To understand the ordinary meaning of this term, a dictionary that was “publicly available at the time a patent was issued” may be consulted. Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-03 (Fed. Cir. 2002), cert. denied, 123 S.Ct. 2230 (2003) (“Texas Digital”). Two relevant definitions from such a dictionary pinpoint the ordinary meaning of the verb “evacuate” that is being used in this context: (i) “to remove the contents of: EMPTY”; and (ii) “to remove something (as gas or water) from esp. by pumping.”

¹² In their briefs, each of the parties limited their dispute to the phrase “a plastic bag having overlying first and second panels defining an evacuative chamber” without including the immediately following phrase “and overlying heat sealable panel portions terminating at an open end of said bag communicating with said evacuative chamber.” See CB 8; SB 3; HRB 15; AZB 12. However, for reasons that will become apparent upon further reading this section, the latter phrase also gives “life, meaning, and vitality” to claim 34, and therefore limits the scope of the claim to the same degree as the former phrase. Accordingly, it is included in this finding that the preamble’s reference to a particular kind of plastic bag is a limitation.

Webster's New Collegiate Dictionary 391 (definitions 1 and 3 of "evacuate") (1979). As for the adjective "evacuative," the suffix "-ive" means "that performs or tends toward an (indicated) action." Id. at 610 (definition of "-ive").

Consequently, the ordinary meaning of the bag described in the preamble that the inventive apparatus is adapted to seal is one that "performs or tends toward" the act of removing air from the bag, especially by pumping. The specification of the '310 patent makes clear that this is not just any kind of ordinary plastic sandwich bag. The drawings of the patent show the apparatus sealing a bag having protuberances and "air-exhausting channels 26" on at least one of the two plastic panels that comprise the sides of the bag "formed in a generally regular and waffle-like pattern on the inner surface of panel 22." Complaint, Exhibit CX-1 ('310 patent, col. 3:19-36; Figs. 1, 2-4). The open end of the bag communicates with the evacuative chamber by means of the channels that allow air to pass from the chamber through the open end when the inventive apparatus pumps air out of the bag. See id. ('310 patent, cols. 1:64-2:2). The panel having protuberances formed upon it may have an intermediate layer bonded between inner and outer layers of the panel "to provide[] added stiffness to this panel to aid in preventing 'collapse' of the bag under full vacuum." Id. ('310 patent col. 3:50-56; Figs. 2-3).

Thus, this bag is especially designed to be used in the invention for the purpose of having air sucked out of the inner pocket of the bag. The protuberances and channels on the inside of the panel(s) provide the pathways for the air to escape the pocket when the vacuuming takes place. As Complainants' counsel admitted during the Markman hearing, if they were not there, as in the case

of an ordinary plastic bag, the bag would simply collapse and air would not escape. See Markman Hearing Tr. 38:19-39:11 (September 9, 2002).¹³

Second, the bag forms the antecedent basis for all of the claim elements that follow the preamble of claim 34, including the base, the hood, the vacuum chamber, the trough means, the static seal means, the evacuation means, and the heat sealing means. See Complaint, Exhibit CX-1 (‘310 patent, col. 12:18-48). Clearly, the preamble language about the bag limits the scope of the claim because the bag is mentioned in both the preamble and the claim body and is relied upon to define the claimed invention. See Catalina, supra.

Turning next to the disputed term “overlying,” it is actually used twice in the preamble of claim 34: “a plastic bag having **overlying** first and second panels defining an evacuative chamber and **overlying** heat sealable panel portions terminating at an open end of said bag” Complaint, Exhibit CX-1 (‘310 patent, col. 12:12-15) (emphasis added). Respondents pointed out that the first use of the term in conjunction with the second use must mean that this element cannot be limited to a requirement that one panel merely lies upon the other; rather, the first panel must rest upon the second panel, not just a portion of it, without any intervening structure in between them. HRB 16-17; AZB 14-15.

At the Markman hearing, Staff pointed out that if “overlying” is supposed to mean that the first and second panels must physically touch one another in order to satisfy the claim without any intervening structure, as Respondents asserted, then “the minute you put a piece of frozen chicken in the bag, you no longer have the bag that the patented invention is supposed to work upon. And

¹³ Footnote 4 of Order No. 5, which appeared at this point in that Order, is deleted because its subject is dealt with in the infringement section of this Initial Determination. See p. 104-06 infra.

the invention would then be only used for evacuating empty bags and that is not what the invention is about.” Markman Hearing Tr. 52:21-53:13 (comments of Mr. Fusco).

Staff’s reasoning on this point is sound and the undersigned has adopted it. The dictionary definition of “overlying” that Respondents advance as its ordinary meaning is “lie over: lie or rest upon.” AZB 14, quoting Webster’s Third International Dictionary of the English Language, Unabridged 1608-09 (1981). There is nothing about the ordinary meaning of this word that precludes something from resting in between two “overlying” things, just as a top sheet of a bed can “overlie” the bottom sheet even though a person is resting in between them. Analogously, as Staff suggested, a piece of frozen chicken can rest in between the two “overlying” panels of a plastic bag and nothing in the specification of the ‘310 patent suggests otherwise. Indeed, there would not be much point to the invention, other than for novelty or amusement, if it could only be considered operable on a plastic bag having nothing in it except air. Respondents’ gleaning of some contrary meaning from the juxtaposition of the two “overlying” clauses in the claim term does not really lead anywhere. The fact that the two “overlying” panels of the bag have “overlying” heat-sealable “portions” within those panels says nothing about what, if anything, can or cannot exist in between the panels.¹⁴

¹⁴ In its September 16, 2003 “Supplemental Submission Regarding Claim Construction,” Complainants point to a passage from the Taunton reference which states that “the open ended pouch may be provided with the necessary projections by the insertion into the open end of the pouch of a separate piece of filmic material, or other material, which has been provided with projections. This separate piece of material may be caused to adhere to the material of the pouch or it may remain unattached thereto.” This passage, as Complainants’ submission correctly points out, supports their assertion that the reference to “overlying panels” in the ‘310 patent does not exclude a bag with an “intervening structure” because such structure existed in the prior art. As to what this passage implies in the context of the claim term “defining an evacuative chamber” (emphasis added), however, see n. 25 infra.

Accordingly, the claim term “a plastic bag having overlying first and second panels defining an evacuative chamber and overlying heat sealable panel portions terminating at an open end of said bag communicating with said evacuative chamber” is construed, for purposes of temporary relief only, to be a substantive limitation of claim 34 in that the inventive apparatus must operate on “a plastic bag” as so described, and is further construed as not precluding intervening structure between the “overlying first and second panels defining an evacuative chamber.”

2. “[A] base defining an upper support surface adapted to receive the open end and sealable panel portions of said bag thereon”

Respondents Holmes and Rival took the lead in disputing the interpretation of this claim term with Complainants and Staff; Respondents Applica and ZeroPack adopted the interpretation of Holmes and Rival. CB 10-11; SB 5; HRB 5-6; AZB 16. First, Holmes and Rival argued that dictionary definitions of word “defining” refer to the ability to precisely determine or specify a feature. HRB 6 and Exhibit 3. Accordingly, Holmes and Rival contended that “a base defining an upper support surface” means that the base determines the boundary and shape of an upper support surface. HRB 6.

Second, Holmes and Rival argued that the word “receive” has differing definitions that therefore required examination of the specification to determine which definition was most consistent with the inventor’s use of this word. HRB 6; Markman Hearing Tr. 70:4-17 (comments of Mr. Frankel). As Figures 1 and 8 of the ‘310 patent show that the open end of the bag rests directly on and is supported directly by the base 20, Holmes and Rival argued, therefore the term “upper support surface adapted to receive the open end and sealable panel portions of said bag thereon” means an upper support surface upon which the open end of the bag is directly supported.

HRB 6; Markman Hearing Tr. 70:18-71:18 (comments of Mr. Frankel). More particularly, as counsel for Holmes and Rival put it at the Markman hearing, “[t]he bag has to sit on the base and dip into that trough . . . [i]t has to fit into the bottom part of the chamber.” Markman Hearing Tr. 71:9-13 (comments of Mr. Frankel).

Complainants countered that the word “defining” means that the base must determine the boundary of the “support surface,” but not its “shape.” CB 10-11; Markman Hearing Tr. 66:11-67:9 (comments of Mr. Wilson). As for the word “receive,” Complainants maintained that the dictionary definitions of the word identify its meaning as “to take in, hold, or contain,” not merely to “directly support.” Markman Hearing Tr. 67:10-22 (comments of Mr. Wilson); also see HRB Exhibit 4 (The American Heritage Dictionary of the English Language 1087 (1970) (definition 8 of “receive”).

According to Staff, the entire claim term calls for the base of the claimed vacuum packaging machine to be formed so that the open end of the bag to be sealed may be placed on or in the base, which is of a particular shape and configuration. See SB 5. However, Staff was not aware of any basis for restricting the scope of the term to the disclosure contained in the specification. Id., Markman Hearing Tr. 73:18-74:9 (comments of Mr. Fusco).

As stated earlier herein, claim terms “bear a presumption that they mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art.” Honeywell, supra, 2003 WL 22012609 at *6; Texas Digital, supra, 308 F.3d at 1202. “[U]nless compelled otherwise,” a claim term is to be given “the full range of its ordinary meaning as understood by persons skilled in the relevant art.” Honeywell, supra; Texas Digital, supra. The parties submitted a number of definitions of the word “define” from several different dictionaries. See CB Exhibit 4 (Webster’s Third New International Dictionary 592 (2002)); HRB Exhibit 3 (The

American Heritage Dictionary of the English Language 346 (1970); The Random House Dictionary of the English Language 523 (1987); Webster's Ninth New Collegiate Dictionary 333-34 (1988)).

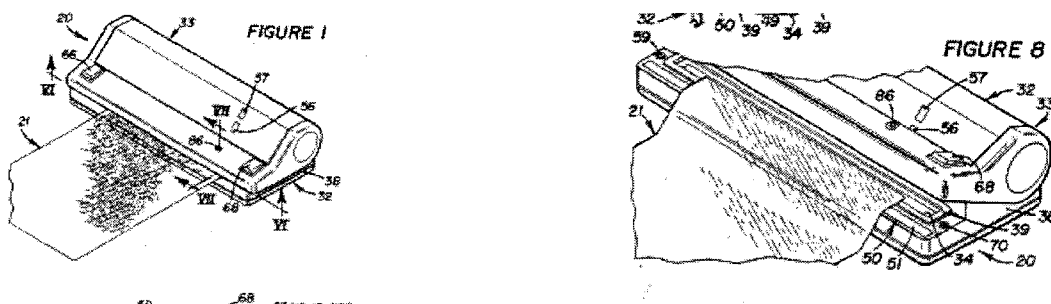
The ones most relevant to the context of claim 34, inter alia, are “to determine or identify the essential qualities or meaning of;” “to determine or fix the boundaries or extent of;” and “to make clear the outline or form of.” Id.¹⁵ These broad definitions do not limit the definition of “define” precisely to the delineation of a particular “shape” of an object. Respondents made no reference to any portion of the specification or prosecution history of the ‘310 patent to show that the scope of “defining” in claim 34 was limited in this or any other way by the inventor. Accordingly, consistently with Texas Digital and in the absence of any evidence compelling a contrary conclusion, “defining” must be construed in light of all of its possible meanings and its ordinary meaning is a broad one.

As for the word “receive,” it too has many connotations. The dictionary definitions offered by Respondents on the meaning of “receive” include some that are relevant to persons receiving things and some that are relevant to inanimate objects receiving things. The latter are more relevant to the context of the use of the word in claim 34, and those definitions include, inter alia, “to take or acquire;” “to bear the weight or force of; support;” “to take in, hold, or contain;” “to acquire or get something;” “to act as a receptacle or container for;” and “to permit to enter.” See HRB Exhibit

¹⁵ As noted earlier herein, the Federal Circuit has held that discerning the ordinary meaning of a claim term may come from a dictionary that was “publicly available at the time a patent was issued.” Texas Digital, supra, 308 F.3d at 1202-03. At the Markman hearing, there was considerable argument about Complainants’ use of recent dictionary editions and Internet dictionaries instead of dictionaries that were in existence at the time the ‘310 patent was issued. See Markman Hearing Tr. 72:2-12, 74:19-79:17 (comments of Mr. Partridge, Mr. Wilson and Mr. Frankel). Be that as it may, the fact is that there is virtually no difference between the definitions of “define” found in the dictionaries contemporaneous with the ‘310 patent’s issuance that were offered by Respondents and the one found in the current dictionary offered by Complainants.

4 (The American Heritage Dictionary of the English Language 1087 (1970); The Random House Dictionary of the English Language 1610 (1987); Webster’s Ninth New Collegiate Dictionary 982 (1988)). Of these, the definition supported by Complainants is “to take in, hold, or contain.” Markman Hearing Tr. 67:19-21 (comments of Mr. Wilson). Respondents, pointing to Figures 1 and 8 of the ‘310 patent, favored the “support” definitions. HRB 6; Markman Hearing Tr. 70:4-71:24 (comments of Mr. Frankel).

The relevant patent figures do not favor either definition over the other:



Figures 1 and 8 show bag 21 being “taken in,” “held,” or “contained” by the base 32 (particularly when the base is viewed in its closed position with the hood, as in Figure 1) just as much as they show the bag being “supported” by the base (particularly when the base is viewed in its open position with the hood, as in Figure 8). Nothing in the ‘310 patent indicates how the bag is “supported” while the machine is in operation, whether it is lying on a table, being held by a user, or something else. Thus, as with the word “define,” the claim term “receive” must be broadly construed in light of all of its possible meanings. See Texas Digital, *supra*.

Accordingly, the claim term “a base defining an upper support surface adapted to receive the open end and sealable panel portions of said bag thereon” is construed, for purposes of temporary

relief only, to mean a base that “defines” (in accordance with any one of the meanings of that word set forth hereinabove) an upper support surface that is adapted to “receive” (in accordance with any one of the meanings of that word set forth hereinabove) the open end and sealable panel portions of said bag thereon.

3. “[A] hood mounted on said base and movable to a closed position”

The bones of contention among the parties about this claim term were the words “mounted and movable.” Complainants and Staff defined these words to mean that the hood is directly attached to the base, whereas Respondents argued that “mounted” means that the hood rests on the base but does not require the hood to be physically attached to the base. CB 11-12, SB 5-6, HRB 7; AZB 15-16.¹⁶ According to Respondents, the ordinary meaning of mounted includes “sitting upon;” for example, “he was mounted on the horse” or “the statue was mounted on the pedestal.” AZB 16. Respondents also pointed out that claim 2 of the ‘310 patent, which depends from claim 1 having the same “mounted and movable” language, further defines the hood as being “pivotally mounted on said base.” See Complaint, Exhibit CX-1 (‘310 patent, col. 9:4-5). This means, according to Respondents, that when a permanent attachment between the hood and base was intended by the inventor, specific language was used to describe it. AZB 16. Respondents also argued that the specification of the ‘310 patent confirms their understanding of “mounted” by describing an embodiment of the apparatus wherein the hood sits on a support surface. See Complaint, Exhibit CX-1 (‘310 patent, col. 6:44-48).

¹⁶ Respondents Rival and Holmes added to this argument that “mounted and movable” means that the hood is capable of being mounted on the base in a closed position and can be removed from the base. See HRB 7.

During the Markman hearing, Complainants and Staff brought in dictionary definitions of “mount” from sources that post-date the issuance of the ‘310 patent. CB Exhibit 4 (Random House Webster’s Unabridged Dictionary at T070420 (1998)); Markman Hearing Tr. 104:4-19 (citing to McGraw-Hill Dictionary of Scientific and Technical Terms 1301 (1994)). Staff’s dictionary definition included only one verb form, “to fasten an apparatus in position, such as a gun on its support.” Complainants’ dictionary definition included 29 permutations of the word, including forms that require attachment and forms that do not. No dictionaries that pre-dated the issuance of the ‘310 patent were submitted during the hearing.

Irrespective of the meaning of the word “mount,” either in contemporary dictionaries or in dictionaries contemporaneous with the issuance of the ‘310 patent, its juxtaposition in claim 34 with the words “and movable to a closed position” cannot be ignored. During the Markman hearing, Respondents’ counsel pointed to the “Taunton” reference, a prior art reference listed as such in the ‘310 patent,¹⁷ which shows a vacuum packaging apparatus consisting of a “hood” that is detached from its “base” and that, according to counsel, is “movable to a closed position” by placing the hood on the base. See Markman Hearing Tr. 87:25-88:15 (comments of Mr. Partridge). When that is done, counsel argued, the hood is then “mounted” on the base and it is movable to a position on the base to close the vacuum chamber. See Markman Hearing Tr. 88:11-14 (comments of Mr. Partridge).

However, if Respondents’ view of Taunton were to encompass both “mounting” and “movab[ility] to a closed position” in this manner, then “mounted” would have no meaning separately and independently from “movable” in claim 34. One or the other would be superfluous

¹⁷ U.S. Patent No. 2,778,171, issued on January 22, 1957 to G. Taunton, is listed in the ‘310 patent as a cited reference and discussed in the specification. See Complaint, Exhibit CX-1 (‘310 patent, references cited on first page and col. 1:49-58).

to the claim. To use Respondents' much-riden equestrian analogy, a rider who is "mounted" on a horse is already moved "to a closed position" on the horse, so there is no need to describe the rider's position on the horse both ways in one sentence.

Claim terms are not supposed to be construed in this fashion. Rather, "all the limitations of a claim must be considered meaningful," Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1562 (Fed. Cir.1991), and no claim language may be interpreted as mere surplusage. Texas Instruments, Inc. v. U.S. International Trade Commission, 988 F.2d 1165, 1171 (Fed. Cir.1993); also see Jack Guttman, Inc. v. Kopykake Enterprises, Inc., 302 F.3d 1352, 1357 (Fed. Cir. 2002) (claim terms should not be interpreted to make them redundant to one other). What is more, if the "moving" of the hood were supposed to precede its "mounting," as Respondents' view of the Taunton reference also suggests, then the words in claim 34 would have been written in reverse order, viz., "a hood movable to a closed position and mounted on said base" They were not.

More appropriately, "mounted" in claim 34 should be read as being intended to denote that the hood is affixed in some manner to the base and is then "movable to a closed position" over the bag that has been received by the base. The other claims of the '310 patent, on which we must ever fix our focus, Texas Digital, supra, 308 F.3d at 1201-02, support this view.

Independent claim 20 covers an embodiment described in the specification of the '310 patent that constitutes a hood that is set on top of a flat surface, such as a countertop. See Complaint, Exhibit CX-1 ('310 patent, cols. 6:44-48, 10:34-66); Markman Hearing Tr. 83:2-13 (comments of Mr. Wilson). The hood element in that claim states that the hood is "movable to a closed position on a support surface" and says nothing about being "mounted" on anything. See Complaint, Exhibit CX-1 ('310 patent, col. 10:40-41). Certainly the hood of claim 20 is "placed" on the countertop in

the same sense that Respondents ascribe to the word “mounted,” and the absence of that word in the claim therefore suggests that “mounted” is used in claim 34 to mean something other than merely being “placed” atop something, like that rider on that horse.

As for the words “pivotally mounted” in dependent claim 2 depending from claim 1, which Respondents argue shows that the inventor knew how to limit the term “mounted” in independent claim 1 to an attached hood when he wanted to, a pivot is not the only way to attach a hood to a base. As Staff pointed out in the Markman hearing, “[o]ne could imagine, for example, a hood that goes straight up and has perhaps an accordi[o]n-like structure on the side, allowing you to push it down on to the base for purposes of doing the sealing process.” Markman Hearing Tr. 98:12-16 (comments of Mr. Fusco).

Hence, the claim term “a hood mounted on said base and movable to a closed position” is construed, for purposes of temporary relief only, to mean a hood that is fastened to the base in some manner and, having been thus fastened, can then be moved to a closed position.

4. “[A] vacuum chamber”

A disputed sub-element of the “hood” element of claim 34 is that of “said hood and base defining a vacuum chamber therebetween adapted to receive the open end of said bag in exposed relationship therein.” Complaint, Exhibit CX-1 (‘310 patent, col. 12:24-27). The parties agreed that the claimed vacuum chamber is an enclosed space in which a vacuum may be formed or created. CB 12; SB 6; HRB 8; AZB 17; Markman Hearing Tr. 107:12-14 (comments of Mr. Wilson). They also agreed that the claimed vacuum chamber is formed between the base and the hood by closing the hood. CB 12; SB 6-7; HRB 8; AZB 17; Markman Hearing Tr. 107:15-16 (comments of Mr. Wilson) and 116:1-3 (comments of Mr. Frankel). They further agreed that “adapted to receive the open end

of said bag in exposed relationship therein” means that it is possible to place the open end of a bag into the vacuum chamber. CB 12-13; SB 7; HRB 8; AZB 17; Markman Hearing Tr. 107:17:18 (comments of Mr. Wilson). Finally, they agreed that a portion of the vacuum chamber must be the “trough means” covered elsewhere in claim 34. SB 7; Markman Hearing Tr. 107:17-19 (comments of Mr. Wilson), 116:12-15 (comments of Mr. Frankel) and 123:15-18 (comments of Mr. Fusco).

Agreement ended there. First, the parties disputed whether the boundary and shape of the chamber must be defined solely by the hood and the base; Complainant and Staff asserted that the seal in between the hood and base portions of the vacuum chamber can play a role, whereas Respondents Holmes and Rival said that it cannot. See HRB 8; also see Markman Hearing Tr. 107:24-108:2 (comments of Mr. Wilson), 116:1-11 (comments of Mr. Frankel), and 124:2-9 (comments of Mr. Fusco). Second, the parties disagreed widely on whether the entire open end of the bag must be placed in the vacuum chamber when it is “received;” Complainants, Staff and Respondents Applica and ZeroPack said that it need not, while Respondents Holmes and Rival argued that it does. See Markman Hearing Tr. 110:1-4 (comments of Mr. Wilson), 115:1-14 (comments of Mr. Frankel), 122:24-123:4 (comments of Mr. Partridge) and 123:19-124:1 (comments of Mr. Fusco). Finally, the parties disputed whether the vacuum chamber may include a nozzle; Complainants and Staff contended that it can; Respondents contended that it cannot. See HRB 9-10; AZB 17; also see Markman Hearing Tr. 110:15-18 (comments of Mr. Wilson), 118:2-120:8 (comments of Mr. Frankel), 122:21-24 (comments of Mr. Partridge) and 124:10-25 (comments of Mr. Fusco).

Concerning the components making up the boundary and shape of the vacuum chamber, it has already been determined in connection with the “base” element that the word “defined” is not

used in that element of claim 34 in any manner that limits its meaning to the delineation of a particular “shape” of an object. Consistency in defining terms used in different parts of the same claim, in the absence of evidence suggesting the contrary, militates against interpreting the word differently here. See Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342 (Fed. Cir. 2001) (“a claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent”). Further, “it is axiomatic that a claim construction that excludes a preferred embodiment . . . is rarely, if ever correct and would require highly persuasive evidentiary support.” Anchor Wall Systems, Inc. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1308 (Fed. Cir. 2003) (“Anchor”); Vitronics Corp. v. Conceptronics, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996). Thus, an insertion of the word “solely” into this claim term so that it becomes “said hood and base **solely** defining a vacuum chamber therebetween” would improperly read out of the claim’s scope the only two disclosed embodiments of the invention shown in Figures 7 and 11 of the ‘310 patent, wherein the vacuum chamber is formed at least in part by a portion of the “seal means” (at least components 39 in Fig. 7 and 39a in Fig. 11), a separate element of the claim from the “vacuum chamber.” See Complaint, Exhibit CX-1 (‘310 patent, Figs. 7 and 11).

Concerning whether the entire open end of the bag must be placed in the vacuum chamber, the claim speaks specifically of the vacuum chamber’s being “adapted to receive the open end of said bag in exposed relationship therein.” Complaint, Exhibit CX-1 (‘310 patent, col. 12:25-26) (emphasis added). The ordinary meaning of “exposed,” according to a dictionary contemporaneous with the issuance of the ‘310 patent, is “open to view” and, more significantly, “not shielded or protected.” Webster’s New Collegiate Dictionary 401 (1979) (definition of “exposed”). Thus, the claim language specifically requires the open end of the bag to be “open to view” of the inside of the

vacuum chamber (i.e., “therein”), and “not shielded or protected” from the inside of the vacuum chamber.

The embodiment disclosed in Figure 8 of the ‘310 patent shows precisely this arrangement. See Complaint, Exhibit CX-1 (‘310 patent, Fig. 8). Furthermore, the specification of the patent states that the bag comprises “first and second panels 22 and 23, respectively, closed on three sides to define an open end 24 . . .” Id. (‘310 patent, col. 3:23-25) (emphasis added). The trough of the vacuum chamber is further described in the specification as “adapted to receive the open end of the bag in exposed relationship thereto.” Id. (‘310 patent, col. 4:8-11) (emphasis added). This language in the specification tracks the language of the claim almost exactly, and does not leave room for only a portion of the open end of the bag to be exposed to the inside of the vacuum chamber. Thus, interpreting this language of the claim to require the open end to be “open to view” of the inside of the vacuum chamber, and “not shielded or protected” therefrom, is not a matter of impermissibly importing an extra limitation from the specification into the claim; rather, the claim and specification passages are nearly identical to one another. Cf. Interactive Gift Exp., Inc. v. Compuserve Inc., 256 F.3d 1323, 1341 (Fed. Cir. 2001) (limitations that are neither “mandated by the claim language itself or the specification” are not read into claims). Consequently, it is appropriate to interpret the “vacuum chamber . . . adapted to receive the open end of said bag in exposed relationship therein” to require the vacuum chamber to encompass the entire open end of the bag, not just a part of it.

Finally, in connection with whether the vacuum chamber should be defined to exclude a nozzle inserted into the bag, the ‘310 patent specification disclaims a prior-art vacuum sealing system that “uses a vacuum nozzle that is inserted within a plastic bag for evacuation purposes.” Complaint, Exhibit CX-1 (‘310 patent, col. 1:21-23). This system, the specification continues, “is

cumbersome to use and normally requires a liquid separator or filter to prevent liquids or powders, retained within the bag, from being drawn into a vacuum pump connected to the nozzle.” Id. at col. 1:23-28. In the “vacuum chamber” sub-element of claim 34, there is no mention of a nozzle. See id. at col. 12:24-29.

The fact that the patent disclaims a particular prior-art device does not necessarily eliminate from the coverage of claim 34 all components of an accused device that may resemble the prior-art device. Moreover, the presence of an extra component in an accused device does not necessarily remove it from infringement. A device that possesses all of the elements of a claim may also have non-claimed intervening components and still infringe. See Cybor Corp. v. FAS Technologies, Inc., 138 F.3d 1448, 1458-60 (Fed. Cir. 1998) (in banc) (“Cybor”) (claim language covering fluid passing from one claimed components “to” another claimed component did not preclude fluid from passing through unclaimed intervening components). Furthermore, an apparatus that has additional unclaimed components can also infringe, particularly where, as here, the claim is a “comprising” claim. See Vivid Technologies, Inc. v. American Science & Engineering, Inc., 200 F.3d 795, 811 (Fed. Cir.1999) (“comprising” generally signifies that the “claims do not exclude the presence in the accused apparatus or method of factors in addition to those explicitly recited.”).¹⁸ Consequently, the

¹⁸ In pointing out the “open-ended” nature of claim 34, the undersigned is not unmindful of the fact that “an applicant cannot use this open- ended term to recapture what he had otherwise given away.” Smith & Nephew, Inc. v. Ethicon, Inc., 276 F.3d 1304, 1315 (Fed. Cir. 2001) (Michel, C.J., dissenting). In particular, the word “comprising” in the preamble of a claims cannot be seized upon as a “weasel word” to obliterate the “well-established rule” against “giving effect to disclosed but unclaimed subject matter.” Id., citing Maxwell v. J. Baker, Inc., 86 F.3d 1098, 1106-07 (Fed. Cir. 1996) (“subject matter disclosed but not claimed in a patent application is dedicated to the public”). However, it is far too early in this case to tell just what Respondents intend to make of this “nozzle” concept and to what degree whatever “nozzle” their accused device possesses resembles the prior-art device that the inventor disclaimed in the ‘310 patent. Accordingly, it will not be incorporated as an exception to infringement at this juncture.

“vacuum chamber” element will not be restricted, at this juncture at least, by the presence or absence in an accused device of a nozzle inserted into the plastic bag.

Accordingly, the claim term “said hood and base defining a vacuum chamber therebetween adapted to receive the open end of said bag in exposed relationship therein” is construed, for purposes of temporary relief only, to mean (i) that the hood and base “define” (in accordance with any one of the meanings of that word set forth hereinabove) a vacuum chamber but do not solely delineate that chamber’s boundary and shape; (ii) that the vacuum chamber is adapted to “receive” (in accordance with any one of the meanings of that word set forth hereinabove) the entire open end of the bag inside the chamber, not just a part of it; and (iii) that there is no restriction of “vacuum chamber” regarding the presence or absence of a nozzle inserted into the bag.

5. “[T]rough means . . .”

Turning next to the sub-element of “said vacuum chamber comprising trough means defined on said base for collecting liquids and particles therein during vacuum sealing of said bag,” Complainants, Respondents and Staff all agreed that this is a “means plus function” element that thereby invokes the provisions of 35 U.S.C. § 112, ¶ 6. CB13; SB 7; HRB11; AZB 9; Markman Hearing Tr. 129:20-22 (comments of Mr. Wilson); 139:19-20 (comments of Mr. Partridge). Accordingly, this element states a means for performing a specified function without the recital of structure, material, or acts in support thereof, and is to be construed to cover “the corresponding structure, material, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112, ¶ 6.

To discern the meaning of a “means-plus-function” limitation, a two-step approach is followed:

First, we must identify the claimed function, [citation omitted], staying true to the claim language and the limitations expressly recited by the claims. [citation omitted]. Once the functions performed by the claimed means are identified, we must then ascertain the corresponding structures in the written description that perform those functions. [citation omitted] A disclosed structure is corresponding “only if the specification or the prosecution history clearly links or associates that structure to the function recited in the claim.” [citation omitted] In other words, the structure must be necessary to perform the claimed function.

Omega Engineering, Inc. v. Raytek Corp., 334 F.3d 1314, 1321 (Fed. Cir. 2003) (“Omega Engineering”).

First, the expressly-claimed function of the “trough means” is “for collecting liquids and particles therein [i.e., in the bag] during vacuum sealing of said bag.” Complaint, Exhibit CX-1 (‘310 patent, col. 12:27-29).¹⁹ Complainant contended that this function is explained in the specification as a recognition that in prior-art systems, liquids or powders would be drawn from the bag directly into the vacuum pump, leading to damage or destruction of the pump. The trough means, therefore, is intended to solve that problem. CB 13, referring to Complaint, CX-1 (‘310 patent, col. 4:11-14, 43-46); Markman Hearing Tr. 130:11-132:20 (comments of Mr. Wilson). Respondents Applica and ZeroPack disputed that the claimed function includes preventing liquids and particles from being sucked into the machine’s vacuum pump and damaging it. Markman Hearing Tr. 136:13-141:9 (comments of Mr. Partridge).²⁰

It would not be “staying true to the claim language and the limitations expressly recited by the claims,” Omega Engineering, supra, to attribute to the “trough means” limitation the additional

¹⁹ Although the word “therein” could be interpreted to refer to either the “vacuum chamber” or “the bag,” a point which no one raised at the Markman hearing, it appears to the undersigned from the context of the rest of the “trough means” sub-element that “therein” refers to the bag.

²⁰ At the Markman Hearing, Staff expressed agreement with Respondents’ argument. Markman Hearing Tr. 146:19-147:5 (comments of Mr. Fusco).

function of protecting the vacuum pump from damage when that is not stated in the claim, even if it is indeed described in the specification as the purpose for the claimed function. Accordingly, the claimed function of the “trough means” has been limited to what it says; namely, that of “collecting liquids and particles [in the bag] during vacuum sealing of said bag,” without reference to its effect on the vacuum pump.

As for the second step of ascertaining the corresponding structures in the written description that are necessary to perform the claimed function, the parties agreed that the disclosed structure is a trough located near the front side of the machine’s base and extending along a substantial portion of the front side of the base. See Complaint, CX-1 (‘310 patent, col. 4:41-43); CB 14; SB 7; HRB 11; AZB 9; Markman Hearing Tr. 145:13-19 (comments of Mr. Frankel). All parties expressly pointed to the component numbered 34 as the specified structure of the “trough means,” as shown primarily in Figure 8 and also in Figures 6 and 7 of the ‘310 patent. CB 14; SB 7; HRB 11; AZB 9.

The parties disputed the size and shape of this structure, however. Complainants argued that the “trough means,” consistent with the dictionary definition of the word “trough” as a “long, narrow” channel, is long and narrow, but not of any particular length. CB14 and Exhibit 4 (Webster’s Third New International Dictionary 1849 (2002) (definition of “trough”); Markman Hearing Tr. 132:21-134:9 (comments of Mr. Wilson). Respondents argued that the “trough means” is long, but not necessarily narrow or of any particular width, particularly when the wider trough 34a of the embodiment shown in Figure 11 of the patent is compared to the narrower trough 34 of Figure 8. Markman Hearing Tr. 143:18-144:18 (comments of Mr. Partridge).

The precise dimensions of the “trough” component 34 in the figures of the ‘310 patent are not addressed by claim 34, the drawings, or the text of the specification, other than the

specification's imprecise statement that trough 34 extends "substantially the full length" of the front end of the base. See Complaint, Exhibit CX-1 ('310 patent, col. 4:41-43). Nothing much can be gleaned from the apparent difference in width between the trough 39 of Figure 7 and the trough 39a of Figure 11, because these drawings represent two separate embodiments of the invention and patent drawings generally are not drawn to scale. See Breen v. Cobb, 487 F.2d 558, 559-60 (Cust. & Pat.App. 1973) (drawings did not present to skilled artisan a teaching of any particular offset relationship between two components; "In neither case does the drawing convey to those skilled in the art anything more than the fact of offset."); Application of Reynolds, 443 F.2d 384, 389 (Cust. & Pat.App.,1971) ("We realize that a patent drawing does not have to be to any particular scale."). While drawings are certainly important in discerning the structure of a means-plus-function claim element, there is no more reason to import into the claim any particular dimension of the drawings that is not "clearly link[ed] or associate[d] . . . to the function recited in the claim" than there is to import any other such aspect of the specification into the claim. See Omega Engineering, supra; also see Wenger Manufacturing, Inc. v. Coating Machinery Systems, 239 F.3d 1225, 1233 (Fed. Cir. 2001) ("Wenger") (under 35 U.S.C. § 112, ¶ 6, "a court may not import . . . structural limitations from the written description that are unnecessary to perform the claimed function.").²¹

²¹ In its September 16, 2003 "Supplemental Submission Regarding Claim Construction," Complainants pointed to the Wenger case as significant to the discussion during the Markman hearing about whether a proper interpretation of the "trough means" element imposes a length requirement on the trough. While Wenger is significant, it does not rule out the limiting effect on the "trough means" sub-element of the passage in the specification that the trough "is defined on a frontal side of the base to extend substantially the full length thereof." Complaint, Exhibit CX-1 ('310 patent, col. 4:41-43). As explained earlier herein, the "vacuum chamber" sub-element is construed to take in the entire open end of the plastic bag; therefore, the necessity of this limiting language to the performance of the claimed function of taking in that entire open end should be readily apparent.

Accordingly, the claim term “said vacuum chamber comprising trough means defined on said base for collecting liquids and particles therein during vacuum sealing of said bag” is construed, for purposes of temporary relief only, as a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6 to mean a trough (i) that performs the function of collecting liquids and particles in the bag during vacuum sealing of said bag, without reference to its impact on the vacuum pump; and (ii) that corresponds to component 34 in Figures 6, 7 and 8, or component 34a in Figure 11 of the ‘310 patent, consisting of a trough located near the front side of the machine’s base and extending along a substantial portion of the front side of the base, without regard to any particular dimensionality to the trough, or the structural equivalent thereof.

6. “[S]tatic seal means . . .”

With regard to the next element of a “static seal means circumventing said vacuum chamber and disposed between said base and said hood for directly engaging outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position to form a static seal isolating the open end of said bag and said vacuum chamber from ambient and to maintain the open end of said bag in communication with the evacuative chamber thereof,” all parties agreed that it is also a means-plus-function element that invokes the provisions of 35 U.S.C. § 112, ¶ 6. CB 14; SB 8; HRB 12; AZB 3; Markman Hearing Tr. 155:7-8 (comments of Mr. Wilson). All parties also agreed that the static seal means (i) must directly contact the bag; (ii) must seal the vacuum chamber and the open end of the bag from the surrounding atmosphere (the “ambient,” as the patent puts it); (iii) must allow the open end of the bag to remain in communication with the portion of the bag from which the air is evacuated; (iv) must surround the vacuum chamber and be located between

the base and the hood; and (v) consists of a gasket or other elastomeric material. Markman Hearing Tr. 155:9-21 (comments of Mr. Wilson).

As for the claimed functions of the “seal means,” there was also no dispute that there are basically three: (i) to “directly engag[e] outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position”; (ii) “to form a static seal isolating the open end of said bag and said vacuum chamber from ambient”; and (iii) “to maintain the open end of said bag in communication with the evacuative chamber thereof.” CB 15; HRB 13; AZB 3.²²

With regard to the disclosed structure of the “seal means,” Complainants pointed to several components in the specified apparatus that make up this element. Referring to the embodiment shown in Figures 6, 7 and 8 of the ‘310 patent, Complainants pointed to: (i) an elastomeric or gasket-like material on the base (component 39) surrounding the trough; (ii) an “optional” elastomeric seal on the hood (component 49); (iii) sidewalls on the hood (components 41 and 42); and (iv) end struts on the hood (components 45 and 46). See Markman Hearing Tr. 156:11-16 (comments of Mr. Wilson); also see Complaint, Exhibit CX-1 (‘310 patent, Figs. 6, 7 and 8). Complainants also pointed to the second embodiment in the patent shown in Figure 11, which discloses only one continuous elastomeric seal on the hood (component 39a) that is adapted to directly engage a flat and uninterrupted surface of base 32a, or a countertop. See Markman Hearing Tr. 156:17-157:7 (comments of Mr. Wilson). Complainants argued that these embodiments in the ‘310 patent teach that the elastomeric material of the seal means can be placed on the hood or on the base, or can be made up of elastomeric material on one side and a hard surface on the other; in other

²² Staff, in its brief and comments at the Markman hearing, did not oppose this functional description of the “seal means” element.

words, that there is no limitation on the seal means as to its location on the base or on the hood. See Markman Hearing Tr. 157:14-17, 158:16-21 (comments of Mr. Wilson).

Respondents pointed to the fact that the seal means element of claim 34 refers to “directly engaging outer surfaces,” in the plural rather than the singular, and suggested that the elastomeric material of the “seal means” element must therefore be on both sides of the bag, not just on one side. See Markman Hearing Tr. 163:21-164:14, 175:8-10 (comments of Mr. Partridge). Complainants disputed this view. See Markman Hearing Tr. 159:12-161:5 (comments of Mr. Wilson). Both, however, quibbled over a distinction without a difference. As Complainants correctly pointed out, and as the plural nature of the “outer surfaces” language makes clear, the “seal means” in the embodiment in Figures 6, 7 and 8 is not only the gasket 39; it is also the side walls 41 and 42 and the end struts 45 and 46, which are not elastomeric. Thus, the “seal means” is on both sides of the bag in that embodiment. This fact is underscored by the fact that claim 20, which all agree claims only the embodiment shown in Figure 11 and an unspecified embodiment that rests on a countertop without a base, also claims a seal means “for directly engaging outer surfaces,” in the plural and not in the singular. See Complaint, Exhibit CX-1 (‘310 patent, col. 10:49-51). Necessarily, the plural form in claim 20 implies that the non-elastomeric base or countertop of that embodiment is part of the “seal means” too, and the two identical claim terms should be interpreted the same way. See Rexnord, supra.

The confusion among the parties on this point apparently stems from the element’s use of the words “static seal” in front of the word “means” and the equating of those words with elastomeric material. The undersigned does not interpret “static seal” to limit the structure of this claim element to elastomeric material. The elastomeric gaskets 39 in Figures 6-8, and 39a in Figure 11, necessarily

engage a non-elastomeric surface on the opposite side, in addition to one or more surfaces of the bag itself. Together, the opposing elastomeric and non-elastomeric surfaces form the “static seal,” meaning an airtight enclosure. This operation of the overall “static seal” made by the foregoing structures is made clear in the specification as follows:

Thus, when the hood is in its closed position, the bottom edges of side walls **41** and **42** (preferably aided by an optional seal **49**) and end struts **45** and **46** will compress bag **21** against the entire upper surface of seal **39** in circumventing relationship about the vacuum chamber to form a static seal isolating the open end of the bag and the vacuum chamber from ambient (FIG. 7).

Complaint, Exhibit CX-1 (‘310 patent, col. 4:61-68) (emphasis added).

Accordingly, the claim term “static seal means circumventing said vacuum chamber and disposed between said base and said hood for directly engaging outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position to form a static seal isolating the open end of said bag and said vacuum chamber from ambient and to maintain the open end of said bag in communication with the evacuative chamber thereof,” is construed, for purposes of temporary relief only, as a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6 to mean a static seal (i) that performs the functions of (a) “directly engaging” both “outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position,” (b) forming “a static seal isolating the open end of said bag and said vacuum chamber from ambient,” and (c) maintaining “the open end of said bag in communication with the evacuative chamber thereof”; and (ii) that corresponds to components in the embodiment shown in Figures 6-8 of the patent consisting of an elastomeric or gasket-like material on the base (component 39) surrounding the trough (component 34), an “optional” elastomeric seal on the hood (component 49), sidewalls on the hood (components 41 and 42), and end struts on the hood (components 45 and 46), or the

components in the embodiment shown in Figure 11 of the patent consisting of an elastomeric or gasket-like material on the hood (component 39a) surrounding the chamber portion 40a and the base 32a or a flat surface such as a countertop, or the structural equivalents thereof.

7. “[E]vacuation means . . .”

The last claim element in dispute is that of an “evacuation means communicating with said vacuum chamber for selectively evacuating said vacuum chamber and the evacuative chamber of said bag.” Again, all parties agreed that it is also a means-plus-function element that invokes the provisions of 35 U.S.C. § 112, ¶ 6. CB 17; SB 10; HRB 14; AZB 11; Markman Hearing Tr. 186:16-17 (comments of Mr. Wilson). The parties also agreed that the evacuation means performs the function of drawing a vacuum to selectively evacuate the vacuum chamber and the bag. Markman Hearing Tr. 186:17-20 (comments of Mr. Wilson). Further, the parties agreed that the structure corresponding to the evacuation means includes a standard vacuum pump with a tube leading to the vacuum chamber. Markman Hearing Tr. 186:20-22 (comments of Mr. Wilson).

Although the parties did not explicitly so state in their Markman briefs and at the Markman hearing, there was no real dispute about the meaning of the word “selectively” in the claim term. The specification details a particular arrangement for the evacuation system comprising a vacuum pump 53 communicating with the vacuum chamber via a plastic tube 54. Complaint, Exhibit CX-1 (‘310 patent, col. 5:33-35, Figs. 9 and 10). The specification also details a particular arrangement of electrical and pneumatic controls that the user can operate in order to evacuate the vacuum chamber and the bag. See id. col. 5:33-6:9; Figs. 9 and 10). As Staff pointed out in its Markman brief, the specification further discloses a wide variety of alternative electrical and pneumatic control circuits for controlling the claimed vacuum packaging machine. See SB 11; Complaint, Exhibit CX-

1 ('310 patent, col. 6:10-30; Fig. 10). Any of these systems can serve to allow the user of the machine to “selectively” activate the vacuum pumping mechanism, i.e., begin the evacuation process at a moment of the user’s own choosing.

The only disagreements among the parties were whether the evacuation means can or cannot include a nozzle, and whether the vacuum tube from the vacuum chamber to the vacuum pump must be located in the hood. HRB 14-15; AZB 10-11; Markman Hearing Tr. 188:22-189:7 (comments of Mr. Wilson); 190:20-193:5 (comments of Mr. Frankel); 193:14-194:9 (comments of Mr. Partridge); 194:20-23 (comments of Mr. Fusco).

As for the nozzle, the arguments advanced by the parties did not differ from those advanced in connection with the presence of a nozzle in the vacuum chamber, and yield the same result: the “evacuation means” element has not been restricted, at this juncture at least, by the presence or absence in an accused device of a nozzle inserted into the plastic bag.

As for the location of the tube, the embodiment in Figure 9 shows the tube 54 communicating between the vacuum pump 53 located in the base and the vacuum chamber located in the hood. See Complaint, Exhibit CX-1 ('310 patent, col. 5:33-35; Fig. 9). The specification does not particularly state that the tube is located either in the base or in the hood; indeed, because of the components that it connects, it is effectively in both places in this embodiment. See id. By contrast, the embodiment in Figure 11 shows the tube 54a communicating between the vacuum pump 53a and the vacuum chamber solely through the hood. See id. ('310 patent, Fig. 11).

The claimed function of the evacuation means does not attribute any particular importance to whether the tube is in the hood or in the base, if there is in fact any specific location to the tube at all. In a means-plus-function claim element, “a court may not import . . . structural limitations

from the written description that are unnecessary to perform the claimed function.” Wenger, supra. Accordingly, a limitation on the location of the tube in the hood or the base of the claimed invention will not be imported from the drawings of the ‘310 patent into claim 34.

Accordingly, the claim term “evacuation means communicating with said vacuum chamber for selectively evacuating said vacuum chamber and the evacuative chamber of said bag” is construed, for purposes of temporary relief only, as a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6 to mean an evacuation means (i) that performs the function of evacuating the vacuum chamber and the evacuative chamber of the bag under the selective control of the user; and (ii) that corresponds to components in the embodiment shown in Figure 9 of the patent consisting of at least vacuum pump 53 communicating with the vacuum chamber through tube 54, or in the embodiment shown in Figure 11, the components consisting of at least vacuum pump 53a communicating with the vacuum chamber through tube 54a, or the structural equivalents thereof. Further, there is no restriction of “evacuation means” regarding the presence or absence of a nozzle inserted into the bag. Moreover, there is no restriction of the “evacuation means” in connection with the location of the tube that connects the vacuum pump to the vacuum chamber.

B. Patent Infringement

1. Whether There Is a Likelihood of Success on the Merits That the Black & Decker freshGUARD Home Vacuum Packaging Products Infringe Claim 34 of the ‘310 Patent

Complainants’ Position

Complainants contend that Applicia’s Black & Decker freshGUARD machine has each of the elements of claim 34 of the ‘310 Patent, and Applicia has conceded that all but three of the limitations of the claim read on the freshGUARD machine.

Complainants contend that, as construed in Order No. 5, the Applica's Black & Decker freshGUARD machine is an apparatus for sealing a "plastic bag having overlying first and second panels defining an evacuative chamber" and thus that all of the limitations of the preamble read on that device; that the limitation of a "static seal means" reads on Applica's Black & Decker freshGUARD machine; and that the limitation of an "evacuative means" reads on Applica's Black & Decker freshGUARD machine. Complainants contend that Applica will be unable to raise a credible issue with respect to any of those three claim elements and that Tilia will have made a strong showing of its likelihood of success on the merits with respect to literal infringement of claim 34 by the Black & Decker freshGUARD machine.

Respondents' Position

Respondent Applica contends that Complainants have failed to show that the Black & Decker freshGUARD home vacuum packing products infringe claim 34 of the '310 patent. In particular, Complainants have not offered testimony regarding the corresponding structure associated with three of the elements of Claim 34 interpreted by the ALJ to be governed by 35 U.S.C. § 112 ¶ 6, and therefore have not drawn proper comparisons between that structure and the structure of Black & Decker's freshGUARD products, which precludes a finding of infringement. Further, Respondent contends that Complainants have failed to meet their burden of showing that Black & Decker's freshGUARD products satisfy claim 34, with regard to at least limitations: (1) the preamble limitation of a "plastic bag having overlying first and second panels defining an evacuative chamber", and (2) the static seal means. Respondent Applica further contends that Complainants have failed to offer any evidence regarding infringement under the doctrine of equivalents.

Respondent Applica joins Respondent Rival in its arguments of non-infringement by the Rival product.

Commission Investigative Staff's Position

The Staff contends that Tilia has established that the Black & Decker freshGUARD products contain all the limitations set forth in claim 34 of the '310 patent.

Discussion, Analysis and Conclusion

Complainants' infringement contentions are based on their comparison of the elements of claim 34 of the '310 patent to Applica and ZeroPack's Black & Decker freshGUARD VS 200 vacuum sealing machine, which is mechanically the same as all of these Respondents' other accused product models. Kirk, Tr. 252:6-23; CPX-3; **FF 2**. Applica and ZeroPack dispute that the freshGUARD machine infringes claim 34 as to the following claim elements: (1) the preamble limitation of a "plastic bag having overlying first and second panels defining an evacuative chamber;" (2) the "trough means;" (3) the "static seal means;" and (4) the "evacuation means." See CIB 15-22; RAZIB 6-9; SIB 7-15; CRB 2-5; RAZRB 3-8; SRB 5-9. Applica and ZeroPack also dispute any of the foregoing elements of claim 34 that require for an antecedent basis any other disputed element. See Respondents' Objections and Rebuttal to Complainants' Proposed Findings of Fact and Conclusions of Law, at CPFF 88-138. Applica and ZeroPack do not object to Complainants' proof that the freshGUARD machine satisfies all other elements of claim 34. See id. at CPFF 99-106, 108, 113-115, 130, 134-137; **FF 3**.²³

²³ In particular, Respondents concede that the freshGUARD machine satisfies the "heat sealing means" element of claim 34. See CX-1 ('310 patent, col. 12:43-48); **FF 4**. Accordingly, that element is deemed satisfied and not further considered here.

The Plastic Bag Preamble Element

With regard to the preamble limitation of a "plastic bag having overlying first and second panels defining an evacuative chamber;" Applica and ZeroPack claim that their plastic bags that are sold with the freshGUARD machine have plastic inserts containing protuberances and channels that provide pathways for the air to escape the bag pocket when vacuuming takes place. RAZIB 8; SIB 8. When the plastic insert is removed from the bag, Applica and ZeroPack contend, only the flat "first and second panels" making up the two sides of the bag are left, but they are not "evacuative" without the insert and the machine cannot suck air out of such a bag. RAZIB 8. Thus, Applica and ZeroPack argue, their bags do not have "overlying first and second panels defining an evacuative chamber" and therefore do not meet that limitation of the preamble of claim 34.

Staff opposes the contention of Applica and ZeroPack, arguing that the two panels of the freshGUARD bag "define" a chamber from which the air is to be evacuated, but that claim 34 only calls for the bags to be "evacuative" and is not restricted to any particular structure or method for making the claimed bag "evacuative." SIB 8-9; SRB 8. In particular, Staff contends, the claim does not require the protuberances that make it possible to evacuate air from the claimed bags to be located on the panels that define the bag's chamber. SIB 9; SRB 8. Staff also argues that Applica and ZeroPack have supported their non-infringement argument by referring to alleged experiments conducted outside of the hearing room by their paid expert, Arthur H. Freeman. SRB 7-8. Respondents did not call Freeman as a witness with respect to infringement, however, and Staff argues that he was thus shielded from cross-examination on these "experiments," and precluded by

objections from doing so elsewhere in his testimony. Id.; Freeman, Tr. 956:21-958:19.²⁴ Complainants largely concur with Staff, adding that its infringement expert, Dr. James Kirk, pointed out at trial that the freshGUARD machine works not only with the Black & Decker plastic bags that ship with the device, but also with other plastic bags. CIB 17; CRB 2-3, citing Kirk, Tr. 257:18-21.

This controversy necessitates revisiting claim construction on a question that Order No. 5 deferred to this infringement analysis. See Order No. 5 at 10 n.4. As pointed out in Order No. 5, the word “evacuative” is an adjective that means “performs or tends toward” the act of “evacuating.” See p. 74 supra; Order No. 5 at 9. In the preamble, “evacuative” modifies “chamber.” Therefore, reading the claim language literally and endeavoring to be as grammatically precise as possible, it is the “chamber” of the bag that “performs or tends toward” the act of “evacuating,” not the bag; otherwise, the claim term would have been “evacuative bag.”

The first and second panels of the bag are the components that “define” this “evacuative chamber.” As explained in the claim construction section, the word “define” has many meanings, including “to determine or identify the essential qualities or meaning of;” “to determine or fix the boundaries or extent of;” and “to make clear the outline or form of.” See pp. 79-80 supra. In the context of this claim element, the most fitting definition of “define” is “to determine or identify the essential qualities or meaning of.” As so read, the claim appropriately encompasses the preferred embodiment disclosed in the ‘310 patent consisting of a bag that has first and second panels with the evacuative channels and protuberances directly upon them. See CX-1 (‘310 patent, Fig. 2); see

²⁴ Staff further contends that the entire first full paragraph of section IV C of the Applica/ZeroPack posthearing brief on this subject should be stricken from the record as a result. SRB 8; see AZIB 8.

Anchor, *supra*, 340 F.3d at 1308 (“it is axiomatic that a claim construction that excludes a preferred embodiment . . . is rarely, if ever correct and would require highly persuasive evidentiary support”).

Now it is true that the claim terms “first and second panels” and “evacuative chamber” are not necessarily limited in scope to the preferred embodiment shown in the specification of the ‘310 patent. See Deering Precision Instruments, L.L.C. v. Vector Distribution Systems, Inc., 347 F.3d 1314, 1323 (Fed. Cir. 2003) (“Deering”) (“We . . . do not generally limit claims to the preferred embodiment.”). It is also true that a device that performs a claimed function may infringe even if non-claimed intervening components are involved in the performance of that function. See Cybor, *supra*, 138 F.3d at 1459 (claim language covering fluid passing from one component “to” another component did not preclude fluid from passing through intervening components). But a claim that requires the “first and second panels” to “define” the evacuative chamber cannot literally encompass a structure composed of first and second panels that do not do that claimed “defining” task. It cannot cover a structure that uses some other, unclaimed component to perform that task. See Hewlett-Packard Co. v. Mustek Systems, Inc., 340 F.3d 1314, 1321 (Fed. Cir. 2003) (claim requires scan speed to be selected by the user; in accused device, user only selects resolution, which is not in one-to-one correspondence with scan speed; “But it is not sufficient that another action by the user (resolution selection) results in a scan speed. By conceding that it is resolution and not scan speed that is selected by the user, Hewlett concedes that the accused devices do not perform the required function as defined in the instruction and thus that the accused devices do not literally infringe the asserted claims.”).

Staff’s argument (SIB 9) that claim 34 only calls for the bags to be “evacuative” and is not restricted to any particular structure or method for making the claimed bag “evacuative” misses the

import of the precise language used in the claim. “Each and every” limitation of a claim must be given meaning. See Tate Access Floors, Inc. v. Interface Architectural Resources, Inc., 279 F.3d 1357, 1365 (Fed. Cir. 2002) (to prove infringement, patentholder must show that “each and every limitation of a claim is present, either literally or equivalently, in the accused device”). The claim does not say “a plastic bag defining an evacuative chamber;” the subject of the verb “defining” is “first and second panels,” not “bag.” Thus, the claimed “defining” task is not performed by the broader “bag” structure that might conceivably encompass other components; rather, it is restricted to the first and second panels of the bag. If the “defining” function did not read on the first and second panels, then there would be no language in the claim that identifies structure performing the “evacuative” task at all. No one contends that this element is a means-plus-function element under 35 U.S.C. § 112, ¶ 6 that may be interpreted in that way. See Sage Products, Inc. v. Devon Industries, Inc., 126 F.3d 1420, 1427-28 (Fed. Cir. 1997) (“where a claim recites a function, but then goes on to elaborate sufficient structure, material, or acts within the claim itself to perform entirely the recited function, the claim is not in means-plus-function format.”). In short, the term “first and second panels defining” cannot be read out of the claim. See Deering, supra (“We agree with the district court's claim construction only in part because the district court's construction effectively reads the term ‘substantially’ out of the claims by construing the claim to read on any slight penetration of the plane.”).²⁵

²⁵ U.S. Patent No. 2,778,171 to Taunton (the “‘171 patent”), a prior art reference identified on the face of the ‘310 patent, states as follows:

... [T]he open-ended pouch may be provided with the necessary projections by the insertion into the open end of the pouch of a separate piece of filmic material, or other material, which has been provided with projections. This separate piece of material may be caused

(continued...)

As Complainants' infringement expert, Dr. Kirk, stated on cross-examination at trial, the Black & Decker plastic bags that are sold with the freshGUARD machine consist of first and second panels on the outside of the bag, which form a sleeve as they come off the roll. Kirk, Tr. 315:11-23; JPX-5; **FF 5**. The bags also have inserts that are attached to and located on either lateral side of the inside of the sleeve. See Kirk, Tr. 315:24-316:2; JPX-5; **FF 6**. There are also protuberances and air channels in the Black & Decker bags, but as Dr. Kirk noted, they are located only on the inserts that are attached to the sides of the bag, not on the first and second panels. See Kirk, Tr. 316:3-317:2; JPX-5; **FF 7**. This means that the Black & Decker bags do not literally have "first and second panels defining an evacuative chamber" as those words are construed here.²⁶ Therefore, they do not literally

²⁵ (...continued)
to adhere to the material of the pouch or it may remain unattached thereto.

CX-5 ('171 patent, col. 2:22-28). In contesting the validity of claim 34 of the '310 patent, Respondents' expert, Arthur Freeman, testified on cross-examination that the use of the Taunton apparatus with the bag described in the aforementioned passage from the Taunton reference satisfies the bag limitation of the preamble of claim 34. See Freeman, Tr. 934:8-21. That type of bag, Complainants argue, is the same structure as the Black & Decker bags, and Complainants suggest that if the former satisfies this claim element, the latter must also. See Complainants' Proposed Findings of Fact and Conclusions of Law, CFF 94-98. However, although this passage has been shown in n. 14 supra to show that the "overlying" panels of the bag can have intervening material because such structure was disclosed in the prior art, it does not also serve to make the prior-art structure one that also "defin[es] an evacuative chamber." Taunton discloses not only bags having protuberances on intervening material, but also bags having channels and protuberances that are located directly on the first and second panels of the bags. See CX-5 ('171 patent, cols. 1:51-2:21; Figs. 1-13). Thus, the bag limitation of claim 34 would read on Taunton no matter whether it was interpreted one way to cover bags with protuberances on intervening materials, or the other way to cover bags with protuberances only on the side panels. Taunton, therefore, does not clarify the scope of this claim limitation for infringement purposes.

²⁶ In reaching this conclusion, it is unnecessary to delve into the purported experiments that Freeman conducted outside of the courtroom to determine whether the Black & Decker bags would evacuate without the inserts. The mere presence of the protuberances and channels on the inserts rather than on the "first and second panels" of the bag is enough to conclude that the Black & Decker bag does not meet this claim limitation. Moreover, as noted above, Complainants' own expert, Dr. Kirk, admitted on cross-examination that the inserts are not the "first and second panels," making Freeman's testimony on his experiments unnecessary. Kirk, Tr. 316:3-317:2. What is more, it is not true, as Staff argues (SRB at 7-8), that
(continued...)

satisfy the “plastic bag” preamble limitation of claim 34. No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

As Dr. Kirk further pointed out at trial, the freshGUARD machine works not only with the Black & Decker plastic bags that ship with the device, but also with other plastic bags. Kirk, Tr. 257:18-21; **FF 8**. That fact may support an argument that consumers who buy Tilia bags to use in freshGUARD machines may be infringing the ‘310 patent when they use the machine in this way, but it does not prove that Applica and ZeroPack are doing so. Complainants do not accuse Applica and ZeroPack of inducing others to infringe the ‘310 patent or contributory infringement of the ‘310 patent by recommending the use of freshGUARD machines with other types of bags. See 35 U.S.C. §§ 271(b), (c). There is no evidence in the record that Applica and ZeroPack advertise, instruct, or otherwise encourage consumers to use of the freshGUARD machine with any other type of bag than a Black & Decker bag. Accordingly, the issue of whether consumers use bags with the freshGUARD machine other than Black & Decker bags is irrelevant to infringement.

Hence, Complainants have not demonstrated by a preponderance of the evidence that the freshGUARD machine satisfies the “plastic bag” preamble element.

The “Trough Means” Element

The “trough means” limitation was construed after the Markman hearing to be a means-plus-function element subject to the provisions of 35 U.S.C. § 112, ¶ 6. See p. 90 supra. Applica and

²⁶ (...continued)

Complainant and Staff were precluded from questioning Freeman on the subject of his experiments. Respondents did not call Freeman on the subject in their case-in-chief, but the undersigned offered Complainants the opportunity over Respondents’ objections to recall Freeman on the subject in their rebuttal. See Freeman, Tr. 958:15-17. Neither Complainants nor Staff availed themselves of that opportunity. Accordingly, Staff’s request to strike the first paragraph of section IV C of Applica/ZeroPack’s initial post-hearing brief is denied.

ZeroPack agree with Complainants and Staff that the freshGUARD machine has a recessed lower vacuum chamber portion or “trough” in the base that performs this element’s claimed function of collecting liquids and particles during vacuum sealing. Kirk, Tr. 259:22-260:12; **FF 9**. Applica and ZeroPack disagree with Complainants and Staff, however, on whether Complainants properly presented any evidence that the freshGUARD trough is structurally the same as, or equivalent to, the structure for the trough means that is disclosed in the ‘310 patent. See CIB 19; RAZIB 7-8; SIB 12-13; CRB 3-4; RAZRB 5-6; SRB 5-7.

At trial, Complainants’ counsel attempted to elicit from his infringement expert, Dr. Kirk, testimony showing that the freshGUARD machine’s trough was structurally equivalent to the structure of the trough means disclosed in the ‘310 patent. Kirk, Tr. 262:6-20. However, the objection of counsel for Applica and ZeroPack was sustained on the ground that no such structural comparison had been made in Dr. Kirk’s expert report. Kirk, Tr. 262:21-24; 264:12-16, 267:5-6.²⁷ Thereafter, Complainants’ counsel queried Dr. Kirk about a statement in his expert report setting forth the functional and structural tests for literal infringement of a means-plus-function element under 35 U.S.C. § 112, ¶ 6, and Dr. Kirk testified that they were the tests that he used to find that the means-plus-function elements of claim 34 were literally satisfied by the freshGUARD machine. Kirk, Tr. 267:8-268:22. At that point, since Dr. Kirk had identified the proper test for structural equivalence under 35 U.S.C. § 112, ¶ 6 in his report and had reached a conclusion of literal infringement in his report on the basis of that test, Respondents’ earlier objection was reconsidered and overruled. See Kirk, Tr. 268:23-269:6.

²⁷ Prior to and on the eve of trial, Complainants had moved to supplement Dr. Kirk’s report in order to include such an analysis, but the motion was denied as coming too late before trial for Respondents to depose Dr. Kirk on the matter. See Order No. 23 (September 29, 2003).

Dr. Kirk then testified that, in his opinion, the freshGUARD machine was structurally equivalent to the trough disclosed in the '310 patent and gave his basis therefor:

Q. Would you please set forth the basis for that opinion.

A. The trough located as what I am also calling the lower vacuum chamber portion extends from one end of their, one side of their base to the other side of the base in the Black & Decker product. The trough collects the liquid and particles that might come out of the bag when the bag is evacuated and keeps the liquid and particles that comes out in the trough and collects them so that they don't have an opportunity to go into the port where the vacuum is being drawn from.

So as a result of that action, the structure, which is the lower vacuum chamber portion in the Black & Decker product, is able to evacuate the -- is able to collect the liquids and particles in the lower vacuum chamber portion or this, the trough.

Kirk, Tr. 269:8-270:12; **FF 10**. Complainants' counsel next attempted to elicit from Dr. Kirk a "function/way/result" analysis of the structural equivalence of the freshGUARD machine to the disclosed structure of the trough means in the '310 patent, but Respondents' objection to that line of questioning was sustained because a "function/way/result" analysis did not appear in his expert report nor was it covered at his deposition. Kirk, Tr. 270:13-271:16. Respondents offered no countervailing evidence to Dr. Kirk's testimony showing that this claim element is not satisfied by the freshGUARD machine.

As pointed out in Order No. 5 and earlier herein in construing the "trough means" limitation, the precise dimensions of the "trough" component identified as item 34 in figures 7 and 8 of the '310 patent and as item 34a in Figure 11 of the patent are not addressed by the claim, the drawings, or the text of the specification, other than to state that the trough extends "substantially the full length" of the front end of the base. See CX-1 ('310 patent, col. 4:41-43; Figs. 7, 8 and 11). See pp. 92-93 supra. More than this description is not necessary to fulfill the "trough means" element as construed

here. The foregoing testimony of Dr. Kirk amply proves that the structure of the trough of the freshGUARD machine is identical to the trough structure 34 and 34a disclosed in the '310 patent. Kirk, Tr. 269:8-270:12; CPX-3; **FF 11**. This testimony satisfies the requirement for literal infringement of that element under 35 U.S.C. § 112, ¶ 6 even though Dr. Kirk did not recite the standard “function/way/result” litany of equivalence.²⁸ As the Federal Circuit has noted, “the Commission resolves disputes involving patent infringement matters with some regularity and thus is aware of doctrine of equivalents jurisprudence [I]t is unimportant that the testimony before the Commission, which fully supports the Commission's analysis, was not given in the precise function/way/result terminology of Graver Tank.” Intel Corp. v. U.S. International Trade Comm., 946 F.2d 821, 832-33 (Fed. Cir. 1991); also see Odetics, Inc. v. Storage Technology Corp., 185 F.3d 1259, 1268 (Fed. Cir. 1999) (“Odetics”) (case law does not “command a component-by-component analysis of structural equivalence under § 112, ¶ 6;” “The individual components, if any, of an overall structure that corresponds to the claimed function are not claim limitations. Rather, the claim limitation is the overall structure corresponding to the claimed function.”).

Although the trough of the freshGUARD machine is functionally and structurally identical to the trough disclosed in the '310 patent, the “trough means” element of claim 34 requires the trough to collect liquids and particles “during vacuum sealing of said bag.” See CX-1 ('310 patent,

²⁸ Respondents contend that structural equivalence cannot be proved by “conclusory ‘expert’ opinions,” but must instead include “particularized and detailed testimony that identifies the alleged structure/way/result and how it is found in the accused product.” AZRB 5. Although the requirement for “particularized testimony and linking argument” has been required for proving function/way/result under the doctrine of equivalents, it has not been extended to proving structural equivalence of a means-plus-function claim under 35 U.S.C. § 112, ¶ 6. Rather, “more generalized testimony from expert witnesses has been sufficient to establish literal infringement where Section 112, Paragraph 6 limitations are involved.” Lucent Technologies, Inc. v. Newbridge Networks Corp., 168 F.Supp.2d 181, 211-12 (D. Del. 2001).

col. 12:29) (emphasis added); **FF 12**. It was determined earlier herein that the bag made and sold by Applica and ZeroPack for use with the freshGUARD machine is not such a bag. See pp. 107-08 supra.

Hence, Complainants have not demonstrated by a preponderance of the evidence that the freshGUARD machine satisfies the “trough means” element.²⁹

The “Static Seal Means” Element

The “static seal means” limitation of claim 34 is also a means-plus-function element subject to 35 U.S.C. § 112, ¶ 6. See p. 94 supra. Complainants’ infringement expert, Dr. Kirk, testified at the hearing that the freshGUARD machine has a black oval gasket attached to the base and a black oval gasket attached to the hood that are disposed between the base and the hood and that circumvent the vacuum chamber. Kirk, Tr. 271:18-272:21; CPX-3; **FF 13**. These gaskets, according to Dr. Kirk, perform the “static seal means” element’s claimed functions of (a) “directly engaging” both “outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position,” (b) forming “a static seal isolating the open end of said bag and said vacuum chamber from ambient,” and (c) maintaining “the open end of said bag in communication with the evacuative chamber thereof.” Kirk, Tr. 272:23-274:16; CPX-3; **FF 14**; also see p. 97 supra.

Applica and ZeroPack dispute Dr. Kirk’s conclusion regarding function (c), noting that he conceded during cross-examination that it is the plastic insert on the Black & Decker bags, not the gaskets of the freshGUARD machine, that allow for continued communication between the bag’s open end and the interior of the evacuative chamber. RAZRB 7, citing Kirk, Tr. 318:8-24. This

²⁹ No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

contention, however, misconstrues Dr. Kirk's testimony and the plain meaning of this portion of the "static seal means" element. Dr. Kirk made no such admission; he merely conceded that he did not duplicate an alleged out-of-court experiment performed by Respondents' expert, Freeman, to see if the Black & Decker bags would evacuate when their plastic inserts were cut out, and he stated that he did not doubt the test's purported result that such bags would not evacuate.³⁰ As for the words of the claim element themselves, it is the function of the gaskets, not the bag, that those words address. As Staff points out, "to maintain the open end of said bag in communication with the evacuative chamber thereof" plainly means to not crush the bag so tightly as to cause the air channels in the bag to collapse. See SRB at 9. That is precisely what the freshGUARD gaskets do. If there is no evacuation when the inserts are removed, that is because the bag is malfunctioning, not because the gaskets are malfunctioning.

³⁰ The precise testimony is as follows:

Q. Let's take a look at what Mr. Freeman had to say in paragraph 15 of his declaration where it states, "as can be seen from the photographs in Exhibit B for the bag having only panels and no inserts, the freshGUARD device did not pull a vacuum on the interior of the bag and therefore did not work as intended." Are you with me?

A. Yes, I am reading that with you.

Q. By the time that you submitted your expert report in this case you had not attempted to duplicate that experiment of Mr. Freeman's, correct?

A. No.

Q. And at least at the time of your deposition, you had absolutely no reason to doubt that if we were to remove those inserts from the Black & Decker bag, that that bag would not evacuate?

A. That's true.

Kirk, Tr. 318:8-24.

Although Dr. Kirk testified as to the function of the freshGUARD gaskets in connection with the “static seal means” element, Applica and ZeroPack objected to Dr. Kirk’s opining on whether the gaskets were structurally identical or equivalent to the corresponding structure disclosed in the ‘310 patent. Kirk, 275:17-276:16. The objection was sustained because Dr. Kirk admitted that he had performed no structure-to-structure comparison in his expert report and, as a result, was not deposed by Respondents on the matter. Kirk, Tr. 276:17-280:21. Respondents offered no countervailing evidence to show the absence of structural identity or equivalence.

Complainants attempt in their post-hearing brief to circumvent this absence of proof by analogizing the gaskets of the freshGUARD device to the round or oval gasket rings found in the Berkel machine of the Abate sketch (see pp. 186-87 infra), which Freeman testified on cross-examination is structurally equivalent to the static seal means structure disclosed in the ‘310 patent. See CIB 20-21; CRB 4-5; Freeman, Tr. 956:16-20; RX-438. However, there is absolutely no evidence in the record linking the gaskets of the freshGUARD device to the gaskets of the Berkel machine and in turn to the “static seal means” structure of the ‘310 patent.

Staff, taking the same position as Complainants on infringement by the freshGUARD machine, argues that a simple visual comparison of the machine and the specification of the ‘310 patent clearly shows that the structures for performing the claimed functions are present in Applica and ZeroPack’s machine. SIB 13; SRB 7. However, unlike the “trough means” element, there is no evidence whatsoever in the record as to whether the gaskets of the freshGUARD machine are identical or equivalent to the structure disclosed in the ‘310 patent that corresponds to the “static seal means” element. The undersigned declines to rely solely on judicial notice of the purported similarity of the two devices in the absence of any evidence of record offered by any party one way

or the other, particularly in view of the burden on the Complainants to prove their need for temporary relief “only where the right to relief is clear and unequivocal.” McData, supra, 233 F.Supp.2d at 1319.

Finally, even if the gaskets of the freshGUARD machine were found to be structurally identical or equivalent as well as functionally identical to the “static seal means” of claim 34, such would require the static seal means to function “for directly engaging outer surfaces of the sealable panel portions of said bag,” to form a static seal “isolating the open end of said bag and said vacuum chamber from ambient,” and “to maintain the open end of said bag in communication with the evacuative chamber thereof.” See CX-1 (‘310 patent, col. 12:33-37) (emphasis added); **FF 15**. It was determined earlier herein that the bag made and sold by Applica and ZeroPack for use with the freshGUARD machine is not such a bag. See pp. 107-08 supra.

Hence, Complainants have not demonstrated by a preponderance of the evidence that the freshGUARD machine satisfies the “static seal means” element.³¹

The “Evacuation Means” Element

In connection with the “evacuation means” element, it, too, was construed after the Markman hearing to be a means-plus-function element subject to the provisions of 35 U.S.C. § 112, ¶ 6. See p. 98 supra. Dr. Kirk identified the elements of the freshGUARD machines that satisfied this claim element in his opinion, consisting of a vacuum pump and a vacuum tube. Kirk, Tr. 281:23-282:15; CPX-3; CDX-90. However, in view of the fact that Dr. Kirk’s expert report lacked an analysis of structural equivalence between the freshGUARD device and the corresponding structure of the

³¹ No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

“evacuation means” disclosed in the ‘310 patent, as had been the problem with the other means-plus-function elements of claim 34, and in the interest of conserving time, Complainants’ counsel chose not to elicit testimony from Dr. Kirk on the issue. Kirk, Tr. 282:16-283:5. Respondents offered no countervailing evidence to show the absence of structural identity or equivalence.

Although Complainants and Staff again invite the undersigned to take judicial notice of the alleged similarities between the accused freshGUARD device and the structure of the “evacuation means” disclosed in the ‘310 patent (see CIB 22; SIB 14; CRB 5; SRB 7), the undersigned declines to do so in the absence of any evidence of record offered by any party one way or the other, particularly in view of the burden on the Complainants to prove their need for temporary relief “only where the right to relief is clear and unequivocal.” McData, supra, 233 F.Supp.2d at 1319.

Finally, even if the evacuation components of the freshGUARD machine were found to be structurally identical or equivalent as well as is functionally identical to the “evacuation means” of claim 34, that element requires the evacuation means to “selectively evacuat[e] said vacuum chamber and the evacuative chamber of said bag.” See CX-1 (‘310 patent, col. 12:40-41) (emphasis added); **FF 16**. As noted supra, the undersigned has determined that the bag made and sold by Applicia and ZeroPack for use with the freshGUARD machine is not such a bag. See pp. 107-08 supra.

Hence, Complainants have not demonstrated by a preponderance of the evidence that the freshGUARD machine satisfies the “evacuation means” element.³²

³² No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

Conclusion on Infringement by Applica/ZeroPack freshGUARD Machine

Accordingly, in view of the fact that Applica and ZeroPack's freshGUARD vacuum packaging machine has not been shown to satisfy all of the elements of claim 34, Complainants have not shown a likelihood of success on the merits in proving that the machine infringes that claim of the '310 patent.

2. Whether There Is a Likelihood of Success on the Merits That the Rival Seal-A-Meal Home Vacuum Packaging Products Infringe Claim 34 of the '310 Patent

Complainants' Position

Complainants contend that the Rival Seal-A-Meal home vacuum packaging products have each of the elements of claim 34 of the '310 Patent either literally or under the doctrine of equivalents. According to Complainants, Rival has conceded that all but five of the limitations of claim 34 read on the Seal-A-Meal home vacuum packaging products. Complainants contend that the limitation of "a base defining an upper support surface adapted to receive the open end and sealable panel portions of said bag thereon" reads on the Seal-A-Meal home vacuum packaging products; that the limitation of "said hood and base defining a vacuum chamber therebetween adapted to receive the open end of said bag in exposed relationship therein" reads on the Seal-A-Meal home vacuum packaging products; that the limitation of "said vacuum chamber comprising trough means defined on said base for collecting liquids and particles therein during vacuum sealing of said bag" reads on the Seal-A-Meal home vacuum packaging products; that the limitation of a "static seal means circumventing said vacuum chamber and disposed between said base and said hood for directly engaging out surfaces of the sealable panel portions of said bag" read on the Seal-A-Meal home vacuum packaging products; and that the limitation of an "evacuative means

communicating with said vacuum chamber for selectively evacuating said vacuum chamber and the evacuative chamber of said bag” reads on the Seal-A-Meal home vacuum packaging products. Complainants contend that Rival has failed to raise a credible issue with respect to any of those five claim elements and that Tilia has made a strong showing of its likelihood of success on the merits with respect to literal infringement and infringement under the doctrine of equivalents of claim 34 by the Rival Seal-A-Meal home vacuum packaging products.

Respondents’ Position

Rival contends that, under the claim construction set forth in Order No. 5, all but one of the claim elements of Claim 34 are missing from the Rival vacuum sealers. Rival asserts that while any of these elements raises a credible issue of non-infringement, the lack of a vacuum chamber is a particularly obvious missing element. According to Respondents, Tilia’s asserted claim 34 relates to an alleged invention wherein an entire bag mouth is inserted into a claimed vacuum chamber. The parties agree that a vacuum chamber is an enclosed space in which a vacuum may be formed or created. According to Respondents, the Rival vacuum sealers do not have a vacuum chamber; rather, they include a nozzle that is exposed to ambient. Moreover, Respondents argue, the Rival vacuum sealers, and in particular the combination of the lid and the base, do not have an enclosed space in which a vacuum can be created and the entire open end of the bag can be received as required by Claim 34. In addition, Respondents argue, the Rival units do not have an evacuation means as claimed in the ’310 patent. In contrast to the ’310 Patent, where the vacuum chamber is adapted to receive the entire open end of the bag, the Rival vacuum sealers instead evacuate a bag through a nozzle that is inserted into a portion of the bag mouth. This type of construction is expressly disclaimed in the ’310 patent, Respondents maintain. Respondents argue that there is also no

infringement based on the fact that the Rival vacuum sealers lack a base defining an upper support surface, a vacuum chamber comprising a trough means, and a static sealing means circumventing a vacuum chamber. Each element is required by Claim 34 and missing from the Rival vacuum sealers, Respondents maintain. Respondents also contend that the evidence will show that since the ALJ has interpreted the terms of claim 34, Tilia has now abandoned its literal infringement argument and has embraced a flawed doctrine of equivalents analysis.

Commission Investigative Staff's Position

The Staff argues that Tilia has not established that the Rival Seal-A-Meal products contain all the limitations set forth in claim 34 of the '310 patent. The Staff contends that the evidence shows that Rival's machines do not contain at least a "vacuum chamber," a "static seal means circumventing said vacuum chamber" and an "evacuation means communicating with said vacuum chamber for selectively evacuating said vacuum chamber."

Discussion, Analysis and Conclusion

Complainants' infringement contentions are based on their comparison of the elements of claim 34 of the '310 patent to Holmes and Rival's Seal-A-Meal Vacuum Food Sealer machine, which is a representative sample of all of Respondents' accused product models.³³ Kirk, Tr. 284:7-23; CPX-2; **FF 17**. Holmes and Rival dispute that the Seal-A-Meal machine infringes claim 34 as to the following claim elements: (1) the "base;" (2) the "vacuum chamber;" (3) the "trough means;" (4) the "static seal means;" and (5) the "evacuation means." See CIB 23-31; RRHIB 11-26; SIB 15-

³³ Rival manufactures three versions of the accused Seal-A-Meal vacuum sealer. The VS110 and VS150 are identical, except that the VS150 comes packaged with three canisters, a universal sealer and a hose. The VS100 is identical to the VS110 and VS150 units except that it does not include a bag roll holder and a bag cutter. Siano, Tr. 525:16-20; **FF 18**.

21; CRB 5-13; RRHRB 5-14; SRB 9-12. Holmes and Rival also dispute any of the foregoing elements of claim 34 that require for an antecedent basis any other disputed element. See Respondents' Objections and Rebuttal to Complainants' Proposed Findings of Fact and Conclusions of Law, at CPFF 197-200. Holmes and Rival do not object to Complainants' proof that the Seal-A-Meal machine satisfies all other elements of claim 34. See id. at CPFF 144-147, 151-154, 201-204; **FF 19.**³⁴

The "Base" Element

Complainants and Staff contend that the element of "a base defining an upper support surface adapted to receive the open end and sealable panel portions of said bag thereon" is literally present in the Seal-A-Meal machine in the form of the machine's bottom structure and an intermediate piece constituting an upper support surface that is adapted to receive the open end and sealable panel portions of the bag. CIB 24; SIB 16; CRB 7. Respondents Holmes and Rival disagree, arguing that in the Seal-A-Meal machine, the bag is received by an intermediate piece consisting of a nozzle assembly and an upper deck that can be rotated upward toward the lid or downward toward the base, but is not part of either, and therefore is not defined by the base but is instead separate and apart from it. RRHIB 15-16; RRHRB 7.

At the hearing, Complainants presented the testimony of its infringement expert, Dr. Kirk, to show that the Seal-A-Meal machine base consisted of a structure that includes a lower vacuum chamber portion with a gasket running around it and an insert piece. Kirk, Tr. 287:6-20; CPX-2; **FF**

³⁴ In particular, Respondents concede that the Seal-A-Meal machine satisfies the "plastic bag" preamble element and the "heat sealing means" element of claim 34. See CX-1 ('310 patent, col. 12:12-16 and 43-48); CX-96C at 5; compare JPX-1 and JPX-2 with JPX-3 and JPX-4; **FF 20**. Accordingly, those elements are deemed satisfied and are not further considered here.

21. Respondents presented the testimony of their non-infringement expert, Dr. Albert Karvelis, to the effect that the claimed element is not present in the Seal-A-Meal machine. Karvelis, Tr. 626:15-627:7. Karvelis, however, did not fully explain the basis for his opinion. See id.

As noted earlier herein in construing this claim term, the “base” element uses the broad words “define” and “receive” that have several meanings. The most relevant meanings of those words to the Homes/Rival machine are that the base must “define” – that is, “determine the essential qualities of” – an upper support surface adapted to “receive” – that is, “act as a receptacle or container for” – the open end and sealable panel portions of the bag. See pp. 79-81 supra.

The “base” element is not a means-plus-function element, meaning that it is not necessarily limited in scope to the preferred embodiment shown in the specification of the ‘310 patent. See Deering, supra. There is no requirement that the base be “defined” with any particular structure or “adapted” in any particular way to receive the bag with any particular structure, so long as it is the “base” that is being so “adapted.” Further, in being so “defined” and “adapted,” there may be infringement even if non-claimed intervening components are involved in the performance of the claimed function. See Cybor, supra. Thus, the fact that the base of the Seal-A-Meal machine is defined in part by an intermediate piece that is hinged to the base and swings up and down, and the fact that the base is further defined by an “upper support surface” that is part of the intermediate piece and that is adapted to receive the open end of the bag, do not detract from the overall base’s structure and performance of its claimed functions.

Hence, Complainants have demonstrated by a preponderance of the evidence that the Seal-A-Meal machine literally satisfies the “base” element.³⁵

The “Vacuum Chamber” Element

A great deal of time was spent at the TEO hearing on the issue of whether the Holmes/Rival Seal-A-Meal machine possesses the claim 34 element of a “vacuum chamber” that is “adapted to receive the open end of said bag in exposed relationship therein.” Complainants contend that it does. CIB 24-27; CRB 7-10. Respondents Holmes/Rival and Staff contend that it does not. RRHIB 16-22; SIB 16-19; RRHRB 7-12; SRB 9-12.

Concerning the “vacuum chamber” part of this element, Complainants’ infringement expert, Dr. Kirk, opined at the TEO hearing that there are several components of the Seal-A-Meal machine that make up portions of the claimed “vacuum chamber.” Kirk, Tr. 288:16-19; CPX-2; **FF 22**. The first is a “lower vacuum chamber portion” that is located in the base. Kirk, Tr. 288:20-21; **FF 23**. There is also an “upper vacuum chamber portion” that is located in the intermediate piece. Kirk, Tr. 288:21-23; **FF 24**. In the intermediate piece, the upper vacuum chamber portion is further divided into a space between the plastic guide and the opening through the intermediate piece and non-porous closed-cell foam gasket³⁶ through which air flows around the plastic guide. Kirk, Tr. 288:24-289:5; **FF 25**. There is also a passageway or a nozzle in the plastic guide of the upper vacuum

³⁵ No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

³⁶ Both Complainants’ and Respondents’ experts agree that the gaskets of the intermediate piece of the Seal-A-Meal machine are made of a non-porous closed-cell foam that does not allow air to pass through it. See Kirk, Tr. 1199:14-16; Karvelis, Tr. 652:6-24; **FF 26**.

chamber portion that connects the lower vacuum portion to the opening of the bag. See Kirk, Tr. 289:6-11; **FF 27**.

Dr. Kirk performed several demonstrations at the TEO hearing in order to show the presence of the different vacuum chamber portions in the Seal-A-Meal machine. Using a flashlight, Dr. Kirk showed the existence of openings between the gasket material of the intermediate piece and the plastic guide on that piece. Kirk, Tr. 289:20-290:10; CPX-2; **FF 28**. Dr. Kirk also showed that if the nozzle in the Seal-A-Meal was blocked with a silicon sealant, the machine would still evacuate a bag. Kirk, Tr. 290:12-292:12; CPX-4; **FF 29**. Dr. Kirk further demonstrated that certain Seal-A-Meal machines form a “vacuum chamber” when a bag is not present. Two of the six machines that he tested ran through the vacuum and seal process (known as “cycling”) even if there was no bag in the machine. Kirk, Tr. 292:13-293:18, 1005:3-24; CPX-2; CPX-5; **FF 30**. He explained this occurrence by pointing out that in the machines that he tested, the nozzle is located a tiny bit farther inside the intermediate piece than it is in other Seal-A-Meal machines as a result of imperfections in the manufacturing process, and as a result the nozzle becomes blocked by the foam gasket on the underside of the hood when the hood is closed and is sealed off from ambient, thereby forming an enclosed vacuum chamber between the hood and the base. See Kirk, Tr. 293:20-295:22; **FF 31**.

Dr. Kirk’s testimony was disputed by Respondents’ expert, Dr. Karvelis. Karvelis stated that the Seal-A-Meal machine has no vacuum chamber because the nozzle is exposed to atmosphere when the lid is closed over the nozzle assembly. Karvelis, Tr. 613:13-617:15; RDX-1; RDX-3; RDX-10. Thus, according to Respondents, an enclosed space from which a vacuum can be drawn is not defined anywhere between the hood and the base of the Seal-A-Meal machine. As for Dr. Kirk’s success at drawing a vacuum in two such machines without a bag being present, Respondents

contend that Dr. Kirk admitted that his tests were inconclusive; in his words, “[i]t just means that some do and some don’t.” See Kirk, Tr. 336:17-337:9; **FF 32**.

Dr. Karvelis also disputed Dr. Kirk’s experiment of sealing the nozzle. In a machine with an unblocked nozzle, Dr. Karvelis opined, the nozzle is the path of least resistance through which air will flow as the vacuum pump operates. See Karvelis, Tr. 620:21-621:15; **FF 33**. By sealing the nozzle, that pathway for air flow necessarily changes. See Karvelis, Tr. 621:16-622:7; **FF 34**. The air pressure deforms the foam around the nozzle in order for the air to escape; pressure differentials are created which do not exist in an unmodified Seal-A-Meal machine, and the air looks for previously unused passageways through which to flow. Karvelis, Tr. 622:7-20; **FF 35**. Also, blocking the nozzle gives rise to a “Hero machine” effect, whereby there is a net force on the nozzle that causes it to rotate out of position in a manner similar to a rotating lawn sprinkler. Karvelis, Tr. 622:21-623:8; **FF 36**. In short, blocking the nozzle deforms the machine. Karvelis, Tr. 623:9-11; **FF 37**. This, according to Dr. Karvelis, is tantamount to creating a different machine. Karvelis, Tr. 657:6-23; **FF 38**.

At the undersigned’s request during the TEO hearing, Dr. Karvelis conducted an experiment in which a bag was placed in several Seal-A-Meal machines (having both blocked and unblocked nozzles) with the bag lying on top of the nozzle and half-way across it instead of wrapped around the nozzle as in normal operation. Karvelis, Tr. 667:25-672:1; CPX-2; CPX-4; **FF 39**. The bags did not evacuate and the machines did not cycle. Karvelis, Tr. 671:12-672:1; **FF 40**. Later, Dr. Kirk conducted an experiment in which a bag was placed in several Seal-A-Meal machines (all having unblocked nozzles, using one that cycles without a bag present and one that does not) with the bag lying underneath the nozzle instead of wrapped around the nozzle as in normal operation. Kirk, Tr.

976:12-978:7; CPX-5; CPX-8; **FF 41**. The bags evacuated, and the machine that cycles without a bag present cycled off whereas the machine that does not cycle without a bag present did not cycle off. Kirk, Tr. 977:1-24; CPX-5; CPX-8; **FF 42**.

This issue requires, once again, a brief revisit to claim construction. During the Markman hearing, the parties agreed that the claimed vacuum chamber is an enclosed space in which a vacuum may be formed or created. See p. 85 supra. However, “vacuum chamber” is not recited in claim 34 in a vacuum of its own. Rather, its antecedents are drawn from the “bag,” “hood” and “base” elements, and its position in the claim in relation to those elements is important:

An apparatus for vacuum sealing a plastic bag . . . comprising

a base . . . ,

a hood mounted on said base and movable to a closed position to position a frontal side thereof over the open end and sealable panel portions of said bag, said hood and base defining a vacuum chamber therebetween . . .

CX-1 (*310 patent, col. 12:12, 18, 21-25) (emphasis added).

By the plain meaning of this passage, the vacuum chamber is claimed to exist when the base and hood are closed over the open end of a bag. It is not claimed as being present when there is no bag. Thus, it is inconsequential to this claim term whether the Seal-A-Meal machine forms a “vacuum chamber” without a bag being present. Infringement occurs only when a bag is present. Thus, the factual dispute between Complainants’ and Respondents’ experts as to whether the nozzle of the Seal-A-Meal machine is exposed to ambient when a bag is absent is not only inconclusive; it is irrelevant.

Equally irrelevant is all of the experimentation purporting to show that the Seal-A-Meal machine evacuates a bag even when the nozzle is blocked, or does not evacuate a bag when the bag

is placed over the nozzle, or does evacuate a bag when the bag is placed under the nozzle. The proper use of the machine is to place the bag around the nozzle so that the nozzle is inside the bag. See Karvelis, Tr. 993:6-13; **FF 43**. Infringement is not shown by operating an accused device in a way that does not actually occur in practice. See High Tech Medical Instrumentation, Inc. v. New Image Industries, Inc., 49 F.3d 1551, 1555 (Fed. Cir. 1995) (“a device does not infringe simply because it is possible to alter it in a way that would satisfy all the limitations of a patent claim.”); Hap Corp. v. Heyman Mfg. Co., 311 F.2d 839, 843 (1st Cir.1962) (“The question is not what [a device] might have been made to do, but what it was intended to do and did do [T]hat a device could have been made to do something else does not of itself establish infringement.”), cert. denied, 373 U.S. 903 (1963); Berkey Photo, Inc. v. Klimsch-Repro, Inc., 388 F.Supp. 586, 594 (S.D.N.Y. 1975) (“Infringement cannot be established by proof that the accused device might be used in the manner described in the claims if such use has not actually occurred, or at least has been suggested or anticipated by the defendant.”).

The primary issue to be decided here is whether the several components of the Seal-A-Meal machine that link the open end of a bag to the vacuum created by the pump identified by Dr. Kirk as the “vacuum chamber portions” amount to a “vacuum chamber” as that term is used in the ‘310 patent. As pointed out earlier with regard to other elements of claim 34, the nozzle and spaces around the nozzle on the intermediate piece of the Seal-A-Meal machine constitute intervening structures – essentially, interconnected empty spaces – that do precisely what the specification of the ‘310 patent says that a “vacuum chamber” is supposed to do; namely, they “communicate” with the evacuation system for evacuating the evacuative chamber of the bag. See CX-1 (‘310 patent, col. 2:18-20); **FF 44**. Infringement lies even if non-claimed intervening components are involved in the

performance of a claimed function. See Cybor, supra. The boundary and shape of the “vacuum chamber,” as determined at the Markman hearing, is not delineated by the claim, other than to say that it is “defined” by the hood and the base. See pp.87-88 supra. As already determined above, these interconnected, intervening empty spaces are not divorced from the “base” element of claim 34 and together can constitute the empty space that makes up a “vacuum chamber” just as a single enclosed space can. See pp. 122-23 supra. “Vacuum chamber” is not a means-plus-function element, and therefore is not necessarily limited in scope to the shape of the preferred embodiment shown in the specification of the ‘310 patent. See Deering, supra. Therefore, the intervening empty spaces identified by Dr. Kirk are part and parcel of a “vacuum chamber” as that term is used in the ‘310 patent and construed here.

Respondents argue that the nozzle of the Seal-A-Meal machine cannot fall within the “vacuum chamber” element because its use was expressly disclaimed by the inventor in the specification of the ‘310 patent. RRHIB 13-15; CX-1 (‘310 patent, col. 1:21-31). Claim 34 does not expressly exempt “nozzles” from the scope of the “vacuum chamber” element. The “Background of the Invention” portion of the specification, however, criticizes a “conventional” vacuum packaging device that utilizes a nozzle as follows:

Another type of conventional vacuum sealing system uses a vacuum nozzle that is inserted within a plastic bag for evacuation purposes. Although adaptable for low-volume home use, the latter type of system is cumbersome to use and normally requires a liquid separator or filter to prevent liquids or powders, retained within the bag, from being drawn into a vacuum pump connected to the nozzle. Further, the heat sealer employed therein must be closely calibrated and synchronized with the positioning and withdrawal of the vacuum nozzle from the bag.

CX-1 (‘310 patent, col. 1:21-31).

In Alloc, Inc. v. International Trade Commission, 342 F.3d 1361 (Fed. Cir. 2003) (“Alloc”), issued only one week before the issuance of Order No. 5 construing claim 34, the Federal Circuit held that certain non-means-plus-function claim terms of a patent that did not expressly include a particular limitation discussed in the specification nevertheless must be read to include that limitation, in part because the specification contained a discussion that criticized prior art devices lacking that limitation. See Alloc, supra, 342 F.3d at 1369-70. A dissenting Judge stated, however, that by so ruling, the majority had improperly imported the limitation from the specification into the claims. See id., 342 F.3d at 1378-79 (Schall, C.J., dissenting).

In its decision, the majority in Alloc ruled:

[T]his court recognizes that it must interpret the claims in light of the specification, [citation omitted], yet avoid impermissibly importing limitations from the specification. [citation omitted]. That balance turns on how the specification characterizes the claimed invention. [citation omitted]. In this respect, this court looks to whether the specification refers to a limitation only as a part of less than all possible embodiments or whether the specification read as a whole suggests that the very character of the invention requires the limitation be a part of every embodiment. For example, it is impermissible to read the one and only disclosed embodiment into a claim without other indicia that the patentee so intended to limit the invention. [citation omitted]. On the other hand, where the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims. [citation omitted].

Alloc, supra, 342 F.3d at 1370 (emphasis added).

Although the ruling in Alloc is directly relevant to the determination to be made here, it is distinguishable from the facts of this case for several reasons. First, the alleged “nozzle” exception to the “vacuum chamber” element is only a small part of all possible embodiments that make up vacuum packaging machines covered by claim 34 of the ‘310 patent. It is only a portion of the accused “vacuum chamber” and only one manifestation of all possible embodiments of the claimed

“vacuum chamber,” which has been construed herein not to be limited to any particular shape or configuration. See pp. 86-87 supra. It is by no means “essential” for the claimed invention not to have a nozzle as part of its “vacuum chamber” component. By contrast, the limitation at issue in Alloc consisted of a quality of “play” between interlocking board members of the patented flooring products that, although not an express limitation in the claims, was nevertheless found to make up “the very character of the invention” that distinguished it from the prior art, thereby making “play” an essential, implicit claim element. See Alloc, supra, 342 F.3d at 1369-70 (“[A]ll the figures and embodiments disclosed in the asserted patents imply play, or, as in the case of Figure 1b, expressly disclose play. Indeed, the patents do not show or suggest any systems without play.”).

In this regard, moreover, the prior-art nozzle device described in the ‘310 patent specification is not criticized in the specification merely for having a nozzle; the specification more pointedly states that this device is “cumbersome to use,” requires “a liquid separator or filter to prevent liquids or powders, retained within the bag, from being drawn into a vacuum pump connected to the nozzle,” and requires its heat sealer to be “closely calibrated and synchronized with the positioning and withdrawal of the vacuum nozzle from the bag.” See CX-1 (‘310 patent, col. 1:24-31). These are not necessarily qualities of every vacuum packaging device that utilizes a nozzle as part of its “vacuum chamber,” and certainly are not qualities of the accused Seal-A-Meal machine even though it has a nozzle. Finally, the only reference in the specification of the ‘310 patent to a nozzle-type device is this one passage in the “Background of the Invention” section about a “conventional” vacuum sealing system; no other portion of the specification suggests explicitly or implicitly that the invention is “narrower than the claim language might imply” by exempting nozzle-type devices from the scope of the claims.

In short, the alleged “nozzle exemption” from the “vacuum chamber” element advocated by Respondents is not an essential, implicit limitation of that element, but instead would be an improper importation of an unclaimed limitation from the specification into claim 34 if adopted. See Sunrace Roots Enter. Co. v. SRAM Corp., 336 F.3d 1298, 1305 (Fed. Cir.2003) (“Our case law makes clear that while an accused infringer may overcome the heavy presumption of ordinary meaning and narrow a claim term’s ordinary meaning, he cannot do so simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history.” (internal quotation marks omitted)). Accordingly, it is not adopted here. Furthermore, it is found that the Seal-A-Meal machine has a “vacuum chamber” as that term is used in claim 34.

Turning next to the “adapted to receive the open end of said bag in exposed relationship therein” part of this element, Complainants contend that the Seal-A-Meal machine meets this element because when the bag is placed over the plastic guide and the hood is closed, a portion of the open end of the bag is “pinched” closed and is thereby effectively sealed. CIB 27; CRB 10. The portion of the open end of the bag that remains open communicates with the vacuum chamber in accordance with claim 34, Complainants maintain. Id. Respondents and Staff disagree, pointing out that the claim language specifically requires the entire open end of the bag to be “open to view” of the inside of the vacuum chamber (i.e., “therein”), and not shielded or protected from the inside of the vacuum chamber, as shown precisely in the embodiment of Figure 8 of the ‘310 patent. RRHIB 21-22; SIB 18-19; RRHRB 11-12; SRB 10-11.

It is beyond dispute that only a portion of the open end of a bag is placed around the nozzle of the Seal-A-Meal machine. Siano, Tr. 529:9-13; Kirk, Tr. 332:15-334:11, 979:8-980:3, 993:6-13, 1018:13-1019:25; Karvelis, Tr. 661:12-25; **FF 45** . When the lid is closed, the gasket materials on

the inside of the lid and the top of the intermediate piece seal the bag portion around the nozzle and close off the remaining portion of the open end of the bag. Kirk, 973:1-974:6; 995:3-7; **FF 46**. The gasket material is non-porous; therefore, there is no way for the vacuum to suck air through the closed portion of the open end of the bag. Only the bag portion surrounding the nozzle is exposed to the vacuum source. Karvelis, Tr. 661:12-662:10; Kirk, Tr. 333:3-334:11, 978:17-980:3, 994:20-22, 1017:10-1019:25; **FF 47**. This means that the remaining sealed portion of the bag is not open to view of the inside of the vacuum chamber. Id.; **FF 48**.

This configuration does not satisfy the “adapted to receive the open end of said bag in exposed relationship therein” limitation of claim 34. The claim, as properly construed herein, requires the entire open end of the bag to be exposed to the vacuum chamber. See pp.87-88 supra. That is not accomplished by the semantic trick of ignoring the portion of the open end of the bag that is pinched shut by the gasket material and deeming only the remainder of the open end to be the “entire” open end, in a “now you see it, now you don’t” fashion as Staff describes Complainants’ contention. See SRB 11.

Accordingly, for the foregoing reasons, Complainants have failed to demonstrate by a preponderance of the evidence that the Seal-A-Meal machine literally satisfies the “vacuum chamber” element.³⁷

The “Trough Means” Element

Concerning the “trough means” element, Complainant and Staff argue that Holmes and Rival’s Seal-A-Meal machine satisfy this element. CIB 27-28; CRB 11; SIB 19. Respondents argue

³⁷ No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

that it does not. RRHIB 22-23; RRHRB 12-13. As stated in Order No. 5 and as restated earlier herein, the “trough means” element is a means-plus-function element subject to the provisions of 35 U.S.C. § 112, ¶ 6. See p. 90, supra.

There is no dispute that, as Complainant’s expert, Dr. Kirk, testified on cross-examination, the drip tray on the Seal-A-Meal machine is functionally identical to the “trough means” of claim 34. Kirk, Tr. 306:7-15; CPX-2; **FF 49**. Concerning the structure, however, Dr. Kirk measured the length of the Seal-A-Meal drip tray and found that its length is slightly less than 50 percent of the width of the front side of the base. Kirk, Tr. 303:25-304:21; **FF 50**.

The issue, then, is whether the structure of the Seal-A-Meal drip tray satisfies the principal structural requirement of the “trough means,” as construed herein, of “extending along a substantial portion of the front side of the base.” See pp. 92-93 supra (emphasis added). In Deering, supra, the Federal Circuit recently revisited the often-construed claim term “substantially.” See Deering, supra, 2003 WL 22358859 at *6 and cases cited therein. The Federal Circuit noted:

In conducting this analysis, we begin with the ordinary meaning of the claim terms to one of ordinary skill in the art. [citation omitted]. Reference to dictionaries and our cases indicates that the term “substantially” has numerous ordinary meanings. As the district court stated, “substantially” can mean “significantly” or “considerably.” The term “substantially” can also mean “largely” or “essentially.” Webster's New 20th Century Dictionary 1817 (1983). Indeed, our cases recognize the dual ordinary meaning of this term as connoting a term of approximation or a term of magnitude. See Epcon, 279 F.3d at 1031 (“The phrase ‘substantially constant’ denotes language of approximation, while the phrase ‘substantially below’ signifies language of magnitude, i.e., not insubstantial.”).

Since the term “substantially” is capable of multiple interpretations, we turn to the intrinsic evidence to determine which interpretation should be adopted. [citation omitted].

Id. (emphasis added).

As noted earlier herein, there is nothing in the claims or specification of the '310 patent that suggests any specific length of "substantial" in connection with the trough means. However, as noted earlier herein at footnote 18, supra, the "vacuum chamber" sub-element is construed to take in the entire open end of the plastic bag; consequently, the trough needs to "extend" along a "substantial" enough portion of the front side of the base in order to perform that function. See Wenger, supra ("[A] court may not import . . . structural limitations from the written description that are unnecessary to perform the claimed function.").

Consequently, in deciding whether the Seal-A-Meal drip tray extends far enough "along a substantial portion of the front side of the base" to satisfy the "trough means" element, deciding whether the drip tray is more or less than 50 percent of the front end of the base is not relevant. What is important is whether the drip tray takes in the entire open end of a plastic bag, and it is clear that it does not. Kirk, Tr. 334:3-11, 979:8-980:3, 993:6-13, 1018:13-1019:25; Karvelis, Tr. 661:12-25; **FF 51**. Accordingly, Complainants have failed to demonstrate by a preponderance of the evidence that the Seal-A-Meal machine literally satisfies the "trough means" element.³⁸

The "Static Seal Means" Element

Regarding the element of a "static seal means," it too is a means-plus-function element subject to 35 U.S.C. § 112, ¶ 6. See p. 94 supra. Complainants contend that this element is present in the Holmes/Rival Seal-A-Meal machine. CIB 29-30; CRB 11-12. Respondents and Staff argue that it is not. RRHIB 23-24; RRHRB 13-14; SIB 19-20.

³⁸ Although Complainants suggest in their brief (CIB 28) that the drip tray of the Seal-A-Meal machine is structurally equivalent to the "trough means" element, no evidence was offered to show it. Further, Complainants offered no evidence to show that this limitation is met under the doctrine of equivalents.

At trial, Complainants' expert, Dr. Kirk, pointed out the structures of the Seal-A-Meal machine that correspond to the claimed "static seal means": the black gasket located around the lower vacuum chamber portion, the black gasket material on the inside of the intermediate piece, the black gasket material on the top side of the intermediate piece, and the black gasket material on the inside of the hood. Kirk, Tr. 307:8-17; CPX-2; **FF 52**. Kirk further explained that this structure performs claimed function (a) of "directly engaging" both "outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position" when the intermediate piece is placed down over the bag that is on the plastic guide and already in contact with the lower seal portion. See Kirk, Tr. 307:18-25; CPX-2; **FF 53**. The structure performs claimed function (b) of forming "a static seal isolating the open end of said bag in communication with the evacuative chamber thereof," according to Dr. Kirk, when the hood is moved to the closed position, which isolates the vacuum chamber and the open end of the bag from ambient. See Kirk, Tr. 308:1-12; CPX-2; **FF 54**. Dr. Kirk also showed that the Seal-A-Meal gaskets also perform claimed function (c) of maintaining "the open end of said bag in communication with the evacuative chamber thereof" by sealing the open end of the bag and the vacuum chamber from ambient in a way that when the lid is closed, the seal does not crush the channels of the bag so that the bag still communicates with the vacuum chamber and is able to be evacuated when the vacuum button is pushed. See Kirk, Tr. 308:12-16; CPX-2; **FF 55**.

Respondents' expert, Dr. Karvelis, opined to the contrary that the Seal-A-Meal machine does not have a "static seal means" because it does not have a vacuum chamber and its gaskets do not circumvent any vacuum chamber in the same or equivalent way as the embodiment disclosed in the '310 patent. See Karvelis, Tr. 629:6-19.

Respondents argue that Dr. Kirk failed to show that there was any correspondence between the structure of the static seal means, as set forth in the '310 patent, and the structure of the sealing components in the Seal-A-Meal machine. RRHIB 23-24; RRHRB 13. However, a “component-by-component analysis of structural equivalence under § 112, ¶ 6” is not required. Odetics, supra. As the foregoing cited testimony shows, Dr. Kirk did point out “the overall structure corresponding to the claimed function” in the Seal-A-Meal machine, and that is enough. Id.

Respondents and Staff also argue that a “static seal means” is not present in the Seal-A-Meal device because a substantial portion of the open bag mouth is “stepped on” by the gasket material, such that only a portion of the open bag end is in communication with the bag evacuative chamber. RRHIB 24; RRHRB 13-14; SIB 20. Although this aspect of the Seal-A-Meal device is not a specific requirement of the “static seal means” element, which only requires that the open end of the bag must be “maintain[ed] . . . in communication with the evacuative chamber” of the bag, it is nevertheless a requirement of the “vacuum chamber” element, which the Seal-A-Meal does not have. See p. 131 supra. Since the “vacuum chamber” element is a sub-element of the “static seal means,” as a consequence the Seal-A-Meal does not have a “static seal means” either. See CX-1 ('310 patent, col. 12:30 and 35-36); Karvelis, Tr. 629:6-19; **FF 56**.

Accordingly, Complainants have failed to demonstrate by a preponderance of the evidence that the Seal-A-Meal machine literally satisfies the “static seal means” element.³⁹

³⁹ No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

The “Evacuation Means” Element

Finally, concerning the “evacuation means” element, it too is a means-plus-function element under the provisions of 35 U.S.C. § 112, ¶ 6. See p. 98 supra. Complainants contend that this element is present in the Holmes/Rival Seal-A-Meal machine. CIB 30-31; CRB 13. Respondents and Staff argue that it is not. RRHIB 24-25; RRHRB 14; SIB 20-21.

The parties do not dispute that the Seal-A-Meal machine operates “under the selective control of the user” as this element requires. At trial, Dr. Kirk demonstrated that the Seal-A-Meal has a vacuum pump connected to a tube that communicates with the lower vacuum chamber portion of the machine for the purpose of drawing a vacuum through that portion, thence through the vacuum chamber portion on the inside of the intermediate piece, thence through the vacuum chamber portion that flows around the plastic guide, and finally through the vacuum chamber portion that is the opening in the inside of the nozzle or passageway. Kirk, Tr. 308:22-309:17; CPX-2; CDX-92; **FF 57**. All of this occurs, according to Dr. Kirk, when the hood is closed so that a bag can be evacuated. Kirk, 309:18-19; **FF 58**. Respondents’ expert, Dr. Karvelis, disagreed, stating in somewhat conclusory fashion that the Seal-A-Meal machine does not have the structure as disclosed in the ‘310 specification or its equivalent. Karvelis, Tr. 628:18-629:16.

Here again, Dr. Kirk satisfied the requirement of pointing out the accused structure corresponding to the claimed function, and the fact that he did not perform a component-by-component analysis makes no difference. See Odetics, supra. Nevertheless, a “vacuum chamber” is a sub-element of the “evacuation means,” and since there is no vacuum chamber in the Seal-A-Meal, there is no “evacuation means” either.

Accordingly, Complainants have failed to demonstrate by a preponderance of the evidence that the Seal-A-Meal machine literally satisfies the “evacuation means” element.⁴⁰

Conclusion on Infringement by Holmes/Rival Seal-A-Meal Machine

Accordingly, in view of the fact that Holmes and Rival’s Seal-A-Meal vacuum packaging machine has not been shown to satisfy all of the elements of claim 34, Complainants have not shown a likelihood of success on the merits in proving that the machine infringes that claim of the ‘310 patent.

C. Domestic Industry

1. Technical Prong: Whether There Is a Likelihood of Success on the Merits That Complainants’ FoodSaver Home Vacuum Packaging Articles or Activities Are Protected by the ‘310 Patent

Complainants’ Position

Complainants contend that, as construed in Order No. 5, each and every limitation of claim 34 of the ‘310 Patent reads on Tilia’s FoodSaver vacuum packaging machines and bags.

Respondents’ Position

Respondents contend that Tilia cannot and has not made a proper comparison of each and every properly interpreted limitation of claim 34 of the ‘310 patent with all of Tilia’s products.

Commission Investigative Staff’s Position

The Staff contends that Tilia has established that its FoodSaver vacuum packaging machines contain all the limitations set forth in claim 34 of the ‘310 patent.

⁴⁰ No evidence was offered by Complainants as to whether this limitation was satisfied under the doctrine of equivalents.

Discussion, Analysis and Conclusion

Complainants' contentions under the technical prong of the domestic industry requirement are based on their comparison of the elements of claim 34 of the '310 patent to the Tilia FoodSaver Model VAC 550 vacuum packaging machine, which is representative of Tilia's 28 FoodSaver models. Alipour, Tr. 213:16-214:21; CPX-1; **FF 59**.⁴¹

Complainants and Staff contend that the FoodSaver VAC 550 practices all of the elements of claim 34, as do all of the other FoodSaver models. CIB 32-34; CRB 14-15; SIB 21-25; SRB 12-14. Complainants presented the testimony of its expert witness on the technical prong, Ahsan Alipour, who examined the VAC 550 and opined that every element of claim 34 is present in that model. Alipour, Tr. 215:3-218:17; CPX-1; JPX-1; JPX-2; **FF 61**. Alipour also testified that he had examined all of the other FoodSaver models, and that they all met the elements of claim 34 in substantially the same way. Alipour, Tr. 213:17-214:5; CPX-1; **FF 62**.

Respondents contend that Complainants failed to prove the technical prong because a comparison of the structure of the FoodSaver models to the structure of the means-plus-function elements of claim 34 has not been made, and that there is no evidence that all of the FoodSaver models are indeed so identical to the VAC 550 that they can be treated summarily as falling within the scope of claim 34 as well. RAZIB 10-11; RAZRB 8-9; RRHIB 27-28; RRHRB 14-15. Respondents offer no countervailing evidence to show that Complainants' products do not practice claim 34.

⁴¹ The complete list of Tilia FoodSaver models that practice claim 34 of the '310 patent are the Compact, GameSaver / ProSport, Kenmore, Professional II, Pro / Turbo / Vac-U-Save, Vac 200, Vac 240 / Vac 420, Vac 300, Vac 350, Vac 360, Vac 370, Vac 500, Vac 540, Vac 560, Vac 570, Vac 750, Ultra, Vac 760, Vac 800, Vac 820, Vac 900, Vac 1050, Vac 1075, Vac 12300. Alipour, Tr. 214:16-21; **FF 60**.

As with proving infringement, showing that a means-plus-function claim element is satisfied by a domestic product under the technical prong does not require a component-by-component analysis of the structure of the domestic product to the structure disclosed in the patent. See Odetics, supra. In the case of the “trough means,” the “static seal means,” the “evacuation means” and the “heat sealing means” of claim 34, Alipour demonstrated at trial which components of the FoodSaver VAC 550 performed each claimed function. Alipour, Tr. 216:10-217:5, 217:22-218:17; CPX-1. That is enough. See Odetics, supra (“The individual components, if any, of an overall structure that corresponds to the claimed function are not claim limitations. Rather, the claim limitation is the overall structure corresponding to the claimed function.”). Further, with regard to the other FoodSaver models, it was sufficient for this purpose for Complainants’ to rely on Alipour’s expert opinion that they all possess the same structure as the VAC 550 that practices claim 34 even though there are differences in geometry, color and dimension among them. See Alipour, Tr. 220:22-221:6; FF 62.

Accordingly, as Complainants have demonstrated by a preponderance of the evidence that the Tilia FoodSaver vacuum packaging machines practice claim 34, they have therefore shown a likelihood of success on the merits in proving that the technical prong of the domestic industry requirement is satisfied.

2. Economic Prong: Whether There Is a Likelihood of Success on the Merits That Domestic Activity Exists Sufficient to Satisfy the Economic Prong

Complainants’ Position

Complainants argue that all three alternative methods of satisfying the economic prong under Section 337 are met, noting that Complainants’ and their subcontractors’ investments in plant and

equipment (in the manufacturing of its bags and accessories), labor and capital (including product assembly and quality assurance), and exploitation of the '310 patent through engineering, research and development are each by themselves more than sufficient for purposes of the economic prong. As long as Tilia's or its U.S. subcontractors domestic activities are sufficient to satisfy any of the statutory criteria noted above, Tilia argues that it is not obligated to prove the nature of domestic activities of any other person.

Respondents' Position

Respondents argue that Tilia has not established that a domestic industry exists. Respondents contend that the product was developed in Europe and is manufactured in China. Complainants have not established that its activities or its investments are "significant" or "substantial." Respondents contend that Tilia's third party activities do not form a domestic industry. Respondents contend that Complainants' activity in the United States relating to packaging and the production of accessories do not relate to the claimed invention and are merely the purchase of supplies and services. Finally, Respondents note that Complainants failed to show that there is any significant or substantial investment in facilities and supplies.

Lastly, the Respondents contend that even if the evidence could be bundled up in some manner to pose as a domestic industry, whatever this package is, Complainants did not show that this bundle of economic activity is related to the "articles protected by the patent" as required by the statute. In other words, Respondents argue that even if the evidence establishes an economic prong "industry" for some article of commerce, Tilia failed to prove that this package of activity is related to a patented article, protected by the patent in accordance with the interpretation of the claim

asserted in the TEO motion. Further, Complainants' evidence failed to separate activities and investments, or portions thereof, that do not relate to the "articles protected by the patent."

Commission Investigative Staff's Position

The Staff contends that Tilia has established that there is sufficient domestic economic activity to satisfy the economic prong of the domestic industry requirement of Section 337. Specifically, the Staff argues that Tilia has made substantial investments in research and development, labor, and plant and equipment in connection with its FoodSaver products, noting, for example, that Tilia employs the services of engineers working on research and development for its FoodSaver machines. Further, Staff notes that Tilia has expended [] in subcontracting with companies in the United States [

] and that Tilia has made substantial investments in space for its offices and laboratories as well as in equipment used by its engineering group.

Discussion, Analysis and Conclusion

Complainants' allegations that it satisfies the economic prong of the domestic industry requirement fall almost entirely under prong (C) of Section 337(a)(3), that of "substantial investment in [the patent's] exploitation, including engineering, research and development, or licensing." 19 U.S.C. § 1337(a)(3)(C). All of Complainants' FoodSaver vacuum packaging machines are made overseas. Silva, Tr. 356:8-10; **FF 63**. Approximately [] of Complainants' bags used in FoodSaver vacuum packaging machines are made [

] Silva, Tr. 356:11-19; **FF 64**. Complainants' foreign production, however, does not preclude a finding that prong (C) is met by other domestic activities. See Certain Microlithographic Machines and Components Thereof, Inv. No. 337-TA-468,

Initial Determination at 346, 2003 WL 1831891 (U.S.I.T.C., January 29, 2003) (“Microolithographics”) (Unlike first two prongs, third prong “does not require actual production of the article in the United States if it can be demonstrated that substantial investment and activities of the type enumerated are taking place in the United States. Marketing and sales in the United States alone would not, however, be sufficient to meet this test.”), unreviewed in relevant part, Commission Notice, 68 Fed. Reg. 13951 (March 21, 2003). Prong (C), however, does require “substantial” domestic investment in the exploitation of the ‘310 patent. See 19 U.S.C. § 1337(a)(3)(C). This factor has been interpreted by the Commission to require “a sufficient nexus between Complainants’ domestic activities and investments and the patents at issue” Microolithographics, supra.

In meeting its burden of proving this factor, Complainants offered the testimony of Dolores Silva, Tilia’s Vice President of Finance and Administration, who stated that Complainants employ [] engineers in the U.S., [

[] Silva, Tr. 348:12-21; CCX-53; **FF 65**. In 2002, Complainants’ salary expense [] Silva, Tr. 348:20-21; **FF 66**. These engineers occupy two lab facilities in San Francisco, California, one inside Tilia’s headquarters building and one across the street. Silva, Tr. 348:22-349:2; **FF 67**. On the latter of the two lab facilities, Complainants pay [] Silva, Tr. 353: 12-16; CDX-54; **FF 68**.⁴² Complainants have also expended approximately [] on equipment for its research group, and overall has spent

⁴² Complainants also occupy approximately [] of leased space for its main office in San Francisco at a cost of approximately [], which houses their engineering, operations, marketing and sales groups. Silva, Tr. 353:1-10; CDX-54; **FF 69**. However, Complainants did not allocate this expenditure among functions that are considered for domestic industry purposes and those (such as marketing and sales) that are not. See Microolithographics, supra. Accordingly, it is not considered in the Prong (C) analysis.

approximately [] in the U.S. to date on furniture and computer equipment for use by employees and relating to machines, bags and accessories. Silva, Tr. 353:16-354:1; CDX-54; **FF 70**.

The Commission has also taken into consideration the activities of subcontractors in analyzing the economic prong of the domestic industry requirement. See Certain Portable On-Car Disc Brake Lathes, Inv. No. 337-TA-361, USITC Pub. No. 2889 (May 1995), Initial Determination (unreviewed in relevant part) at 17-18, 1994 WL 929960 (U.S.I.T.C., August 12, 1994) . In this regard, Complainants engage the services of [

] Silva, Tr. 349:3-9, 350:5-12, 350:23-351:15, **FF 71**. [

] Silva, Tr. 4-7;

CDX-53; **FF 72**.

“[I]n proper cases, ‘industry’ may encompass more than the manufacturing of the patented item” Schaper Mfg. Co. v. U.S. International Trade Commission, 717 F.2d 1368, 1373 (Fed. Cir. 1983). Such other activities have, in the past, included quality control, repair and packaging of imported products, domestic repair and installation activities and domestic product servicing. See Certain Diltiazem Hydrochloride and Diltiazem Preparations, Inv. No. 337-TA-349, USITC Pub. No. 2902, Initial Determination (unreviewed in relevant part) at 138-39, 1995 WL 945191 (U.S.I.T.C., February 1, 1995) (“Diltiazem”). On this score, Complainants have pointed to its expenditures in 2002 of approximately [] in salaries for the work that [] in-house quality assurance employees performed, primarily on vacuum packaging machines. Silva, Tr. 354:2-16; CDX-55; **FF 73**. Complainants also point to expenditures of approximately [] in the first

half of 2003 for customer service support relating to vacuum packaging machines that has been provided by [

] Silva, Tr. 349:10-15, 351:16-

352:7; CDX-53; FF 74.⁴³

Accordingly, absent any showing to the contrary, the foregoing evidence demonstrates that Complainants are likely to succeed in satisfying the economic prong of the domestic industry requirement.⁴⁴

D. Validity

1. Whether There Is a Likelihood of Success on the Merits on the Issue of Anticipation

Complainants' Position

Complainants contend that the long, unchallenged commercial success of Tilia's products incorporating the technology of the '310 Patent is evidence comprising a "strong showing" of validity of the '310 Patent. Complainants argue that they have not waived their right to show commercial success. Complainants contend that Respondents have neither been able to raise a

⁴³ Complainants also argue that their investments in customer education and instruction count toward a domestic industry. See CDX-55; CDX-56. However, no one testified at the TEO hearing to substantiate these claims. Even if they were substantiated, they would not carry any weight because they fall more appropriately into the realm of "marketing and sales" expenses that are not considered for domestic industry purposes. See Microlithographics, supra.

⁴⁴ Although the record as it stands demonstrates that Complainants are "likely" to succeed on this issue, it is by no means free from doubt. The evidence presented by Complainants consists, for the most part, of Silva's uncorroborated hearing testimony bolstered only by demonstrative exhibits. Although this evidence presents a prima facie case, the Commission has in the past "reduced the weight" that it would otherwise accord to such evidence when its nexus to the patent at issue is shown only indirectly. See Diltiazem, supra, Initial Determination at 140-41, citing Certain Concealed Cabinet Hinges and Mounting Plates, Inv. No. 337-TA-289, Commission Opinion at 22-23, 1990 WL 710375 (U.S.I.T.C., January 8, 1990). Thus, more corroboration of the economic prong is expected during the full investigation.

“substantial question” regarding the validity of the ‘310 Patent because of anticipation nor have they met their burden of coming forward with “clear and convincing” evidence of anticipation because two of the three pieces of prior art cited by Respondents was already considered and rejected by the Patent Office during prosecution of the ‘310 Patent (and those two pieces lack several elements disclosed in claim 34) and the third piece of evidence, the Abate sketch, does not constitute “prior art.”

Respondents’ Position

Respondents contend that Complainants have failed to meet their burden to show that Claim 34 of the '310 patent is not likely to be found invalid under 35 U.S.C. § 102 for the following reasons: (1) the named inventor of the '310 patent, Mr. Kristen, did not himself invent the subject matter of Claim 34, but instead derived the alleged invention from information provided a third party, Mr. Abate, rendering the patent invalid under 35 U.S.C. § 102(f); (2) the '171 Taunton patent fully discloses the invention of Claim 34; and (c) the '517 Keslar patent fully discloses the invention of Claim 34.

According to Respondents, Complainants' allegations of commercial success (1) are legally irrelevant to anticipation; and (2) were waived during discovery including in responses to interrogatories and in deposition testimony of its corporate representative.

Commission Investigative Staff’s Position

The Staff argues that Tilia carried its burden respect to the issue of anticipation, noting that each of the two allegedly anticipatory patents cited by Respondents does not disclose several elements of claim 34 as construed by the Administrative Law Judge in Order No. 5. The Staff also

argues that the third allegedly anticipatory reference cited by Respondents does not satisfy any of the criteria under 35 U.S.C. § 102 so as to be considered invalidating prior art.

Discussion, Analysis and Conclusion

On a motion for a TEO, the party seeking such relief bears the burden of showing a reasonable likelihood that the attack on its patent's validity would ultimately fail. See Oakley, Inc. v. Sunglass Hut International, 316 F.3d 1331, 1339-40 (Fed. Cir. 2003). If the opposing party raises a substantial question concerning invalidity, *i.e.*, asserts an invalidity defense that the patentee cannot prove lacks substantial merit, then temporary relief should not issue. See Amazon.com, Inc. v. BarnesandNoble.com, Inc., 239 F.3d 1343, 1350-51 (Fed. Cir. 2001), *citing Genentech, supra*, 108 F.3d at 1364.

Respondents argue that claim 34 of the '310 patent is invalid under 35 U.S.C. § 102(b) as anticipated by two prior art references: (i) U.S. Patent No. 2,778,171 to Taunton (the "Taunton patent"); and (ii) U.S. Patent No. 3,311,517 to Keslar *et al.* (the "Keslar patent").

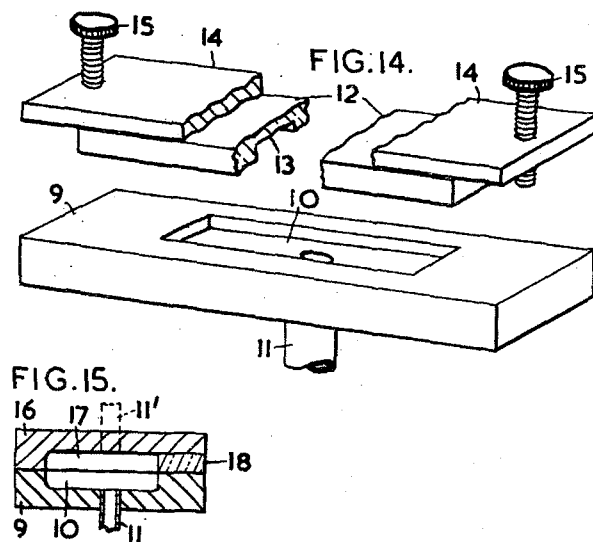
Taunton Patent

U.S. Patent No. 2,778,171, entitled "Production of Air-Tight Packages," issued on January 22, 1957 to Gerald Taunton as inventor. See CX-5; FF 75. The Taunton patent was among the cited U.S. patent documents examined during the prosecution of the '310 patent. See CX-1 ('310 patent, first page); **FF 76**.

The Taunton patent discloses an invention that "relates to the production of airtight packages and in particular to means for facilitating the evacuation of the same." CX-5 (Taunton patent, col. 1:15-17); **FF 77**. It "comprises the steps of forming a pouch of flexible, oxygen-proof material having at least part of one end open, providing projections within the pouch adjacent to said open

end before or after the pouch is formed, withdrawing air through said open end and sealing the pouch between said open end and the commodity." *Id.*, col. 1:53-59; **FF 78**. "The projections may take any desired form," including "hemispherical, conical, or pyramidal protuberances," or "a plurality of ridges which may be in the form of parallel or radiating, straight, curved or zig-zag lines." *Id.*, col. 2:29-34; **FF 79**. "When the commodity to be packed is of a pulverulent or granular nature, the distance between the adjacent projections is preferably less than the size of the individual particles of the commodity so that, while the projections permit free passage of air between them, they prevent the passage of the commodity itself, thus forming a kind of strainer or filter which prevents the commodity from being drawn into the suction source." *Id.*, col. 2:45-51; **FF 80**.

Figures 14 and 15 of the Taunton patent disclose a perspective and cutaway side view of two embodiments of the claimed device:



CX-5 (Taunton patent, Figs. 14 and 15); **FF 81**.

In Figure 14, according to Taunton, “[t]he apparatus comprises a lower jaw **9** provided with a recess **10** in its upper face, said recess communicating with a suction source by means of a pipe **11**; and an upper jaw composed of a slab **12** being secured to the plate **14** provided with stop screws **15**.” CX-5 (Taunton patent, col. 3:57-64); **FF 82**. When in operation, “the pouch is located between the two jaws, the latter being then closed so that the open end of the pouch is located within the two recesses **10** and **13** and therefore in communication with the suction source.” *Id.*, at col. 3:75-4:4; **FF 83**. “The closing of the jaws may be effected by moving the lower jaw upwardly, by moving the upper jaw downwardly, or by moving both jaws towards each other.” *Id.*, at col. 4:5-9; **FF 84**. In the alternative embodiment of Figure 15, “the upper jaw is formed by a plate **16**, having a recess **17**, one edge of the plate being cut away for the reception of a strip **18** of resilient material, such as rubber, which is secured thereto in a suitable manner. Instead of, or additionally to, the suction pipe **11**, a similar suction pipe **11'**, indicated by dotted lines, may be provided in the upper jaw.” *Id.* at col. 4:21-30; **FF 85**.

A party challenging the validity of a patent claim on the basis of prior art that was before the patent examiner during the prosecution of the application is deemed to face an “especially difficult” task of carrying its burden. Hewlett-Packard Co. v. Bausch & Lomb, Inc., 909 F.2d 1464, 1467 (Fed. Cir. 1990). Given this “heavy burden,” Respondents suggest that Taunton anticipates claim 34, whereas Complainants and Staff argue that Taunton is missing several elements of that claim.

The parties dispute whether the “trough means” element of claim 34 is disclosed in Taunton. CIB 43-44; RAZIB 21; RRHIB 37; SIB 29-30; CRB 17-18; RAZRB 10-12; RRHRB 17-18; SRB 17. “If the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if that element is ‘inherent’ in its disclosure.” In re Robertson, 169 F.3d

743, 745 (Fed. Cir. 1999) (“Robertson”). Moreover, for a prior-art reference to anticipate a means-plus-function claim element, it must “disclose the recited function identically.” Transclean Corp. v. Bridgewood Services, Inc., 290 F.3d 1364, 1372 (Fed. Cir. 2002) (“Transclean”).⁴⁵ In this regard, Taunton discloses a “trough,” referred to in the patent as a “recess,” shown as item 10 in Figures 14 and 15 of the patent. See CX-5 (Taunton patent, col. 3:60 and Figs. 14 and 15); **FF 86**. Further, as Respondents’ validity expert, Arthur Freeman, explained at the TEO hearing, this “trough” inherently performs the identical function, as construed herein, of collecting liquids and particles coming from the opening in the bag during vacuum sealing, particularly when the suction pipe 11’ is located in the upper jaw 16 of the Taunton device instead of in the lower jaw as with suction pipe 11. Freeman, Tr.910:6--911:10; 924:9-925:6; RDX-77; RDX-85; **FF 87**.

It is of no moment that Taunton does not intentionally disclose this function, as Complainants contend. See CIB 43-44; CRB 17. It does not matter for anticipation purposes what Taunton the inventor appreciated, much less intended, when he placed this feature in his device. See General Electric Co. v. Jewel Incandescent Lamp Co., 326 U.S. 242, 249 (1945) (“It is not invention to perceive that the product which others had discovered had qualities they failed to detect.”). It is enough that the structure disclosed in Taunton is configured in such a way that it necessarily performs the identical function of collecting liquids and particles that satisfies the claimed function of the “trough means,” as Freeman convincingly demonstrated at the TEO hearing. Freeman,

⁴⁵ By requiring an anticipatory reference to disclose the recited function of a means-plus-function element identically, Transclean did not overrule the principle set forth in Robertson that a prior-art structure may inherently perform a claimed function even though the prior-art reference does not state explicitly that it performs that function. To the contrary, in analyzing the two prior-art references in Transclean that were alleged to anticipate the means-plus-function claim element of the patent at issue, the Federal Circuit held that they did not do so explicitly or inherently. Transclean, supra, 290 F.3d at 1372-73.

Tr.910:6-911:10; 924:9-925:6; RDX-77; RDX-85; also see Transclean, supra, 290 F.3d at 1373 (“anticipation by inherent disclosure is appropriate only when the reference discloses prior art that must *necessarily* include the unstated limitation” (emphasis in original)). Furthermore, although the Taunton patent also discloses making the channels in the bag small enough to block particles from escaping the bag when the vacuum is present, this suggestion does not “teach away” from the use of a trough to take in liquids and particles, as Complainants also argue. See CIB 43. As Complainants’ own expert, Dr. Kirk, admitted on cross-examination, the trough of Taunton will nonetheless capture particles that are smaller than the channels. See CX-5 (Taunton patent, col. 2:45-51); Kirk, Tr. 989:16-990:6; **FF 88**. Equally unavailing is Staff’s contention, at SIB 29-30; SRB 17, that Taunton’s aperture of suction pipe 11 in the middle of the trough of the lower jaw teaches away from the claimed collecting function because one would not use a container with a hole for this purpose. It may be true of the embodiment in Taunton having the suction pipe 11 in the middle of the trough of the lower jaw, but it is not true of the embodiment disclosing suction pipe 11' through the top jaw, which is described in Taunton as an option “instead of, or in addition to,” to the suction pipe 11 through the bottom jaw. See CX-5 (Taunton patent, col. 4:21-30).

Staff also contends that Taunton is missing the element of a “vacuum chamber . . . adapted to receive the open end of said bag in exposed relationship therein” because it does not disclose a vacuum chamber that receives the entire open end of the bag inside the chamber, as that claim term is construed herein. See pp. 87-88 supra; SIB 30; SRB 18; also see Freeman, Tr. 927:9-20. However, Taunton expressly recites that “[w]here apparatus comprising a recess is used, the pouch to be evacuated is positioned so that the open end thereof at least reaches the edge of the recess and preferably so that it projects beyond it into the recess.” CX-5 (Taunton patent, col. 5:22-25)

(emphasis added); **FF 89**. Taunton also specifically states that “[t]he length of the recess may be less than, equal to, or greater than the width of the open end of the pouch.” *Id.* at col. 5:28-30 (emphasis added); **FF 90**. Hence, Taunton explicitly discloses a vacuum chamber that receives the entire open end of the bag inside the chamber.

Complainants and Staff also argue that Taunton does not disclose the element of “evacuation means communicating with said vacuum chamber for selectively evacuating said vacuum chamber and the evacuative chamber of said bag” because there is no disclosure in Taunton of any mechanism or structure that would allow the user to begin the evacuation process at a moment of the user’s choosing. CIB 44; CRB 18-19; SIB 30; SRB 18. Respondents counter that, as their expert, Freeman, testified, a person of ordinary skill in the art would recognize that to operate the pump, controls would have to be provided to turn it on and off. *See* Freeman, Tr. 908:13-909:3; RAZIB 24; RAZRB 12-13; RRHIB 38; RRHRB 18-19. Respondents argue that where persons of ordinary skill are more than capable of providing necessary mechanics or circuitry, the reference anticipates; it is only when disclosure regarding these details is essential that anticipation fails. *See* RAZRB 12-13, citing *In re Paulsen*, 30 F.3d 1375 (Fed. Cir. 1994).

The Taunton patent specification states, “When the jaws are brought together, the recesses in one jaw intersect those in the other jaw (as indicated by dotted lines in Figure 16) so that if either or both of the pipes 24 is connected to a suction source, such as a vacuum pump, the suction is applied to all the recesses.” CX-5 (Taunton patent, col. 4:39-44) (emphasis added); **FF 91**. This is the only passage to which Respondents point that suggests a “connection” of one particular embodiment of the Taunton device from a “vacuum chamber” through a tube to a vacuum pump.

Although this passage suggests the overall structure of the “evacuation means” consisting of a vacuum pump and tube connected to a vacuum chamber as construed herein, see p. 98 supra, there is nevertheless no disclosure in Taunton of how a user would “selectively” evacuate the vacuum chamber by making this connection. See CX-5 (Taunton patent); **FF 92**. By contrast, the ‘310 patent details a particular arrangement of electrical and pneumatic controls that the user can operate in order to evacuate the vacuum chamber and the bag, as well as a wide variety of alternative electrical and pneumatic control circuits for controlling the claimed vacuum packaging machine. See CX-1 (‘310 patent, col. 5:33-6:30; Figs. 9 and 10) also see TEO Hearing Tr. 1148:21-1149:1149:13; **FF 93**. To anticipate a means-plus-function claim element, the alleged anticipatory reference must not only disclose the identical function, but must also disclose, explicitly or inherently, the corresponding structure disclosed in the specification or an equivalent thereof. See In re Donaldson Co., Inc., 16 F.3d 1189, 1193-97 (Fed. Cir. 1994) (PTO, in rejecting a means-plus-function claim as obvious in view of prior art, must compare the prior art to the structure of the means disclosed in specification or an equivalent thereof). It is not enough for Respondents to rely on the ordinary skill of one in the art to fill this gap. Even though that person may appreciate the need for turning a vacuum pump on or off, as Freeman stated at the TEO proceeding, Respondents have offered no evidence to show that such a person would come up with the various structures for “selectively” evacuating the vacuum chamber that are disclosed in the ‘310 patent.

Finally, Complainants argue that the Taunton patent does not disclose any operative embodiment of a “hood mounted to said base,” as construed herein, and therefore should be disqualified as a prior art reference. CIB 44-45; CRB 19. At the TEO hearing, Dr. Kirk pointed to the following Figure 20 of Taunton:

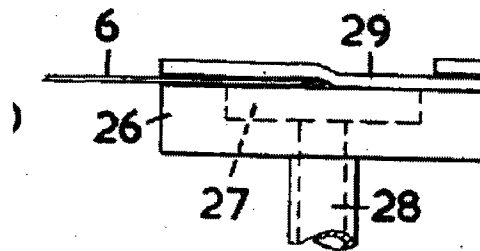


FIG. 20

CX-5 (Taunton patent, Fig. 20); **FF 94**. Kirk testified that in this embodiment, the flexible rubber piece 29 representing the “hood” is not operative because it leaks air at the point where the hood jogs over the bag 6, leaving a physical opening between the bag and the recess 27 representing the “trough.” Kirk, Tr. 311:4-18. However, Respondents’ expert, Freeman, pointed out that a passage from the Taunton specification states with regard to this embodiment:

The resilient flap 29 is then laid over the pouch, as shown, and suction is applied by means of the pipe 28. The suction draws down the flap 29 so that it closely embraces the plate 26 and the pouch 6, thereby preventing atmospheric air from being drawn into the recess.

CX-5 (Taunton patent, col. 5:14-19) (emphasis added); Freeman, Tr. 968:25-969:19; **FF 94**.

An accused infringer is entitled to have the court “presume the enablement of unclaimed (and claimed) material in a prior art patent” that the accused infringer asserts against the patentholder. Amgen, Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1355 (Fed. Cir. 2003). “[H]owever, the patentee may argue that the relevant claimed or unclaimed disclosures of a prior art patent are not enabled and therefore are not pertinent prior art. If a patentee presents evidence of nonenablement that a trial court finds persuasive, the trial court must then exclude that particular prior art patent in any anticipation inquiry, for then the presumption has been overcome.” Id. The

passage from Taunton that Freeman read into the record at the TEO proceeding qualifies as the necessary enabling disclosure, and Dr. Kirk's testimony does not convincingly overcome the presumption that it is enabling. See id.

Accordingly, for the foregoing reasons, the Taunton patent does not anticipate claim 34 of the '310 patent because it does not disclose, explicitly or inherently, an "evacuation means . . . for selectively evacuating said vacuum chamber and the evacuative chamber of said bag"

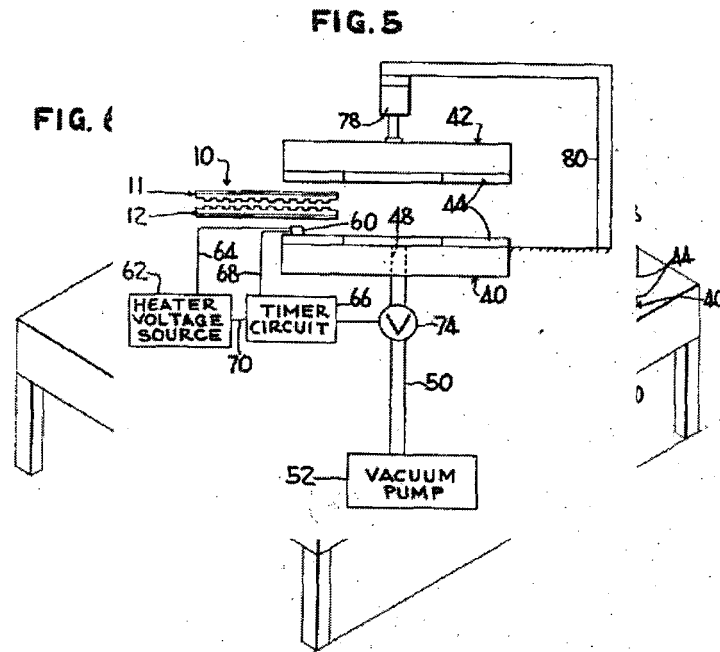
Keslar Patent

U.S. Patent No. 3,311,517, entitled "Method of Laminating Transparent Assemblies," issued on March 28, 1967 to Leroy D. Keslar, Natrona Heights, and John S. Rankin as inventors. See RX-227; **FF 95**. The Keslar patent was not among the cited U.S. patent documents examined during the prosecution of the '310 patent. See CX-1('310 patent, first page); **FF 96**.

The Keslar patent discloses an invention relating "to packaging laminated aircraft glazing closures such as laminated glass assemblies and the like within a laminated bag that is capable of being effectively evacuated and sealed" RX-227 (Keslar patent, col. 1:14-18); **FF 97**. "The bag is sealed on three sides and its access opening rests on an electric heating element" that rests "on the lower jaw of a pair of jaws provided with gasket means forming a sealed chamber surrounding the access opening of the bag." Id. at col. 2:59-63; **FF 98**. An evacuating pipe "communicates with the sealed chamber through an opening in the lower jaw to evacuate air and other gases entrapped within the flexible bag." Id. at col. 2:63-66; **FF 99**. When the pressure within the bag and sealed chamber is reduced below a predetermined level, a pressure-actuated switch activates an electric circuit connected to a heat sealing element that seals the opening of the bag. Id. at col. 3:1-17; **FF 100**.

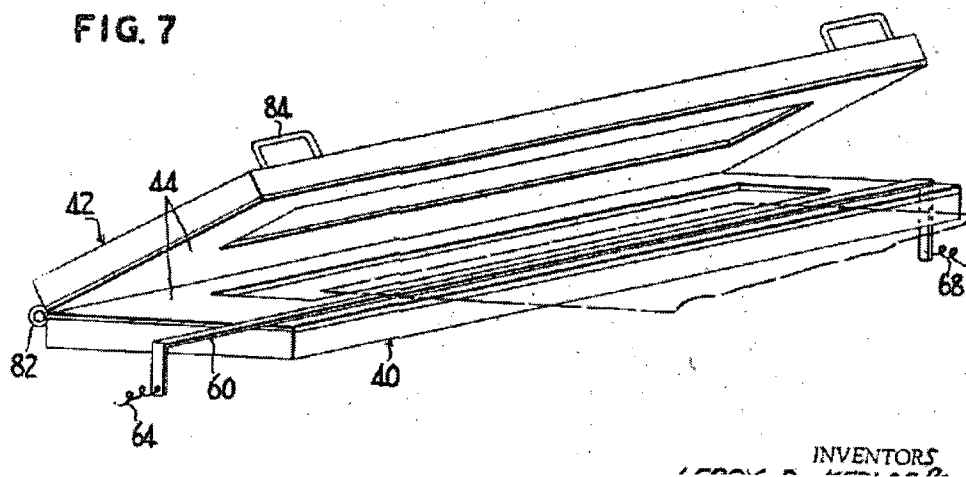
Each flat side of a bag has a smooth outer ply attached to an inner ply of polyethylene that is “embossed along its inner surface to form a checkerboard pattern of rounded protuberances 34 on the inner surface thereof.” RX-227 (Keslar patent, col. 4:12-14); **FF 101**. Alternative constructions of protuberances include squares and diamond shapes. See id. at col. 4:26-37, Figs. 8 and 9; **FF 102**. There are grooves between adjacent protuberances that “provide a plurality of passageways for the escape of gas entrapped within the bag 10 in about 6 seconds when the latter is evacuated at a vacuum of 27 inches of mercury.” Id. at col. 4:17-25; Figs. 8 and 9; **FF 103**. When the bag is evacuated, it conforms to the outer surfaces of the assembly contained within it. See RX-227 (Keslar patent, col. 4:38-41); **FF 104**.

One embodiment of the vacuum packaging machine of the Keslar patent is shown in a cutaway side view of Figure 5 and a perspective view of Figure 6, as follows:



RX-227 (Keslar patent, Figs. 5 and 6); **FF 105**. In this embodiment, “[t]he lower surface of upper jaw **42** and the upper surface of the lower jaw **40** are each provided with a frame **44** of gasket sealing strips of an air impervious material” that “enclose an elongated sealed chamber **46** communicating with the access opening **22** of the bag **10**.” *Id.* at col. 4:63-69; **FF 106**. “An aperture **48** is provided in the lower jaw **40** intermediate the sealing strips **44**. An evacuation pipe **50** extends from the aperture **48** to an evacuation pump **52**.” *Id.* at col. 4:73-75; **FF 107**. “When the bag **10** is properly placed with its access opening **22** entirely within the sealed chamber **46**, the evacuation pump **52** causes the removal of air and other gases from within the envelope **10** through the access opening **22**, sealed chamber **46**, aperture **48**, and evacuation pipe **50** until the thin, flexible bag conforms to the shape of the assembly inserted therewithin.” *Id.* at col. 5:1-7; **FF 108**.

Figure 7 of the Keslar patent shows an alternate embodiment of the apparatus:



RX-227 (Keslar patent, Fig. 7); **FF 109**. In this embodiment, “the upper jaw **42** is pivoted to the lower jaw **40** about hinge means **82** at the outer end of the jaws. Handles **84** are attached to the upper wall of upper jaw **42** to facilitate its pivoting into an open position to receive a bag for loading,

evacuation and sealing and for pivoting into a closed position to form the sealed chamber 46.” *Id.* at col. 5:48-55, Fig. 7; **FF 110**.

Respondents contend that the Keslar patent anticipates claim 34 of the ‘310 patent. RAZIB 22-24; RRHIB 38-40; RAZRB 14-15; RRHRB 19-21. Complainants and Staff contend that it does not. CIB 45-46; SIB 31; CRB 17-19; SRB 16-18. Complainants argue that Keslar, which expressly relates to packaging laminated aircraft glazing closures such as laminated glass assemblies, is not in the field of small household appliances. CIB 45; RX-227 (Keslar patent, col. 1:14-17). This is of no concern, however, because Keslar falls well within the realm of analogous art in the ‘310 patent inventor’s field of endeavor and is “reasonably pertinent to the particular problem with which the inventor was involved.” *In re Deminski*, 796 F.2d 436, 441-42 (Fed. Cir. 1986). Indeed, the Keslar patent even notes that the Mylar bags that are used in its device have been “employed to produce plastic bags for encasing food products such as poultry in intimate contact with the contents by immersing a closed bag loosely surrounding its contents within a bath of boiling water, until the bag shrinks into intimate contact with its contents.” RX-227 (Keslar patent, col. 2:22-31); Freeman, Tr. 937:8-938:4; **FF 111**.

Complainants and Staff also contend that Keslar does not discuss the collection of liquids or particles or mention it as a problem to be solved, and therefore fails to disclose the element of a “trough means . . . for collecting liquids and particles” in claim 34. CIB 45-46; SIB 31; CRB 17-18; SRB 17-18. Experts on both sides agreed at the TEO proceeding that Keslar does not mention this function in any way. Freeman, Tr. 938:25-940:4; Kirk, Tr. 987:12-988:9; RX-227; **FF 117**. Although there exists in Keslar what appears to be a recessed “sealed chamber 46” surrounded by gaskets 44, Keslar identifies the use of this chamber only for the evacuation of “air and other gases”

from the bag, not liquids or particles. See, e.g., RX-227 (Keslar patent, col. 2:65-66, 5:3-4); **FF 113**. Respondents rely solely on what a person of ordinary skill in the art would read into the Keslar structure; they point to nothing in Keslar that expressly or inherently discloses the function of the “trough means” or any structure that performs that function.⁴⁶

Further in connection with the “trough means” element, Keslar only discloses an evacuation pipe **50** connected to an aperture **48** in the lower jaw **40** of the device, and as Freeman demonstrated at the TEO hearing, most liquids and particles would be sucked into the vacuum pipe in such a setup. Freeman, Tr. 910:22-911:10; 958:21-961:24; RDX-77; **FF 114**. Unlike the “trough means” of the ‘310 patent which corresponds to structure disclosed in the specification having the vacuum aperture in the hood rather than the base, the recess of Keslar acts like a sink with a drain at the bottom that would necessarily wash liquids and particles down the drain and clog the vacuum pump, a problem that the ‘310 patent expressly seeks to solve. See Freeman, Tr. 958:21-961:24; CX-1 (‘310 patent, col. 4:11-14) (“The trough also functions to collect liquids and powder particles that are exhausted from the bag to prevent their ingress into a vacuum pump **53**”); **FF 115**. Consequently, Keslar does not disclose any structure that performs the claimed “trough means” function.

Finally, Complainants and Staff note that, like the Taunton patent, the Keslar patent does not disclose any mechanism or structure that would enable the user of the Keslar apparatus to activate the vacuum pump at a moment of his or her own choosing. CIB 46; SIB 31; CRB 18-19; SRB 18. Respondents’ expert, Freeman, conceded this point. Freeman, Tr. 942:5-12; **FF 116**. Although, as

⁴⁶ In their reply brief, Respondents Holmes and Rival suggest that the location of the aperture of the vacuum tube in the Keslar device, at the far side of the recess in the lower jaw rather than in the middle of the recess, would preclude liquids and particles from entering the aperture. See RRHRB 20. Their citations to Freeman’s testimony for this attorney argument, however, are utterly devoid of support. See Freeman, Tr. 915:6-21; 959:15-960:4.

with Taunton, Respondents argue that this element is inherently within the knowledge of one of ordinary skill in the art, there is simply nothing in Keslar that identifies the many different electrical and pneumatic structures recited in the '310 patent for accomplishing the “evacuation means” element. See CX-1 ('310 patent, col. 5:33-6:30; Figs. 9 and 10); **FF 117**.

Accordingly, for the foregoing reasons, the Keslar patent does not anticipate claim 34 of the '310 patent because it does not disclose, explicitly or inherently, a “trough means . . . for collecting liquids and particles,” and because it does not disclose, explicitly or inherently, an “evacuation mans . . . for selectively evacuating said vacuum chamber and the evacuative chamber of said bag”

Conclusion on Anticipation

Accordingly, Complainants and Staff have demonstrated that Respondents' invalidity defense based on anticipation under 35 U.S.C. § 102(b) lacks substantial merit, and that Complainants and Staff are likely to succeed on the merits of that issue.

2. Whether There Is a Likelihood of Success on the Merits on the Issue of Obviousness

Complainants' Position

Complainants contend that the long, unchallenged commercial success of Tilia's products incorporating the technology of the '310 Patent is evidence comprising a “strong showing” of validity of the '310 Patent. Complainants argue that they did not waive their right to show commercial success. Moreover, Complainants argue that Respondents were unable to raise a “substantial question” regarding the validity of the '310 Patent because of obviousness nor have they been able to meet their burden of coming forward with “clear and convincing” evidence of obviousness in any of the three combinations of references they proffer because none contains a

“clear and particular” teaching or suggestion to combine the references and because none of the references contains either the trough means or the evacuation means elements of claim 34.

Respondents’ Position

Respondents contend that Complainants failed to meet their burden to show that Claim 34 of the '310 patent is not likely to be found invalid under 35 U.S.C. § 103(a) over the following combinations of prior art: (1) FoodSaver1/1.5 with the Taunton reference, (2) FoodSaver1/1.5 with the Keslar reference, and (3) the Daisy Vacuum Seal-A-Meal with the Taunton reference.

Respondents also argue that Complainants have waived commercial success during discovery including in responses to interrogatories and in deposition testimony of its corporate representative.

Commission Investigative Staff’s Position

The Staff contends that the evidence shows that the combinations of prior art alleged to render claim 34 invalid for obviousness still lack certain elements of claim 34. Moreover, the Staff is unaware of any teaching, motivation, or suggestion to combine these references.

Discussion, Analysis and Conclusion

The analysis of obviousness under 35 U.S.C. § 103(a) requires factual inquiries into: (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”). See Smiths Industries, supra. In this TEO proceeding, Respondents raise the obviousness defense in connection with three prior-art combinations: (i) the FoodSaver1/1.5 vacuum packaging machine with the Taunton patent, (ii) the FoodSaver1/1.5 vacuum packaging machine with the Keslar patent, and (iii) the Daisy Vacuum Seal-A-Meal vacuum packaging machine with the Taunton patent.

Scope and Content of Prior Art

Complainants' expert, Dr. Kirk, opined that the relevant art of the '310 patent is directed to the design of mechanical devices, including vacuum packaging apparatus, and that art includes material as background such as stresses, forces, understanding of materials and understanding of mechanisms. Kirk, Tr. 240:3-19. Respondents' expert, Mr. Freeman, did not testify on direct examination as to the scope of the prior art, but responded on cross-examination from Complainants' counsel that the relevant art for purposes of the '310 patent is the more narrow field of small household appliances or small kitchen appliances. Freeman, Tr. 922:14-25. In view of the lack of direct evidence from Respondents, there is no reason to believe that they would accept a narrower scope of the art than Complainants accept. Therefore, Complainants' broader description of the scope and content of the prior art is accepted.⁴⁷

Accordingly, the scope and content of the prior art relevant to claim 34 of the '310 patent is directed to the design of mechanical devices, including vacuum packaging apparatus, and that art includes material as background such as stresses, forces, understanding of materials and understanding of mechanisms. Kirk, Tr. 240:3-19; **FF 118**.

Level of Ordinary Skill in the Art

Dr. Kirk also opined that the relevant level of ordinary skill in the art for purposes of the '310 patent is that of one holding a Bachelor of Science degree in mechanical engineering or a related

⁴⁷ In view of Dr. Kirk's broad definition of the relevant art to encompass all mechanical devices and his admission that Taunton and Keslar disclose such devices, in addition to the fact that Taunton is one of the patent references identified in the '310 patent itself that the inventor described during prosecution as "disclos[ing] vacuum packaging systems for plastic bags having protuberances (Figs. 1-4) to provide air passages during evacuation," the contention of Complainants and Staff that the Taunton and Keslar patents are not within the scope of the relevant art is untenable. See CIB 53; SIB 37; SRB 22; RAZRB 19; Kirk, Tr. 320:19-321:8; CX-1 ('310 patent, first page); CX-2 ('310 patent prosecution history).

engineering field, or a degree from a technical high school and two to four years of design experience in the mechanism or with knowledge of the mechanism area; or an associate degree from a college with the same two to four years of design experience, mechanical design experience and some background in mechanisms. Kirk, 241:5-14. Somewhat more narrowly, Mr. Freeman opined that the person of ordinary skill in the art would need a bachelor of science degree in some engineering discipline and three to five years of relevant experience. Freeman, 898:24-899:7.

In general, there are six factors relevant to a determination of the level of ordinary skill: the educational level of the inventor, the type of problems encountered in the art, prior art solutions, the rapidity of innovation, the sophistication of the technology, and the educational level of active workers in the field. Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 796 F.2d 443, 449-50 (Fed. Cir. 1986), cert. denied, 484 U.S. 823 (1987). In view of Mr. Freeman's direct knowledge of the qualifications of employees who actually designed small kitchen and household appliances in 1989, as opposed to Dr. Kirk's more general experience in academia and as a consultant only in other fields of engineering, Mr. Freeman's opinion of the level of ordinary skill in the art is accepted. Compare CX-18C (Dr. Kirk's CV) to Freeman, Tr. 897:15-898:4.

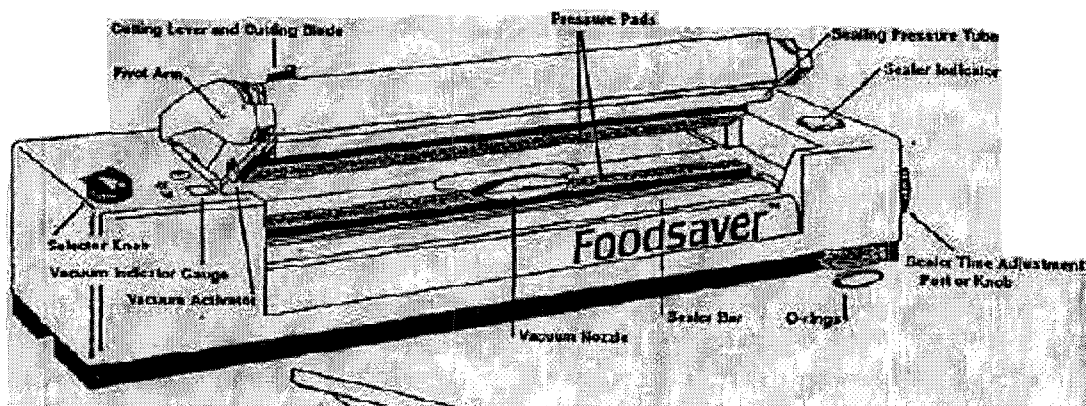
Accordingly, the relevant level of ordinary skill in the art for claim 34 of the '310 patent is that of one holding a bachelor of science degree in some engineering discipline and three to five years of relevant experience. Freeman, 898:24-899:7; **FF 119**.

*Differences Between '310 Patent Claim 34 and Combination of
FoodSaver1/1.5 with Taunton Patent*

Complainants' first vacuum packaging machine was referred to at the TEO hearing as the "FoodSaver1," which was offered for sale in the United States several years before the application

for the '310 patent was filed in 1989. Kristen, Tr. 813:3-815:11; RX-712; **FF 120**. A subsequent design, referred to at the hearing as the "FoodSaver 1.5," included a liquid separator and was also sold in the United States before the '310 patent application was filed. Kristen, Tr. 883:15-25; CPX-10; RX-714; **FF 121**. The two designs will be referred to collectively hereafter as the "FoodSaver 1/1.5." Although the '310 patent application referred without specifics to a prior-art "conventional vacuum sealing system us[ing] a vacuum nozzle that is inserted within a plastic bag for evacuation purposes," the FoodSaver 1/1.5 machine was not among the cited references examined during the prosecution of the '310 patent. See CX-1('310 patent, first page); **FF 122**.

A representative drawing of the front of the FoodSaver1, which is similar to that for the FoodSaver1.5, appears in the owners' manual for that product as follows:



See RX-712 at T065087; RX-714 at T023859; **FF 123**.

The FoodSaver 1/1.5 was an apparatus for vacuum sealing plastic bags with panels having evacuative protuberances and channels of the same type as are now used in the current Tilia

FoodSaver machines.⁴⁸ It also included a base that was configured to receive the end of the plastic bag, a pivotally attached hood, a vacuum pump with circuitry that allowed it to be activated at the user's discretion, and a heat sealing element. See RX-712 at pp. T065087-88; RX-714 at pp. T023859-60; **FF 124**. The hood and base of the FoodSaver 1/1.5 machine each had pressure pads made of black rubber to hold bags in place during vacuuming and sealing and to prevent air from entering the bag. Kirk, Tr. 331:20-334:11; CPX-10; RX-712 at p. T065088; **FF 125**. The opening also contained a plastic nozzle that was inserted into the open end of the bag. Kirk, Tr. 332:8-333:5; CPX-10; RX-712 at p. T065093; **FF 126**. When the cover was closed down, the bag was compressed around the nozzle, and other portions of the bag between the pressure pads were sealed shut by the pads as they conformed around the nozzle so no air could enter the bags at those locations. Kirk, Tr. 333:6-334:7; CPX-10; **FF 127**.

The only element of claim 34 of the '310 patent that Complainants and Staff argue is missing from the FoodSaver 1/1.5 is that portion of the "vacuum chamber" comprising a "trough means . . . for collecting liquids and particles therein" CIB 55-56; SIB 36; CRB 25; SRB 21.⁴⁹ Respondents contend that this element is furnished by an obvious combination of the FoodSaver 1/1.5 machine with the Taunton patent. RAZIB 25-26; RRHIB 40-41; RAZRB 19-21; RRHRB 21-23. Complainants and Staff counter that a "trough means" is not disclosed by Taunton, either. Op. cit.

⁴⁸ See TEO Hearing Tr. 1152:7-20.

⁴⁹ Although Complainants identify several elements of claim 34 that are allegedly missing from the FoodSaver 1/1.5 machine, they all include the "vacuum chamber" as an antecedent sub-element. See CIB 55-56; CRB 25. The reason why Complainants allege that all of these other elements are missing from the FoodSaver 1/1.5 is because the "vacuum chamber" is allegedly missing. See Freeman, Tr. 920:18-922:13; **FF 128**.

As already determined earlier herein, the Taunton patent inherently discloses a “trough means . . . for collecting liquids and particles therein.” See pp. 149-51 *supra*. Moreover, there was clearly “a reason, suggestion, or motivation in the prior art” during the 1980s “that would lead one of ordinary skill in the art to combine . . . with a reasonable likelihood of success” the Taunton “trough means” as a substitute for the nozzle of the FoodSaver 1/1.5 in order to solve the problem of liquids and particles clogging the vacuum pump. See *Smiths Industries, supra*. The owners’ manual for the FoodSaver1, copyrighted in 1987, at the very outset of its “Operating Instructions” section, cautions the user as follows:

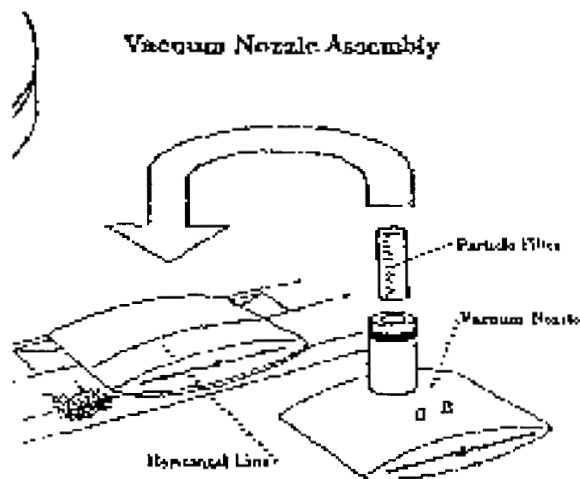
When sealing in *Foodsaver* bags, always exercise care in vacuuming liquids or powders. Once drawn into the pump, any residue can cause the pump to jam. Some models have a filter which prevents liquids or powders from being drawn into the pump.

RX-712, at p. T065092; **FF 129**. Elsewhere in the manual, the user is told:

The vacuum pump may become jammed from sucking liquids or powders through the nozzle. A jammed pump makes a low humming sound.

RX-712, at p. T065097; **FF 130**.

In the FoodSaver1.5, the vacuum nozzle was equipped with a particle filter resting inside the nozzle assembly that was removable for cleaning:



RX-714, at pp. T023859-60; **FF 131**. Despite the presence of this added feature, the same two cautionary statements found in the owners' manual for the FoodSaver1 appear in the 1988-copyrighted manual for the FoodSaver1.5 as well. See RX-714 at pp. T023863 and T023872; **FF 132**.

As Respondents' expert, Freeman, testified at the TEO hearing without any contradiction whatsoever from Complainants' expert, Dr. Kirk, it was commonplace for designers of home appliances in the 1980s to make themselves aware of other appliances in the marketplace, whether commercial products or those disclosed in patent or other literature. Freeman, Tr. 915:22-916:25; **FF 133**. As Freeman further pointed out without any evidence to the contrary from Complainants, the persistent problem of filtering out liquids and particles that clogged up the vacuum pump provided "reason," "suggestion," and "motivation" enough for a person of ordinary skill in the art during that time period, recognized here to be a person of extensive engineering training and experience, to search the admittedly wide field of pertinent art applicable to this product in an effort to solve the problem. The Taunton patent, which is clearly within that field of art, discloses the

“trough means,” another form of filtration of liquids and particles different from that then being used in the FoodSaver1.5 that would have provided a ready answer. See Freeman, Tr. 917:22-918:23; also see WMS Gaming, Inc. v. Int’l Game Technology, supra (“the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.”). Indeed, it is worthy of note that the User Manual for the Tilia FoodSaver VAC 550 machine, which has the claimed “trough means,” no longer carries the warning statements that appeared in the instruction manuals for the FoodSaver1/1.5. Instead, it states only:

IMPORTANT: You will need to pre-freeze foods that have excess liquid or moisture before vacuum packaging in FoodSaver Bags because the liquid can be drawn up into the vacuum pump.

CPX-1 (Tilia FoodSaver VAC 550 User Manual at 9); **FF 134**. There is no longer any stated concern about the vacuum pump becoming jammed by particles; at least that much of the problem is apparently solved by the “trough means.”

The fact that the Taunton patent is one of the cited prior art references in the ‘310 patent is insufficient to detract from a finding of obviousness. “When no prior art other than that which was considered by the PTO examiner is relied on by the attacker . . . , he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.” McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1353 (Fed. Cir. 2001). Here, Respondents rely not only on Taunton, which the PTO Examiner knew about, but also on the FoodSaver 1/1.5, which he did not know about. That device is accompanied by its instruction manual, which supplies the “reason, suggestion, or motivation” to combine here.

That is enough to satisfy the “added burden of overcoming the deference that is due” to the PTO Examiner who had Taunton and other prior art references before him.

Staff argues that the combination of the FoodSaver1/1.5 with the Taunton patent is not obvious, but rather constitutes an impermissible hindsight reconstruction using the claim at issue as a template for combining elements from references that are not even in the same field as the ‘310 patent. See SIB 37; SRB 22. Taunton was cited by the inventor to the PTO during prosecution of the ‘310 patent. See CX-1 (‘310 patent, first page). Although the inventor’s knowledge of the prior art is not relevant to the obviousness inquiry, the person of ordinary skill in the art who is identified in 35 U.S.C. § 103(a) as the statutory focus of the inquiry is always presumed to know of all of the prior art. Standard Oil Co. v. American Cyanamid Co., 774 F.2d 448, 454 (Fed. Cir. 1985) (“The issue of obviousness is determined entirely with reference to a hypothetical ‘person having ordinary skill in the art.’ It is only that hypothetical person who is presumed to be aware of all the pertinent prior art. The actual inventor’s skill is irrelevant to the inquiry” (emphasis in original)). That knowledge necessarily includes Taunton. Therefore, it is illogical to argue that Taunton does not fall within the pertinent field of art here. Moreover, as already pointed out earlier herein, the field of art advocated by Complainants’ expert, Dr. Kirk, is even broader than the field suggested by Respondents’ expert, Freeman, and necessarily encompasses Taunton. See p. __ supra.

It is true that, as the Federal Circuit recently noted on the issue of motivation to combine:

This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to “[use] that which the inventor taught against its teacher.” W.L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 312-13 (Fed. Cir.1983). Thus the [PTO] Board must not only assure that the requisite findings

are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.

In re Sang Su Lee, 277 F.3d 1338, 1343-44 (Fed. Cir. 2002). Here, the facts supporting a finding of obviousness are not merely a hindsight reconstruction of the invention based on the conclusory statements of expert witnesses (which, in fact, are all that Dr. Kirk offered in support of Complainants' position of non-obviousness). Instead, they rest on published statements of Complainants themselves in their own prior-art instruction manuals for their own prior-art products and the products of precursors of which they were well aware; the testimony of Respondents' expert, Freeman, speaking with direct knowledge gained from experience in the field of kitchen appliance manufacture and design of what a person of ordinary skill in the art would have been motivated to do when faced with the problem described in Complainants' manuals; from a consideration of the relevant prior art then in existence, including Taunton; and from direct observation of the prior-art FoodSaver 1.5 machine in actual operation at the TEO proceeding. See In re Kotzab, 217 F.3d 1365, 1371 (Fed. Cir.2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed").

Accordingly, there are no differences between the invention of claim 34 of the '310 patent and the obvious combination of the prior-art FoodSaver 1/1.5 vacuum packaging machine with the Taunton patent.

Differences Between '310 Patent Claim 34 and Combination of FoodSaver1/1.5 with Keslar Patent

Respondents also argue that the invention of claim 34 of the '310 patent is rendered obvious by a combination of the FoodSaver1/1.5 machine with the prior-art Keslar patent discussed earlier herein, a contention that Complainants and Staff dispute. CIB 56; CRB 25-26; RAZIB 25-26; RAZRB 19-21; RRHIB 40-41; RRHRB 23; SIB 35-37; SRB 21-23.

Unlike Taunton, it has already been determined herein that the Keslar patent does not disclose a “trough means . . . for collecting liquids and particles . . .” as required by claim 34. See p. 159 supra. Therefore, since this element is also missing from the prior-art FoodSaver1/1.5 machine as explained above, the combination of the two cannot render the invention of the '310 patent obvious as a whole. See Kirk, Tr. 987:8-988:22; **FF 135**.

Accordingly, the invention of claim 34 of the '310 patent and the combination of the prior-art FoodSaver 1/1.5 vacuum packaging machine with the Keslar patent are non-obviously different from one another.

Differences Between '310 Patent Claim 34 and Combination of Daisy Vacuum Seal-A-Meal with Taunton Patent

According to the stipulations entered into by Complainants, Respondents and Staff, the original Dazey Seal-A-Meal food sealer product was introduced in January 1968 as the Model 5000, also known as SAM-1. RX-40; RX-41; RX-42; **S 2**. This appliance made it possible for a user to seal leftovers and the like in specially fabricated Seal-A-Meal bags. **S 2**. In or about 1974, Dazey introduced the Seal-A-Meal Model SAM-2, which differed from the original Seal-A-Meal in that it utilized an instant-on nichrome wire heater, requiring no pre-heating, and would accept 10-inch

wide material other than SAMBAGS. **S 3.** At least as early as 1981, Dazey began marketing the Vacuum Seal-A-Meal food sealer, Model SAM-3. RX-43; RX-44; **S 4.**

Hanns Kristen had seen the Dazey Vacuum Seal-A-Meal machine before he devised the invention of the '310 patent. Kristen, Tr. 820:2-24; **FF 136.** Although the '310 patent application referred without specifics to a prior-art “conventional vacuum sealing system us[ing] a vacuum nozzle that is inserted within a plastic bag for evacuation purposes,” the Dazey Vacuum Seal-A-Meal food sealer machine was not among the cited references examined during the prosecution of the '310 patent. See CX-1('310 patent, first page); **FF 137.**

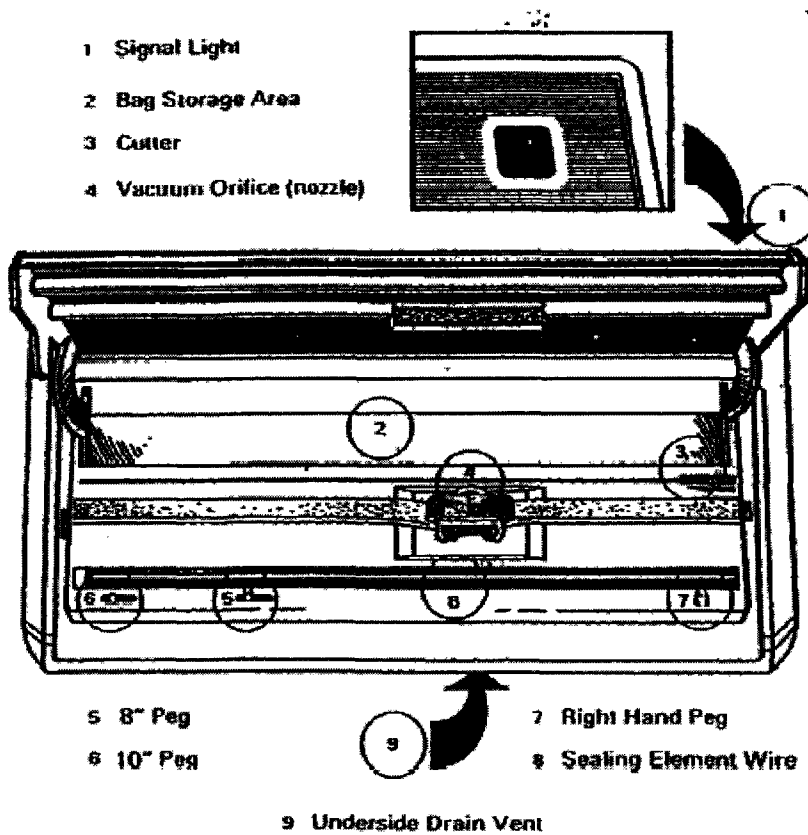
The Dazey Vacuum Seal-A-Meal featured a vacuum function, which permitted the user to vacuum pack foods while preserving freshness by eliminating unnecessary air in the pouch. **S 4.** In operation, the bottom panel of the bag mouth rested on the inactive heater and the top panel was caused to be placed over and to surround a vacuum nozzle. **S 4.** When the lid was held in a closed position, the vacuum motor would operate to remove air from the bag. **S 4.** Applying pressure to the right side of the lid would thereafter activate the sealing action, and a signal light would come on for as long as the sealing was taking place. **S 5.** A Model SAM-3 in original packaging and with its original Instruction and Recipe Book was admitted into evidence during the TEO proceeding as Exhibit RPX-5. **S 5.** The Model SAM-3 was already in production and on sale in 1981, and it would have been introduced to the market at least as early as the January 1981 Housewares Show. **S 5.**

In 1988, Dazey revised the lid and vacuum system of the Vacuum Seal-A-Meal to improve the product's performance. **S 6.** The improvement had to do with the activating switches that sequenced the vacuum and sealing cycles, while the exterior appearance and the general operation of the unit remained the same. **S 6.** Dazey sold the Vacuum Seal-A-Meal Model SAM-3, until

January 1997, when Dazey was acquired by Respondent Rival. S 7. Rival continued to sell the Vacuum Seal-A-Meal for a number of years after it purchased Dazey. S 8.

A representative drawing of a top view of the Dazey Vacuum Seal-A-Meal Model SAM-3 machine appears in the Instruction and Recipe Book for that product as follows:

DAZEY VACUUM SEAL-A-MEAL 3



RX-44; FF 138.

The only element of claim 34 of the '310 patent that Complainants and Staff argue is missing from the Dazey Vacuum Seal-A-Meal machine is that portion of the "vacuum chamber" comprising

a “trough means . . . for collecting liquids and particles therein” CIB 55-56; SIB 36; CRB 25; SRB 21.⁵⁰ Also, there is no evidence in the record that the Dazey Seal-A-Meal machine utilized bags having protuberances and channels as required by the preamble of claim 34. See TEO Hearing Tr. 1157:7-1158:3. Respondents contend that these elements are furnished by an obvious combination of the Dazey Vacuum Seal-A-Meal machine with the Taunton patent. RAZIB 25-26; RRHIB 40-41; RAZRB 19-21; RRHRB 21-23. Complainants and Staff counter that the “trough means” is not added by Taunton to the combination. CIB 55-56; SIB 36; CRB 25; SRB 21.

The Dazey Vacuum Seal-A-Meal machine and the Tilia FoodSaver1/1.5 machine are almost identical to one another. See Freeman, Tr. 901:19-24; compare CPX-10 to RPX-5; compare RX-714 to RX-44; **FF 140**. As with the FoodSaver 1/1.5 machine, the Dazey Vacuum Seal-A-Meal machine has a base, a pivotal hood, a vacuum nozzle, heat sealing means and a means to seal the bag against the nozzle. Freeman, Tr. 900:23-901:7; **FF 140**. Further, the Dazey Vacuum Seal-A-Meal machine operated in much the same way as the Tilia FoodSaver1/1.5 machine. RPX-5; RX-44 at RC000058; **FF 142**.

As with the FoodSaver 1/1.5, the Dazey Vacuum Seal-A-Meal Instruction and Recipe Book contained similar cautionary language for the user:

IMPORTANT NOTE: Do not attempt to vacuum seal liquids. They [can] effectively be sealed in the conventional non-vacuum sealing method [using] the bag pegs. The Vacuum Seal-A-Meal has a drain mechanism in [case] liquids should be drawn into the vacuum orifice. If this should happen, you will hear a grinding noise as the liquid passes through and drains out of the underside vents of your appliance.

⁵⁰ As with the FoodSaver 1/1.5, Complainants identify several elements of claim 34 that are allegedly missing from the Dazey Seal-A-Meal machine, but they all include the “vacuum chamber” as an antecedent sub-element. See CIB 55-56; CRB 25. The reason why Complainants allege that all of these other elements are missing from the Dazey Seal-A-Meal is because the “vacuum chamber” is allegedly missing. See Freeman, Tr. 920:18-922:13; **FF 139**.

RX-44 at RC000058-59; **FF 143**. Thus, the same “reason,” “suggestion” and “motivation” for the person of ordinary skill in the art to eliminate the problem of clogging the vacuum pump existed for the Dazey Vacuum Seal-A-Meal as it did for the Tilia FoodSaver1/1.5.

Like the FoodSaver1/1.5, the Dazey Vacuum Seal-A-Meal machine utilized a nozzle inserted into the bag in order to evacuate the bag. RX-44 at RC000058; **FF 144**. Consequently, a person of ordinary skill in the art in the 1980s could have substituted the “trough means” of the Taunton patent for the nozzle of the Dazey Vacuum Seal-A-Meal device just as readily as could have been done with the FoodSaver1/1.5 machine. Freeman, Tr. 919:12-23; **FF 145**. Complainants and Staff have offered no counter-arguments for the Dazey Vacuum Seal-A-Meal that differ in any way from their counter-arguments for the FoodSaver 1/1.5 machine.

Accordingly, there are no differences between the invention of claim 34 of the ‘310 patent and the obvious combination of the prior-art Dazey Vacuum Seal-A-Meal machine with the Taunton patent.

Secondary Considerations

Complainants point to “secondary considerations” of copying by others and commercial success in support of the non-obviousness of claim 34 of the ‘310 patent over the references cited by Respondents. CIB 57-58; CRB 25-26. Respondents dispute those contentions. RAZRB 21-22; RRHRB 21.⁵¹

With regard to copying, Joon-Young Ahn, the CEO of ZeroPack and the person in charge of “developing technologies” for ZeroPack, testified at the TEO proceeding that he designed the Black & Decker freshGUARD machine and eliminated the nozzle from ZeroPack’s previous vacuum

⁵¹ Staff has taken no position on secondary considerations.

packaging machine design by looking at “patent drawings and figures” from Tilia’s ‘310 patent sometime in 2000. Ahn, Tr. 801:16-804:6. Also, Salvatore Siano, a product manager in the kitchen business unit of Respondent Holmes, testified to his receipt of a series of company e-mails between employees and Holmes’ in-house patent counsel that discussed the closeness of Holmes/Rival’s new Seal-A-Meal design to the patented features of Complainants’ FoodSaver machine. Siano, Tr. 535:22-537:3; CX-135C.

“[C]opying the claimed invention, rather than one in the public domain, is indicative of unobviousness.” Specialty Composites v. Cabot Corp., 845 F.2d 981, 991 (Fed. Cir. 1988); Windsurfing Int’l, Inc. v. AMF, Inc., 782 F.2d 995, 1000 (Fed. Cir.), cert. denied, 477 U.S. 905 (1986). However, Ahn also mentioned in his testimony that he did not meet with his importers about the nozzle-less freshGUARD machine design until after ZeroPack had won a patent infringement suit brought against it by Tilia under the latter’s Korean counterpart patent to the ‘310 patent.⁵² See Ahn, Tr. 803:6-15; **FF 146**. Also, the e-mails that Siano testified about imply that Holmes/Rival designers used the FoodSaver as a prototype, but do not indicate specifically that anything on the FoodSaver was copied onto the Seal-A-Meal, and there was no testimony at trial to indicate what, if anything, Holmes/Rival was doing that underpinned the e-mails. See CX-135C. What is more, copying in the industry of which Complainants are a part is not an unexpected phenomenon to Tilia;

⁵² Tilia previously used its Korean equivalent to the ‘310 patent to sue ZeroPack for infringement before the Korean Industrial Property Tribunal shortly after ZeroPack introduced a vacuum packaging machine named “SkyZeroPack.” RAZIB 56; SX-2C (ZeroPack Answer to Staff Interrogatory No. 2). Tilia obtained an injunction against further sales of the SkyZeroPack in Korea. *Id.* The decision was reconsidered and reversed by the Tribunal and the injunction against ZeroPack was lifted in March 2003. *Id.* However, counsel for Tilia has informed the undersigned in a letter dated November 10, 2003 and filed with the Commission that, on appeal to the Korean Patent Court, the Tribunal’s latter decision was reversed on October 10, 2003 and the Korean injunction has been reinstated.

as Martin Franklin, the chairman and CEO of Tilia's parent company, Jarden Corporation, testified, Tilia is a "niche company" in a "small appliance market" that "in general is a fairly commodity industry, full of different companies knocking each others' products off, toasters and waffle irons and things like that." Franklin, Tr. 157:22-158:10.

In Cable Electric Products, Inc. v. Genmark, Inc., 770 F.2d 1015 (Fed. Cir. 1985), rev'd on other grounds, Midwest Industries, Inc. v. Karavan Trailers, Inc., 175 F.3d 1356, 1358-59 (Fed. Cir. 1999), the Federal Circuit held:

It is our conclusion that more than the mere fact of copying by an accused infringer is needed to make that action significant to a determination of the obviousness issue. . . . Rather than supporting a conclusion of obviousness, copying could have occurred out of a general lack of concern for patent property, in which case it weighs neither for nor against the nonobviousness of a specific patent. It may have occurred out of contempt for the specific patent in question, only arguably demonstrating obviousness, or for the ability or willingness of the patentee financially or otherwise to enforce the patent right, which would call for deeper inquiry. Even widespread copying could weigh toward opposite conclusions, depending on the attitudes existing toward patent property and the accepted practices in the industry in question. It is simplistic to assert that copying per se should bolster the validity of a patent.

Cable Electric Products, Inc. v. Genmark, Inc., *supra*, at 1027-28. Consistent with Cable Electric Products, the evidence of copying here is inconclusive as to whether it is indicative of obviousness or not.

With regard to commercial success, Complainants claim to have "used the technology protected by the '310 Patent in its machines, created the category for home vacuum packaging machines and has enjoyed long and unchallenged and substantial commercial success in that category, with a market share [] ." CRB 26, citing Complainants' Proposed Finding of Fact CPFF 388. The evidence in the record, however, belies this rosy scenario that links Tilia's commercial success to the invention of the '310 patent.

After the FoodSaver machine that embodied the '310 patent entered the marketplace, and

[]

Graebner, Tr. 33:24-36:4; Franklin, Tr. 171:5-9; **FF 147.** [

]. Graebner, Tr.

33:24-36:12; **FF 148.** This long, slow process was described at the TEO hearing by Linda Graebner,

Tilia's president and CEO, in the following testimony:

Q. [].

A. [

]

Graebner, Tr. 33:24-36:12; **FF 149.** [

] **FF 150.**

[

FF 152.

]

Commercial success “is relevant in the obviousness context only if there is proof that the sales were a direct result of the unique characteristics of the claimed invention – as opposed to other economic and commercial factors unrelated to the quality of the patented subject matter. [citation omitted] In other words, a nexus is required between the sales and the merits of the claimed invention.” In re Huang, 100 F.3d 135, 140 (Fed. Cir. 1996). The evidence points to a great deal of hard work over a long period of time on the part of Graebner and her employees [

] not to the merits of the FoodSaver product itself. See Penetec, Inc. v. Graphic Controls Corp., 776 F.2d 309, 316 (Fed. Cir. 1985) (commercial success attributable to advertising campaign rather than to invention).

Conclusion on Obviousness

Based on the foregoing considerations, Respondents have shown that the obviousness of claim 34 of the ‘310 patent as a whole in view of the combination of either the Tilia FoodSaver1/1.5 or the Dazey Seal-A-Meal vacuum packaging machines with the Taunton patent raises a substantial question concerning validity that Complainants have not shown by sufficient evidence of “secondary

considerations” lacks substantial merit. See Genentech, supra. Accordingly, Complainants have failed to demonstrate a likelihood of success on the issue of obviousness.

3. Whether There is a Likelihood of Success on the Merits on the Issue of Inventorship

Complainants’ Position

Complainants contend that the long, unchallenged commercial success of Tilia’s products incorporating the technology of the ‘310 patent is evidence comprising a “strong showing” of validity of the ‘310 Patent. Complainants argue that they did not waive their right to show commercial success. Complainants contend that Respondents were not able to raise a “substantial question” regarding the validity of the ‘310 patent because of improper inventorship nor have they met their burden of coming forward with “clear and convincing” evidence and “clear and convincing” corroborative evidence showing that Hanns Kristen is not the inventor of the invention covered by the ‘310 patent.

Respondents’ Position

Respondents contend that Complainants were unable to meet their burden to show that Claim 34 of the ‘310 patent is not likely to be found invalid under 35 U.S.C. § 102(f) because the evidence shows that the named inventor of the ‘310 patent, Mr. Kristen, received an enabling disclosure of the subject matter of Claim 34 from someone else (Mr. Abate and/or Berkel).

Respondents contend that Complainants’ allegations of commercial success (1) are irrelevant to the issue of inventorship and (2) were waived during the discovery including in responses to interrogatories and if deposition testimony of its corporate representative.

Commission Investigative Staff's Position

Staff contends that Respondents have raised an issue regarding the inventorship of claim 34 of the '310 patent that does not lack substantial merit. Staff notes that the "Abate sketch" and certain communications regarding it raised doubts that Tilia carried its burden in the temporary relief phase of this investigation with respect to the issue of inventorship.

Discussion, Analysis and Conclusion

Hanns Kristen is the inventor named on the face of the '310 patent. Kristen, Tr. 807:6-8; CX-1; **FF 153**. Kristen is an aeronautical astronautical engineer by training, and after a career with several multinational corporations, he came to be employed by Complainant Tilia, Inc. until the year 2000. Kristen, Tr. 807:9-12, 865:8-21; **FF 154**. [

] **FF 155**. He therefore has a personal financial stake in this controversy.

Kristen was called at the hearing to testify as to the events surrounding his conception and reduction to practice of the home vacuum packaging machine invention of the '310 patent. Kristen testified that he became interested in vacuum packaging machines sometime around 1980 or 1981 when, while in South Africa, he saw a vacuum packaging machine made by an Italian company called Mefar. Kristen, Tr. 808:18-23; 809:17-20, 865:22-866:15; **FF 156**. He began thinking about a design of his own for a vacuum packaging machine, and recognized that a small vacuum pump was an important part of such a machine. Kristen, Tr. 810:14-18; **FF 157**. Kristen investigated potential sources of supplies of such vacuum pumps, which led him to Flaem Nuova, S.p.A. ("Flaem"), a

company in Brescia, Italy that manufactured such pumps for medical appliances. Kristen, Tr. 810:19-24, 811:8-10, 812:5-15; **FF 158**.

After approaching Flaem for a vacuum pump supply, Kristen looked to that company for manufacturing expertise in making a home appliance. Kristen, Tr. 812:21-24; **FF 159**. The person with whom Kristen worked at Flaem was Luigi Abate, the owner of the company. Kristen, Tr. 812:25-813:2, 869:2-10; RX-438C at p. 9 (Arbitration Tr. 369:18-20); **FF 160**. Kristen worked with Abate and Flaem to produce Tilia's first vacuum packaging machine, the FoodSaver1. Kristen, Tr. 813:3-19; RX-712; **FF 161**. The FoodSaver1 was sold in the United States around 1984 or 1985, according to Kristen's recollection. Kristen, Tr. 814:16-815:11; **FF 162**.

Flaem manufactured the FoodSaver1 and prepared the formal engineering drawings for manufacture; Kristen did not perform those tasks. Kristen, Tr. 816:20-817:817:6, 817:12-18; **FF 163**. According to Kristen, he communicated with Flaem on design through sketches, but Kristen did not save any of these documents and could not recall any individual instances of such communications with Flaem. See Kristen, Tr. 817:20-818:5, 819:21-25; **FF 164**. Although Kristen applied for and secured a U.S. patent for the plastic bag that was used in the FoodSaver1 machine, he never applied for a patent on that machine because it did not appear to him to be that innovative. Kristen, Tr. 818:6-19; **FF 165**.

Kristen, through Tilia as it was then constituted, entered into a development cooperation agreement with Flaem in 1985, and executed a new agreement in 1990. RX-215C at T030375; **FF 166**. In the 1985 and 1990 agreements, Tilia and Flaem agreed that they "jointly and separately own all ideas, developments, and other relevant information and intelligence (including certain patents) connected with the product line." RX-215C at T030375; **FF 167**. However, in the 1990 agreement,

Tilia and Flaem also declared that U.S. Patent No. 4,756,422, the so-called “bag patent,” was “the exclusive property of Tilia.” RX-215C at T030375; **FF 168**. Tilia and Flaem also agreed that a U.S. patent for a lid attachment and an Italian patent for the FoodSaver1 “are the only issued patents for vacuum technology jointly developed by Tilia and Flaem,” and that if the agreement is ever terminated, both parties “shall have the right to manufacture and sell Products containing technology taught in such patents without any royalty payments” except for one particular circumstance not relevant here. RX-215C ¶ 28, at T030382; **FF 169**. Tilia and Flaem further agreed that:

The only new invention pending in a patent application as of the date of this agreement [February 20, 1990] is in the USA and is for claims in connection with the “new generation” or “trough type” machines. Upon the issuing of a patent for this invention, Flaem shall have the right to manufacture and sell machines protected under such patent without royalty payments due Tilia in the event that this Agreement is terminated for any reason.

RX-215C ¶ 29, at T030382; **FF 170**.

During 1990-1992, Tilia and Flaem encountered disagreements about the quality of machines manufactured by Flaem and the payments made by Tilia. RX-216C ¶ 12, at p. 5; **FF 171**. In 1993, the cooperation agreement was terminated and the parties entered into a settlement agreement to deal with their post-termination differences. RX-216C ¶¶ 12-18, at pp. 5-8; **FF 172**. That agreement failed to resolve the dispute, however, and in 1998, Tilia sued Flaem in U.S. District Court for the Northern District of California. RX-216C ¶ 19, at p. 8; **FF 173**. That court ordered arbitration. RX-216C ¶ 19, at p. 8; **FF 174**.

An arbitration proceeding was commenced between Tilia and Flaem on January 25, 2000, in the International Court of Arbitration in Geneva, Switzerland, and a witness hearing was held in Geneva on April 30-May 3, 2001. RX-216C, at p. 2; **FF 175**. Subsequently, the sole arbitrator issued

his written award opinion (the “Award Sentence”) on January 14, 2002. RX-216C; **FF 176**. In the Award Sentence, the arbitrator characterized the dispute as follows:

The case is about whether Flaem has a right to practice the ‘310 Patent. Since that patent is held by Tilia, Flaem’s right would have to result either from a license or some co-ownership right. The central issue is whether or not the Settlement Agreement, in particular its Clauses 2 and 6, put an end to Flaem’s post-termination royalty-free license of the ‘310 Patent, as provided for in Clause 29 of the 1990 Agreement. Flaem further asserts that it co-owns the technology, including that protected by the ‘310 Patent.

RX-216C Art. C, at p. 9; **FF 177**. In resolving this dispute, the arbitrator found, *inter alia*, as follows:

Co-ownership of the technology. The above finding does not touch on the ownership of the ‘310 Patent. It is because Mr. Kristen alone applied for, and was granted, the ‘310 Patent that the parties had to provide for the royalty-free license in favor of Flaem. At the time of the discovery and of the development of the trough system, the parties were still living under the 1985 Agreement, which provided for shared ownership of joint developments; [footnote omitted] in addition, Flaem appeared to have had a major role in developing the trough system, to say the least. [footnote: “As evidence *inter alia* by Flaem’s letter of November 19, 1997 and the sketch by Mr. Luigi Abate.” (of which more later)] Regarding the ‘310 Patent, the parties appear to have chosen, not a co-ownership of the patent, but instead a royalty-free license for Flaem. This is not an unusual arrangement when one of the two joint venture partners obtains a patent over a jointly developed technology. This arrangement precludes me from declaring that the ‘310 Patent is jointly owned by Flaem at least as a matter of Swiss contract law.

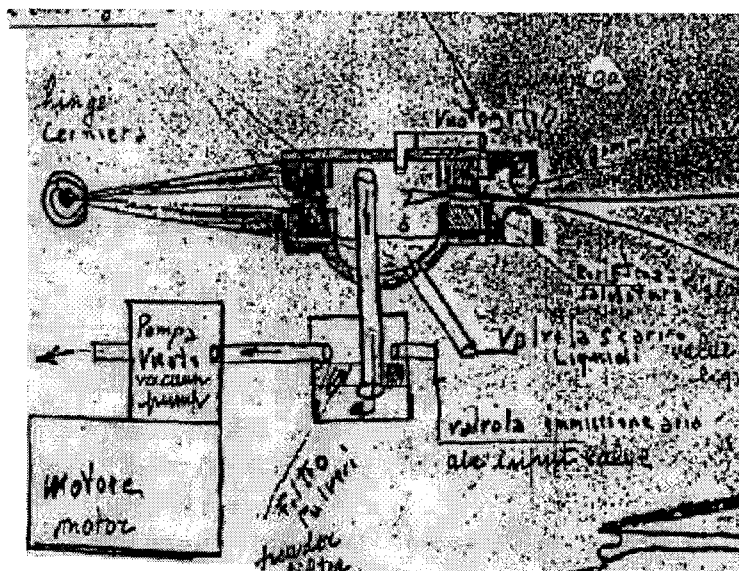
RX-216C ¶ 40, at p. 16; **FF 178**.

In lieu of offering live testimony from Abate or any other employee of Flaem at the TEO proceeding, all of whom reside in Italy beyond the subpoena power of the Commission, the parties designated and counter-designated portions of the transcript of sworn testimony of Abate and other Flaem employees that was taken during the arbitration proceeding. RX-563C; RX-564C; RX-565C; CX-134C; *see* Order No. 31 (October 20, 2003). In that hearing, Abate testified that while he was

working on the development of the FoodSaver¹, he learned of a machine manufactured by a company named Berkel that could vacuum-package smooth, folded bags. See RX-563C at p. 7 (Arbitration Tr. 358:13-359:4); **FF 179**. Abate went to Berkel to view the machine, which was much bigger than the household appliance he was developing with Kristen and was made of stainless steel for commercial uses. See RX-563C at p. 7 (Arbitration Tr. 360:2-6); **FF 180**. Abate bought the Berkel machine, took it back to Flaem, sketched a drawing to show how it worked, and had the drawing sent to Kristen in the United States. See RX-563C at pp. 7 and 10 (Arbitration Tr. 360:14-25, 379:4-12); **FF 181**. The sketch was faxed to Kristen in a letter dated November 19, 1987 from a Flaem marketing consultant named Grazia (the “Grazia letter”). Kristen, Tr. 823:19-824:15; RX-563C at pp. 10-11 (Arbitration Tr. 381:24-382:25); RX-438; **FF 182**.

According to Abate’s testimony, the Berkel machine had a trough for collecting liquids and particles that Abate copied onto his drawing for Kristen. See CX-134C at pp. 6-7 (Arbitration Tr. 368:7-9, 373:1-21, 374:14-24); **FF 183**. On his sketch to Kristen, Abate drew a trough that was equipped with a vacuum pipe connected to the bottom of the trough, that rose above the level of liquids and particles collecting in the trough, and by that means avoided sucking the liquids and particles into the vacuum motor connected to the pipe. See CX-134C at p. 7 (Arbitration Tr. 368:19-369:1, 376:18-377:21); **FF 184**.

In his sketch for Kristen, Abate depicted a trough holding a bag that had liquid was dripping from the bag’s mouth into the trough, and also showed the upright vacuum pipe opening above the liquid level and connecting to a vacuum filter and pump as follows:



Abate Sketch (RX-438)

RX-438; FF 185.

At one point in his testimony before the Swiss arbitrator, Abate stated that he did not invent the trough shown in this sketch, but instead took it from the existing Berkel machine and built it into his own prototype. See CX-134C at p. 7 (Arbitration Tr. 374:17-24); FF 186. At another point, however, Abate said that the drawings do not wholly represent Berkel; that instead “[t]here is a bit of the Berkel but also a bit of our idea and the way we wanted to do it.” See RX-563C at p. 11 (Arbitration Tr. 384:2-10); FF 187. In particular, Abate stated, the formation of a curved surface creating a trough was his idea, whereas the lower surface of the trough of the Berkel machine was flat. See RX-563C at p. 11 (Arbitration Tr. 384:15-385:1); FF 188. Also, Abate noted, instead of the Berkel machine’s vacuum intake on the bottom of the trough as shown in the sketch, his prototype for Tilia was designed with the vacuum intake on the top of the vacuum chamber. See RX-563C at p. 9 (Arbitration Tr. 368:19-369:7); CX-134C at p. 7 (Arbitration Tr. 376:18-24); FF 189.

In response to the November 19, 1987 Grazia letter, Kristen wrote back by fax dated November 20, 1987 (the “Kristen letter”). Kristen, Tr. 827:9-25; RX-439; **FF 190**. The first page of the Kristen letter is marked “URGENT.” RX-439; **FF 191**. According to Kristen, this “urgent” indicator referred to an order for 250 “small lid attachments” that he was placing with Flaem. RX-439; Kristen, Tr. 835:9-12, 864:20-865:7; **FF 192**.

Among other statements in the letter, Kristen made the following comment:

I have studied your faxes and the Flaem drawings and I am excited about the new ideas. I think this new concept may cause us to rethink our marketing strategies.

Kristen, Tr. 828:7-12; RX-439; **FF 193**. Kristen also stated in the letter:

I understand the new vacuum method and think it is marvelous. I hope it is not patented by Berkel!⁵³ The folded bag design is interesting but I’m not sure it will work well for wet or liquid foods. There are always air pockets which will not get to the edges where the bag is folded, and it is along these folds that the air gets out of the folded bag into the machine.

Kristen, Tr. 829:7-19; RX-439; **FF 194**. When asked by counsel for Respondents at trial why he referred to Berkel in this passage, Kristen had no idea. Kristen, Tr. 832:3-5; **FF 195**. Upon further questioning from the undersigned, however, Kristen stated that this passage did not refer to the Abate sketch, but referred instead to a concept shown in a different drawing in the Grazia letter for using the vacuum cylinder to close the hood. Kristen, Tr. 832:14-833:23 RX-439; **FF 196**. This concept of using the vacuum cylinder to close the hood excited Kristen, he further testified, because it allowed a user to operate the machine without getting dirty hands or getting food on the bags. Kristen, Tr. 833:13-23; **FF 197**. Nevertheless, Kristen further noted at trial, he was “not quite sure what I’m referring to where here.” Kristen, Tr. 834:10-11; **FF 198**.

⁵³ In the arbitration transcript, the attorneys for the parties noted the presence of an exclamation point at this location in the letter. See CX-134C (Arbitration Tr. 400:12-18); **FF 194**.

Kirsten further stated in his letter to Grazia:

I am excited about the liquid and dust separation technique of the new system. And the big volume of the liquid that can be trapped in the chamber.

Kristen, Tr. 842:20-24; RX-439; **FF 199**. Here, Kristen claimed at trial, he was referring to the trough, to a diagonal pipe for removing liquids from the trough that is shown in the Abate sketch as emanating from the lower right side of the trough, and also to a vertical pipe emanating from the bottom of the trough and ending in a "powder filter," that separates the liquids from the powders instead of having them all end up in the same place. Kristen, Tr. 842:25-844:17; **FF 200**.

At the arbitration proceeding, Abate testified that he received the Kristen letter a few days after it was sent and that Kristen came to Flaem a few days later to view the Berkel machine and Abate's newly-designed prototype. See Kristen, Tr. 835:21-24; RX-563C at pp. 7 and 10 (Arbitration Tr. 361:1-4, 379:25-380:10); **FF 201**. Abate further testified that he understood Kristen's elation with the design to center on the trough and the gaskets surrounding the bag. See RX-563C at p. 10 (Arbitration Tr. 380:11-23); **FF 202**. Abate's testimony was supported at the arbitration proceeding by the testimony of two other Flaem employees, Ezio Breda and Franco Aiolfi. See RX-564 (Breda); RX-565 (Aiolfi); **FF 203**.

When Kristen filed his patent application that matured into the '310 patent, he believed that the vacuum chamber design with the trough for collecting liquids and particles was an important feature of his invention. Kristen, Tr. 820:11-24; **FF 204**. However, Kristen denied that Abate is the inventor of the trough concept or any other technology in the '310 patent. Kristen, Tr. 872:14-873:2; **FF 205**. Kristen further testified that he had conceived of the trough element at a lunchtime conversation with Abate before receiving Abate's sketch. See Kristen, Tr. 846:20-25, 871:12-872:13;

FF 206. However, Kristen has not retained any records of sketches or other correspondence corroborating his earlier conception of this element, including in particular a restaurant napkin on which he claims to have sketched the trough design during the lunch with Abate. Kristen, Tr. 847:9-18; **FF 207.**

Kristen further testified that in the 10 years or more following the invention of the '310 patent, Abate and Flaem never challenged Kristen's sole inventorship until the Swiss arbitration proceeding commenced. Kristen, Tr. 873:20-874:6; **FF 208.** Both Kristen at the TEO hearing and Abate at the arbitration proceeding testified that they had no concerns about the marketing or patenting of the vacuum packaging machine invention by the other, because both were bound by contracts. See Kristen, Tr. 853:3-854:17; CX-134C at pp. 3 and 5 (Arbitration Tr. 356:2-357:6; 367:12-368:5); **FF 209.**

The evidence presented by both sides on the inventorship issue suffers from several serious flaws. Kristen, as the only inventor named on the '310 patent, is presumed to be the true and only inventor. See Hess v. Advanced Cardiovascular Systems, Inc., 106 F.3d 976, 980 (Fed. Cir.), cert. denied, 520 U.S. 1277 (1997) ("Hess"). The credibility of his trial testimony, however, was weakened by his financial self-interest in the Complainants as well as by his testimony's vagueness, contradiction and total lack of corroboration. On the other hand, Abate's testimony before the Swiss arbitrator, although corroborated with documents, presents only a cold record before the undersigned because neither Abate nor the other two Flaem employees who supported his testimony at the arbitration proceeding appeared here in person.⁵⁴ What is more, Abate's assertions of inventorship

⁵⁴ Of course, there is probably still time for purposes of the full investigation for Respondents to obtain more direct testimony and documentation from Abate by invoking the discovery procedures of the Hague (continued...)

at the arbitration proceeding came 10 years after the fact and there is no evidence of any dispute over inventorship between Kristen and Abate that occurred beforehand.⁵⁵ Like Kristen's testimony, Abate's testimony similarly suffers from the vagueness, contradictions and financial self-interest, and the authenticity of the corroborating documentation is open to question.⁵⁶

Over a century ago, the Supreme Court noted that "the very fact . . . that almost every important patent, from the cotton gin of Whitney to the one under consideration, has been attacked by the testimony of witnesses who imagined they had made similar discoveries long before the patentee had claimed to have invented his device, has tended to throw a certain amount of discredit upon all that class of evidence, and to demand that it be subjected to the closest scrutiny." The

⁵⁴ (...continued)
Convention. See Order No. 31 at 6 (October 20, 2003).

⁵⁵ In this connection, Complainants raise a defense of "equitable estoppel" by reason of "laches" as a result of Abate's having waited 10 years from the issuance of the '310 patent to the date of the arbitration to raise the issue of inventorship. CIB 51-52; CRB 24-25. Respondents reply laches is not bar to their invalidity defense because Flaem was never told of Kristen's filing of the application that matured into the '310 patent, but it should bar Tilia from employing the remedy of correcting inventorship under 35 U.S.C. § 256 once their defense is established. RAZRB 18-19; RRHRB 26. The defense of equitable estoppel by reason of laches is indeed available to a patentholder to bar a claim of co-ownership that has been brought only after unreasonable and inexcusable delay. See MCV, Inc. v. King-Seeley Thermos Co., 870 F.2d 1568, 1571 (Fed. Cir. 1989). However, in order for a party to raise this defense, the delaying party must have been the opposing party-in-suit, not a third party to the action. See Lee's Aquarium & Pet Products, Inc. v. Python Pet Products, Inc., 951 F.Supp. 1469, 1482-83 (S.D. Cal. 1997) (under Federal Circuit law, plaintiff patentholder's delay in suing an infringing non-party to present suit cannot be asserted by defendant as equitable defense of laches against plaintiff). Accordingly, Complainants' laches argument is without merit.

⁵⁶ At trial, Kristen never fully vouched for the authenticity of the Grazia letter or even his own reply letter, although he commented on both of them. See, e.g., Kristen, Tr. 823:19-824:21; 827:9-828:3, 834:1-835:4; RX-438; RX-439. Even at the Swiss arbitration, when Tilia's counsel introduced the letters to Abate, who was unable to read them because they are in English rather than Italian, Tilia's counsel did nothing to lay a foundation as to their authenticity. See RX-563C (Arbitration Tr. 381:8-383:7). The undersigned also noted during trial that the Kristen letter appeared to be in poor condition. See Trial Tr. 836:19-838:23; RX-439. Counsel for Tilia remarked that both letters were provided to Tilia in the same condition during the Swiss arbitration proceeding and, as is typical in such proceedings, there was no prior discovery. See Trial Tr. 837:18-23.

Barbed Wire Patent, 143 U.S. 275, 284-85 (1892). As the Federal Circuit more recently pointed out in Sandt Technology, Ltd. v. Resco Metal and Plastics Corp., 264 F.3d 1344 (Fed. Cir. 2001), the use of such evidence to call a patent's inventorship into question is inherently unreliable:

Documentary or physical evidence that is made contemporaneously with the inventive process provides the most reliable proof that the inventor's testimony has been corroborated. [Citation omitted]. Because documentary or physical evidence is created at the time of conception or reduction to practice, the risk of litigation-inspired fabrication or exaggeration is eliminated. Circumstantial evidence about the inventive process, alone, may also corroborate. [Citation omitted]. Additionally, oral testimony of someone other than the alleged inventor may corroborate an inventor's testimony. [Citation omitted]. In contrast to contemporaneous documentary evidence, however, post-invention oral testimony is more suspect, as there is more of a risk that the witness may have a litigation-inspired motive to corroborate the inventor's testimony, and that the testimony may be inaccurate.

Id., 264 F.3d at 1350-51 (emphasis added). The low credibility attributable to such oral testimony casts considerable doubt upon Respondents' challenge to the inventorship of the '310 patent based on Abate's statements to the Swiss arbitrator.

The 1990 agreement and the Swiss arbitrator's Award Sentence do nothing more to shed light on the inventorship issue. The 1990 agreement, like the 1985 agreement before it, indicates that Tilia and Flaem "jointly and separately own all ideas, developments, and all other relevant information and intelligence (including certain patents)," but at the same time the 1990 agreement declares that the bag patent is "the exclusive property of Tilia." It also grants Flaem "the right to manufacture and sell machines protected under [the '310 patent] without royalty payments due Tilia" if the agreement is terminated, which sounds a lot like a license to Flaem of a patent that is owned by Tilia without expressly saying so. The Swiss arbitrator, in his Award Sentence, made a point of staying far away from the issue of who owns the '310 patent, although he went so far as to say that "Flaem appeared to have had a major role in developing the trough system, to say the least," which

sounds a lot like a belief on his part that Abate had some inventive role. Nevertheless, he pointed out that "the parties appear to have chosen, not a co-ownership of the patent, but instead a royalty-free license for Flaem" which "precludes me from declaring that the '310 Patent is jointly owned by Flaem at least as a matter of Swiss contract law." That statement is anything but an endorsement of Abate as a co-inventor of the '310 patent.

In any event, as already pointed out here in connection with jurisdiction, "[q]uestions of patent ownership are distinct from questions of inventorship." Ethicon II, supra, 135 F.3d at 1465. "[I]nventorship is a question of who actually invented the subject matter claimed in a patent. Ownership, however, is a question of who owns legal title to the subject matter claimed in a patent, patents having the attributes of personal property." Beech Aircraft, supra. "[W]ho ultimately possesses ownership rights in that subject matter has no bearing whatsoever on the question of who actually invented that subject matter." Id. Thus, the agreements and arbitration award that contractually allocate ownership rights to the technology of the '310 patent in various ways between Tilia and Flaem shed no light whatsoever on who constitutes an "inventor" of the '310 patent.

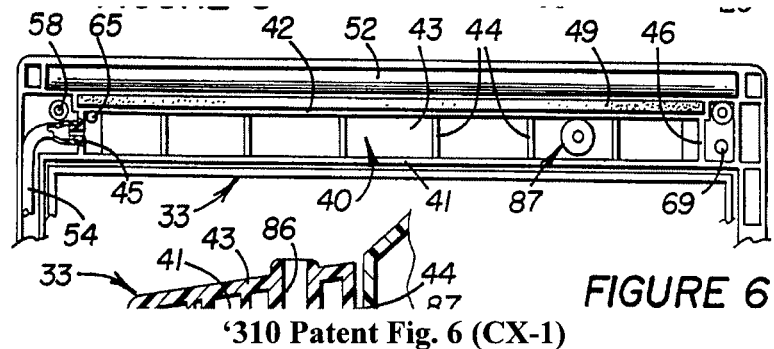
In connection with the indicia of inventorship itself, Respondents' purported "corroboration" of Abate's testimony in the form of his sketch that he sent to Kristen is also fraught with problems and inconsistencies. There is no dispute that Kristen received the sketch and that Kristen believes that it depicts the invention of the '310 patent. See Kristen, Tr. 891:1-8; **FF 210**. There is no evidence to deny that one of ordinary skill in the art would be enabled to make the invention of the '310 patent with the Abate sketch in hand. Eaton, supra ("The communication must be sufficient to enable one of ordinary skill in the art to make the patented invention."). However, the evidence is not at all clear whether or to what degree the sketch depicts the purported "Berkel machine" (which

no one has produced to this Court) or Abate's own ideas. Abate's own testimony on this point is contradictory. See CX-134C at p. 7 (Arbitration Tr. 374:17-24); RX-563C at p. 11 (Arbitration Tr. 384:2-10). Even if the Abate sketch were sufficient to prove that the "trough means" of claim 34 was indeed "invented by another" -- either "Berkel" (assuming that person to be a natural one and not a corporate "person")⁵⁷ or Abate -- and was therefore invalid under 35 U.S.C. § 102(f), there is no evidence to prove, clearly and convincingly, that Abate himself is the one who conceived the "trough means" shown in that sketch and is therefore a "co-inventor" of the '310 patent. It is conception that is "the touchstone of inventorship." Burroughs Wellcome Co. v. Barr Laboratories, Inc., supra. "One who simply provides the inventor with well-known principles or explains the state of the art without ever having 'a firm and definite idea' of the claimed combination as a whole does not qualify as a joint inventor." Ethicon II, supra, 135 F.3d at 1460.

The doubts lingering around the Abate sketch are further exasperated by the fact that the purported "trough means" structure depicted therein is not duplicated by any embodiment that is depicted in the '310 patent itself. The sketch indeed shows a structure that performs the claimed function of the "trough means . . . for collecting liquids and particles," as Kristen admitted at the TEO proceeding (Kristen, Tr. 891:1-8), but if that sketch was indeed the wellspring of the "trough means," the structure disclosed in the '310 patent underwent considerably more refinement after this alleged communication was made to Kristen in November 1987. Most notably, the vacuum tube of the Abate sketch comes up through the bottom of the trough and rises high enough to clear the liquids and particles that gather in the trough. See RX-438; **FF 211**. In the "trough means" disclosed

⁵⁷ Only a natural person, not a corporate "person," can be an inventor on a U.S. patent. Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993).

in the '310 patent, by contrast, the vacuum tube (identified as item 54) enters the vacuum chamber through the top of the chamber of which the trough is a part, not the bottom of the trough, as shown in Figure 6 of the patent:



See CX-1 ('310 patent, Fig. 6); **FF 212**.⁵⁸ During the arbitration proceeding, Abate himself made a point of noting this distinction between the device that he sketched and the Tilia machine. See RX-563C at p. 9 (Arbitration Tr. 368:19-369:7); CX-134C at p. 7 (Arbitration Tr. 376:18-24); **FF 214**. There is no evidence in the record other than the presumption that Kristen conceived of this structure in the patent. Given this failure of Abate's sketch to depict the "trough means" element of the invention "as it is hereafter to be applied in practice," see Hybritech, supra, more evidence is needed at the very least to prove that Abate, not Kristen, is the progenitor of the "trough means" and thus deserves to be considered a co-inventor of the '310 patent.

The evidence is inconclusive as to whether the structure of the Abate sketch is structurally equivalent to the trough structure disclosed in the '310 patent in view of one skilled in the art. Kristen admitted on the witness stand that the Abate sketch depicts the invention of claim 34. See

⁵⁸ The same is true for the alternative embodiment shown in Figure 11 of the '310 patent (identified as item 54a). See CX-1 ('310 patent, Fig. 11); **FF 213**.

Kristen, Tr. 891:1-8. On the other hand, Abate distinguished the sketch from the invention on the basis of the location of the vacuum tube, suggesting that the two are not the same. See RX-563C at p. 9 (Arbitration Tr. 368:19-369:7); CX-134C at p. 7 (Arbitration Tr. 376:18-24). If both men are co-inventors, as Respondents purport them to be, then there is no reason to credit the testimony of one over the testimony of the other on this point.⁵⁹

The undersigned interprets the requirement for temporary relief that a Respondent "raise[] a substantial question concerning validity, enforceability, or infringement" to mean that Respondents must present credible evidence on the issues that are central to or have a major impact on the investigation; i.e., validity, enforceability, and infringement. See Genentech, supra, 108 F.3d at 1364. This raising of "a substantial question" does not mean, however, that Respondents must do so by producing a "substantial" evidence quantum of proof. Were such a quantum of proof the standard, then Respondents here, just like Complainants in rebuttal as discussed infra, would have have failed to offer "substantial" evidence regarding derivation. On the other hand, once a Respondent has raised a substantive issue supported by credible evidence, Complainants must rebut this defense by "show[ing] [it] lacks substantial merit." Genentech, supra. This burden of going forward, as shifted to Complainants, does entail a "substantial" evidence quantum of proof justifying injunctive relief.

⁵⁹ During the Markman hearing on claim construction, the parties argued about whether the "evacuation means" element of claim 34 required the vacuum tube from the vacuum chamber to the vacuum pump to be located in the hood. See p. 99 supra. It was determined that, for claim construction purposes, there is no restriction of the "evacuation means" in connection with the location of the tube that connects the vacuum pump to the vacuum chamber. See p. 99 supra. Even though this construction means that, for purposes of the scope of the "evacuation means" element of claim 34, there is no difference between a vacuum tube that is located in the hood and one that is located in the base, it has no bearing on the issue of who "contributed" the "trough means" element to the invention of claim 34 for the purpose of determining inventorship, nor does it have any bearing on whether, under 35 U.S.C. § 102(f), the "trough means" was derived from an enabling disclosure that was communicated to the named inventor by another. As to those issues, the location of the vacuum tube in the hood as opposed to the base indeed plays a role in ascertaining who the real inventor of the "trough means" is.

Here, all told, the evidence of record on inventorship leads to the conclusion that Respondents and Staff have, at the very least, raised a "substantial question" of invalidity in connection with claim 34 of the '310 patent by reason of derivation of the invention from another pursuant to 35 U.S.C. § 102(f). Complainants, at this juncture, have not met their "substantial evidence" test of showing that Respondents and Staff will fail on that question. More facts underpinning the issue of derivation must be gleaned through discovery and further explored in connection with permanent relief, hopefully with live testimony from Abate and further documentary and physical evidence of the source and scope of his work on the '310 patent.

On the other hand, the evidence of record at this juncture is too murky to conclude confidently that the trail of derivation leads directly to Abate as a co-inventor of the '310 patent. In the absence of more and better evidence, that issue, Complainants have shown, will fail.

E. Enforceability: Whether There Is a Likelihood of Success on the Merits on the Issue of Enforceability

Complainants' Position

Complainants contend that Respondents have failed to demonstrate inequitable conduct with "clear and convincing" evidence of an intent to deceive on the part of the inventor, Hanns Kristen; that Respondents have failed to establish by "clear and convincing" evidence that Mr. Kristen's truthful disclosure of the Taunton Patent was misleading, untruthful, or otherwise constituted inequitable conduct; that Respondents have failed to establish the materiality of the FoodSaver1 machine by "clear and convincing" evidence; and that Respondents have failed to come forward with "clear and convincing" evidence that the identification of Mr. Kristen as the inventor of the '310 Patent was misleading, untruthful, or otherwise constituted inequitable conduct.

Respondents' Position

Respondents contend that Complainants have failed to show that the '310 patent is enforceable in light of the following: (1) false and misleading statements (and omissions) made by Mr. Kristen to the Patent Office in support of patentability; (2) Mr. Kristen's failure to name Mr. Abate as an inventor; (3) Mr. Kristen's failure to disclose to the Patent Office his derivation of the invention from Mr. Abate; and (4) Mr. Kristen's failure to disclose material prior art to the Patent Office – namely, the Berkel machine and/or the FoodSaver1.

Commission Investigative Staff's Position

The Staff argues that Tilia has carried its burden of establishing that the '310 patent is not unenforceable on the grounds that Mr. Kristen either misled the examiner or withheld material prior art from the examiner. The Staff argues that Mr. Kristen's statements regarding the prior art were not so misleading that the examiner could not make his own decisions regarding the art before him. The Staff also argues that the prior art Mr. Kristen did not mention was cumulative of that already before the examiner.

Staff also contends that Respondents' allegation that inequitable conduct occurred because Mr. Kristen failed to disclose Mr. Abate's role in the development of the invention has "substantial merit" so as to preclude the issuance of temporary relief.

Discussion, Analysis and Conclusion

Respondents contend that the '310 patent is unenforceable for inequitable conduct because the inventor and his patent prosecution attorney did not disclose to the PTO Examiner the existence of the prior-art FoodSaver 1/1.5, and because they did not disclose that Luigi Abate was a co-inventor. RAZIB 26-31; RRHIB 42-47; RAZRB 22-26; RRHRB 27-29. Complainants and Staff

contend that the '310 patent is enforceable because the FoodSaver 1/1.5 was disclosed in column 1 of the '310 patent specification and, in any event, is merely cumulative of other prior art that was already before the Examiner during prosecution. CIB 58-59; SIB 39-40; CRB 27-28; SRB 25-27. Complainants and Staff also argue that the '310 patent is enforceable because Abate was not really a co-inventor. CIB60-61; SRB 40; CRB 29-30; SRB 24-25.

It was ruled earlier in this Initial Determination that there has not yet been any clear and convincing showing in this TEO proceeding that Luigi Abate is a co-inventor of the '310 patent. Consequently, there has not been any adequate showing of inequitable conduct arising from the PTO not being told during prosecution that Abate was a co-inventor.

Concerning the fact that the PTO was not informed of the prior-art FoodSaver 1/1.5 machine during prosecution, information is material if there is a substantial likelihood that a reasonable examiner would have considered it relevant in deciding to issue a patent. Molins PLC v. Textron, 48 F.3d 1172, 1179 n.8 (Fed. Cir. 1995). Kristen's testimony at the TEO hearing does not credibly support Complainants' argument that either he or his prosecuting attorney informed the PTO about this device. See Kristen, Tr. 820:25-823:18; **FF 215**. As has already been determined in this Initial Determination, the FoodSaver 1/1.5 machine possessed every element of claim 34 of the '310 patent except the "vacuum chamber comprising trough means" element. See pp. 165-68, supra. That element, as has also been determined herein, was readily supplied by the Taunton patent reference that the PTO Examiner did see. See pp. 167-68, supra. Kristen's disclosure of the "conventional vacuum sealing system us[ing] a vacuum nozzle that is inserted within a plastic bag for evacuation purposes" in column 1 of the '310 patent specification does not adequately describe by itself all of the features of the FoodSaver 1/1.5 machine that satisfy the elements of claim 34 other than the

"vacuum chamber comprising trough means" component. See CX-1 ('310 patent, col. 1:21-31); **FF 216**.

However, it is not inequitable conduct if an applicant fails to inform the PTO of prior art that is merely cumulative of prior art that is already before the Examiner. Jazz Photo Corp. v. International Trade Commission, 264 F.3d 1094, 1109-10 (Fed. Cir. 2001) ("failure to cite cumulative references is not inequitable conduct"). In this regard, Staff argues that the details of nozzle-type devices like the FoodSaver1/1.5 were known to the Examiner during the prosecution of the '310 patent's application. SRB 26-27. Specifically, during the prosecution, the Examiner identified U.S. Patent No. 4,561,925 to Skerjanec et al. ("the '925 patent"). See CX-2 (Notice of References Cited dated December 12, 1989); **FF 217**. The Skerjanec patent is entitled "Foil Welding Device." See CX-3 at p. 89 ('925 patent, first page); **FF 218**. This device is described in the '925 patent as follows:

The present invention pertains to a foil welding device, i.e., a device for welding thermoplastic foil bags intended for storing food. The welding device is intended for use in the household and enables the suction of air from the prior bags [sic: bags prior] to welding.

CX-3 at p. 94 ('925 patent, col. 1:4-8); **FF 219**. The specification of the '925 patent discloses a nozzle-type vacuum packaging device for evacuating only the open end of a "thermoplastic foil bag."

CX-3 at pp. 93-94 ('925 patent, col. 2:63-66; Fig. 5); **FF 220**. It also discloses the functions of evacuating and sealing such a bag. Id. at p. 95 ('925 patent, col. 3:29-37); **FF 221**. This device also has a hood pivotally mounted on the base. Id. at pp. 90 and 94 ('925 patent, col. 2:20-21; Fig. 1); **FF 222**. An overall view of the device is shown in Figure 1 of the '925 patent as follows:

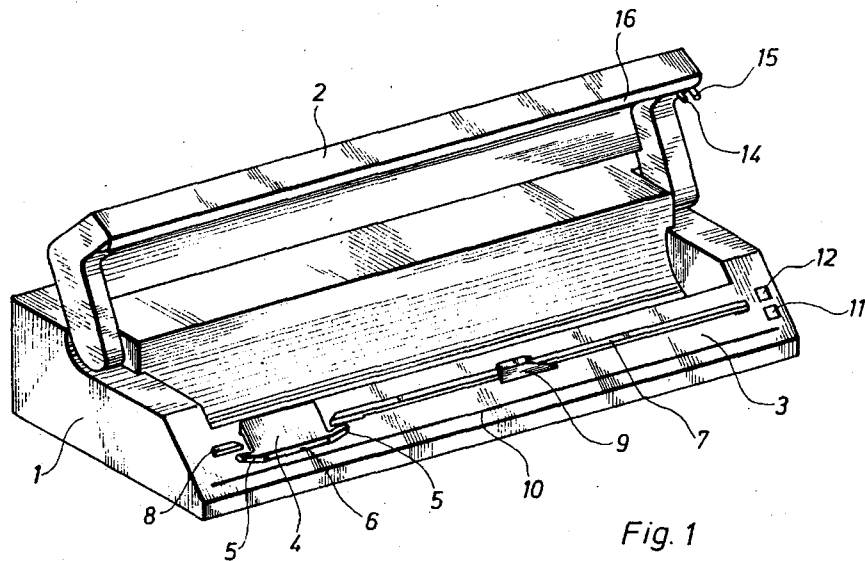


Fig. 1

CX-3 at p. 90 ('925 patent, Fig. 1); **FF 223**. The device of the '925 patent utilizes a nozzle 4 to receive the open end of a bag that attaches underneath and over the nozzle, and after the bag is filled, a "strainer 9" stretches the open end D of the bag over the length of the front of the device and across the heat-sealing wire 10:

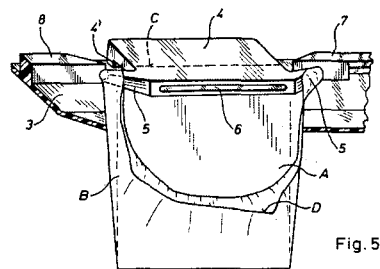


Fig. 5

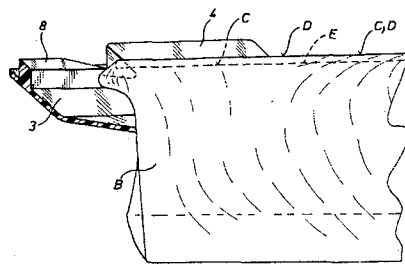


Fig. 6

CX-3 at p. 93 ('925 patent, Figs. 5 and 6); **FF 224**. When the hood 2 is closed over the bag, the nozzle evacuates the bag and the heat-sealing wire seals the bag shut. CX-3 at p. 94 ('925 patent, col. 2:56-3:37); **FF 225**.

The '925 patent discloses many features of the invention of the '310 patent, but it is lacking in three claimed elements: the "plastic bag having overlying first and second panels defining an evacuative chamber," the "trough means," and the "static seal means." See CX-3 at p. 93 ('925 patent, Figs. 5 and 6); **FF 226**. Those elements, it has already been determined herein, were present in the Taunton patent, which was also before the Examiner. See pp. 147-54 *supra*. Thus, disclosing the FoodSaver1/1.5 machine to the PTO during prosecution would have been merely cumulative of prior art that was already before the Examiner on all elements of claim 34, and the FoodSaver1/1.5, therefore, is not material prior art for inequitable conduct purposes.⁶⁰

⁶⁰ Respondents argue that the FoodSaver1/1.5 machine included several features that the prosecuting attorney on the '310 patent application argued to the PTO Examiner were distinctions between the claimed invention and the prior art Giraudi and Day patents that were cited by the Examiner as the bases for his initial obviousness rejection. RAZRB 23-24; citing CX-2 ('310 patent prosecution history at p. 59). Consequently, Respondents contend, the FoodSaver1/1.5 machine should not have been withheld from the Examiner because it undermines the arguments for patentability advanced by the prosecuting attorney. RAZRB 23, citing *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1256-58 (Fed. Cir. 1997) and *LaBounty Mfg., Inc. v. U.S.I.T.C.*, 958 F.2d 1066-1076-77 (Fed. Cir. 1992). However, the '925 patent discloses the same features. Thus, it appears that the Examiner simply did not act on all of the prior art that he had before him to finally reject claim 34 on obviousness grounds, and the FoodSaver1/1.5 would have been merely cumulative of that prior art.

The fact that the undersigned has found the '310 patent to be obvious in view of the FoodSaver1/1.5 and the Taunton patent does not mean by itself that the FoodSaver1/1.5 is not cumulative. Under the rules of inequitable conduct, the standard of materiality for undisclosed prior art is what a reasonable Examiner would have considered material, not what the particular Examiner who processed the '310 patent actually did. See *Molins PLC v. Textron, Inc.* 48 F.3d 1172, 1179 (Fed. Cir. 1995) ("[T]he standard to be applied in determining whether a reference is 'material' is not whether the particular examiner of the application at issue considered the reference to be important; rather, it is that of a 'reasonable examiner.'"). Notwithstanding the
(continued...)

With regard to the requirement of intent to deceive, direct evidence of intent is not necessary because it rarely exists. Lipman v. Dickinson, 174 F.3d 1363, 1370 (Fed. Cir. 1999). Instead, intent may be inferred from the surrounding circumstances. LaBounty Mfg. Inc. v. United States International Trade Commission, 958 F.2d 1066, 1076 (Fed. Cir. 1992). Where the level of materiality is high, the inventor cannot simply deny an intent to mislead; some evidence of good faith is needed. FMC Corp. v. Manitowoc Co., Inc., 835 F.2d 1411, 1416 (Fed. Cir. 1987). Close cases should be resolved by disclosure to the examiner, not unilaterally by the applicant. Critikon v. Becton Dickinson Vascular Access, Inc., 120 F.3d 1253, 1257 (Fed. Cir. 1997). This, however, is not a close case because the materiality of the FoodSaver1/1.5 in view of the disclosure of the '925 patent is very low, and there is insufficient evidence to show that the intent to deceive was present.

For the foregoing reasons, the applicant's failure to disclose the FoodSaver1/1.5 machine did not constitute inequitable conduct. Accordingly, Respondents have not presented sufficient evidence at this juncture to raise a substantial question concerning unenforceability, and Complainants have shown that Respondents' attack on the enforceability of the '310 patent would fail.

III. Irreparable Harm: Whether Complainants' Domestic Industry Will Be Irreparably Harmed by Respondents' Entry Into the Market in the Absence of Temporary Relief

Complainants' Position

Complainants contend first that irreparable harm to their domestic industry in the absence of temporary relief is presumed as a matter of law from Complainants' "strong showing" both of the

⁶⁰ (...continued)

lack of an obviousness rejection by the Examiner of the '310 patent on the grounds of the '925 patent and the Taunton patent, the objective standard of the "reasonable" Examiner requires an assessment of the surrounding circumstances which, in this instance, point to sufficient similarity between the FoodSaver1/1.5 and the '925 patent to have made the former cumulative of the latter.

validity of, and of the infringement by either or both Respondents of, Tilia's '310 Patent. According to Complainants, Respondents have failed to establish any of the three "exceptions" defined by the Federal Circuit that rebut the presumption or prevent it from arising (lack of future infringement by Respondents, a pattern of licensing the '310 Patent by Complainants, or an unreasonable delay by Complainants in initiating this Investigation), in large part for the reasons given in Order No. 10 (Sept. 23, 2003) (Denying Respondents Applica and ZeroPack's motion for Summary Determination of Irreparable Harm).

Complainants contend that even in the absence of the presumption of irreparable harm, irreparable harm to their domestic industry from Respondents' entry into the market has been proved from [

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[

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The above analysis applies equally to either or both Respondents.

In response to Respondents' contention that there may be other factors that account for Tilia's current economic condition, Tilia argues that the possibility of other factors having an effect is not an adequate defense as a matter of law. Further, Tilia contends that none of these factors, nor all of them in aggregate, negate the possibility of harm from Respondents' infringing sales.

Complainants also contend that irreparable harm would result from either Respondent's continued presence in the market in the TEO period.

Respondents' Position

Respondents contend that irreparable harm cannot be presumed here. Respondents contend that Complainants have not made a strong showing of validity, enforceability, or infringement. Rather, Respondents have raised substantial issues of fact and law on each of these issues. Hence, they claim that Tilia is not entitled to a presumption of irreparable harm. Even if Complainants could establish a presumption of irreparable harm, Respondents contend that the presumption is overcome by the evidence.

Respondents contend that Complainants have not proven irreparable harm to the domestic industry. Noting that Tilia must show that Respondents' entry to the marketplace has caused more than substantial harm and in fact has caused irreparable harm. Respondents contend that Complainants offer no evidence of irreparable harm but instead evidence that is conjectural and insufficiently supported.

Respondents contend that each of the following overcomes any presumption of irreparable harm, if any, and precludes any finding of irreparable harm:

1. In April 2002, The Jarden Corporation purchased Tilia for more than \$160,000,000. The Jarden Corporation has multiple subsidiaries like Tilia that market a wide array of products and is the equivalent in size to Respondents Applicia and Jarden. [

]. Jarden will not allow its investment to be lost before the final hearing.

2. Complainants' claimed harms are calculable and predictable and compensable monetarily, and thus not irreparable harm. In fact, (1) Complainants have already sought money damages from all Respondents in other proceedings for the very harms identified in this action and (2) Complainants and their witnesses have repeatedly either denied that any harm has occurred or easily quantified the claimed harm. [

]. Complainants will be unable to show that their already-pending District Court actions are inadequate to compensate for the alleged harm.

3. [

].

4. Complainants concluded that Respondent ZeroPack's machines infringe the '310 patent in January 2003, and Complainants filed a patent infringement action against ZeroPack seeking temporary relief but failed to pursue that relief and delayed filing this action until July 2003. Similarly, Complainants concluded that Rival's vacuum sealers infringed the '310 patent in January 2003. Rival immediately filed a declaratory judgment complaint and Complainants failed to seek any temporary or preliminary relief until July despite the existence of the district court action that had been pending for many months.

5. Complainants' claims of harm are not specific to the period between the TEO determination date (mid-January 2004) and the permanent relief (mid-November 2004), and Complainants are unable to show irreparable harm in the relevant period.

6. Complainants are unable to show substantial harm for at least the following reasons: (1)
[

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7. Many possible causes exist for any fluctuation in Complainants' sales [

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8. Complainants' claims of harm are simply conjectural, not statements of fact, and contrary to the evidence. [

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9. Even if one or both of the Respondents were excluded from the vacuum packaging machines, other vacuum packaging machines either in the market or available to consumers weighs against a finding of irreparable harm. Some of these vacuum packaging machines are licensed under the '310 patent. Others would not be covered by the '310 patent. Further, if Rival were found not to infringe the '310 patent, Rival would be in a position to supply vacuum packaging machines to the domestic market.

10. [

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11. Vacuum sealers are not a rapidly changing technology area and therefore, the harm, if any, is generally predictable and weighs against a TEO.

Commission Investigative Staff's Position

The Staff argues that it is unaware of factual evidence that demonstrates the domestic industry will suffer the immediate and substantial nonmonetary harm described by Tilia. Further, the Staff argues that the evidence will show that any harm the domestic industry has suffered (and could be expected to continue suffering) is compensable monetarily. Finally, the Staff argues that market forces other than allegedly infringing imported home vacuum packaging machines have at least contributed to any harm the Complainants' domestic industry may have suffered.

Discussion, Analysis and Conclusion

As a preliminary matter in dealing with irreparable harm, it is well-established that a patentholder who makes a clear showing of both validity and infringement is entitled to a rebuttable presumption in its favor regarding irreparable harm. Polymer Technologies, Inc. v. Bridwell, 103 F.3d 970, 973 (Fed. Cir. 1996). The presumption has the procedural effect of shifting to Respondents the burden of producing evidence sufficient to establish that Complainants would not be irreparably harmed if temporary relief is erroneously denied. Aero Industries, Inc. v. John Donovan, 80 F.Supp.2d 963, 976 (S.D. Ind. 1999). As Complainants have not demonstrated a likelihood of success on the merits of infringement or validity, they are not entitled to a presumption of irreparable harm. Consequently, the burden remains on Complainants to present "clear and unequivocal evidence" of irreparable harm in order to be entitled to temporary relief. McData, supra, 233 F.Supp.2d at 1319.

"Irreparable harm" can consist of harm to the patentholder's ability to compete. See Certain Hardware Logic Emulation Systems, Inv. No. 337-TA-383, Commission Opinion at 1 (U.S.I.T.C., October 15, 1996) ("Hardware Logic, Comm. Op.") (irreparable harm found where patentee is "a

relatively small, single product company competing in the rapidly evolving hardware logic emulation market. As such, even a single lost sale to an accused device could have a significant and long-term negative impact on [patentee's] ability to compete."). It can be demonstrated by showing that monetary damages are inadequate or are difficult to compute. Eli Lilly & Co.v. American Cyanamid Co., 82 F.3d 1568, 1578 (Fed. Cir. 1996) (irreparable harm not shown where "calculating lost profits would be a relatively simple task").

In past cases, "the Commission defined 'substantial harm' as injury to the domestic industry so significant that it would not fully recover from the harmful effects of the section 337 violation once permanent relief was granted. More recent Commission temporary relief decisions have not required that level of injury. These decisions have instead relied on potential lost sales or market share, potential price erosion, and large volumes of sales by respondents as the basis for a grant of temporary relief." Certain Pressure Transmitters, Inv. No. 337-TA-304, USITC Pub. No. 2392, Commission Opinion at 14 , 1991 WL 790094 (U.S.I.T.C., June 1991) ("Pressure Transmitters"), aff'd sub nom. Rosemount, Inc. v. U.S. International Trade Commission, 910 F.2d 819 (Fed. Cir. 1990). The Commission has also found temporary relief to be justified when there are harmful "effects of respondents' pricing practices on complainant's lost profits and the resultant effects on its research and development." Certain Radiotelephones and Subassemblies, Inv. No. 337-TA-297, Unreviewed Initial Determination (Order No. 21) at 141, 1989 WL 609183 (U.S.I.T.C., August 9, 1989). In the same vein, "[t]he Commission does not hold . . . that lost sales may never constitute irreparable harm. It is possible, for example, that the loss of any sales could prevent a newly established firm from expanding its marketing or prevent such a firm from furthering research and

development efforts necessary for its business." Pressure Transmitters, *supra*, Commission Opinion at 37.

At the TEO proceeding, Tilia's president and CEO, Linda Graebner, testified that
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In the time period since Wal-Mart began with its June 2003 modular transition to sell Applica's Black & Decker freshGUARD Model VS 200 vacuum packaging machines for a price point of \$58.87, [] Wal-Mart has purchased [] freshGUARD machines and sold [] of them to customers through mid-September 2003. Graebner, Tr. 76:24-77:5; CX-80; Ensor, Tr. 486:6-17, 488:11-489:15; CX-58; **FF 245.** [

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[] **FF 246.** According to William T. Ensor, Applica's Vice President for Sales, Applica forecasts sales to Wal-Mart of [] vacuum packaging machines through August 2004, for a total price of over []. Ensor, Tr. 494:4-11; CX-59C; **FF 247.** According to Juan Lopez, Applica's Senior Product Manager for Food Preparation, Applica's average profit margin on its vacuum packaging machines is []% compared to an average profit margin on its kitchen electric appliances of []%. Lopez, Tr. 514:11-21; **FF 248.**

As for Respondents Holmes and Rival, their Seal-A-Meal vacuum packaging machines were introduced at Kmart in May 2003. Graebner, Tr. 70:17-71:3; **FF 249.** [

FF 250.

] **FF 251.** Holmes and Rival also plan on selling at several other U.S. stores. Plaumann, Tr. 756:7-17; **FF 252.** According to Bart Plaumann, Holmes' Senior Vice President and General Manager of the Kitchen Unit, Target was slated to begin selling the Seal-A-Meal beginning in October 2003. Plaumann, Tr. 756:18-22; **FF 253.** Holmes has forecast that it will sell approximately [] Seal-A-Meal units for approximately [] in 2003. Plauman, Tr. 759:22-650:9; CX-74; **FF 254.** As of the TEO hearing, Holmes and Rival had sold approximately [] units in calendar year 2003. Plaumann, Tr. 754:2-25; CX-75; **FF 255.**

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On the other hand, the evidence of record demonstrates that all is not gloom and doom at Tilia. [

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All told, Complainants' contentions of "irreparable harm" from Respondents' sales paint a wholly unconvincing picture. [

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Despite the doom that it predicts for itself, things at Tilia remain remarkably serene. Jarden's CEO, Martin Franklin, gave a favorable report of Tilia's upside potential to the securities market even in the face of impending competition. See Franklin, Tr. 194:8-195:18; RX-277, at p. 23; **FF 281.** [

FF 282.

FF 283.

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[

] Such expenditures can serve to differentiate Tilia's product from others for a little while, but at the same time they create a consumer demand that invariably draws new competitors into the market, leading inexorably to price declines and shrinking market share for the advertiser. This is a risk that Tilia assumed by making those investments in the first place. Tilia cannot now shift the burden of those risks to its competitors by claiming "irreparable harm" when the foreseeable consequences of its own success strike.

[

]. On top of this likelihood, it must be remembered that Tilia is not a small, one-product company that will be going it alone, but a part of Jarden Corporation, a large kitchen-appliance conglomerate that has more than adequate means to compete successfully with Holmes/Rival and applica/ZeroPack. See Franklin, Tr. 178:4-22; **FF 285**. [

]. See RX-765C at J00487. That upside potential is further reflected in the favorable assessment of Tilia's future that Jarden's CEO gave to the securities market. It is no doubt going to be further reflected in the marketing and development expenditures that Jarden will make on Tilia's behalf over the course of this investigation.

In short, Tilia's allegations of "irreparable" harm are no worse than the inevitable "harm" that comes with legitimate competition and cannot justify temporary relief.

IV. Balance of Harms Between the Parties

Complainants' Position

Complainants contend that, in comparison with the harm to Tilia discussed above, the harm to Respondents that would be caused by a temporary exclusion order would be minimal in light of the very small portion of Respondents' sales and revenue that is accounted for by vacuum packaging machines and Respondents' recent entry into the market.

Respondents' Position

Respondents contend that the balance of harms does not favor Complainants. Complainants are wholly-owned subsidiaries of Jarden Corporation, which controls a large family of companies that produce and sell a wide variety of products. Respondents argue that Jarden can be expected to shield Complainants, at least until conclusion of the full Section 337 investigation, from the competitive forces resulting from the presence of Respondents in the market for home vacuum packaging machines if no TEO is entered. Tilia is an established company with established distribution channels offering a wide variety of vacuum packaging machines, bags and accessories. Thus, temporary relief is not necessary to avoid particular hardship to Complainants at this stage. Under the current investigation schedule, temporary relief would not be granted until after the first of next year, and a final decision would not occur until mid-November 2004. Yet according to Tilia's Chairman (Jarden's CEO) Martin Franklin, in a statement made at the end of July, he does not expect any impact for the medium to long term as a result of Respondents' market introduction.

Respondents Applica and ZeroPack's Position

Respondents contend that Complainants' harm by denial of a temporary exclusion order would be minimal. In contrast, harm to Applica and ZeroPack would be severe. ZeroPack is a small company with only one product. Grant of a temporary exclusion order would most likely put ZeroPack out of business. Further, Applica's relationship with Wal-Mart, one of its important customers would likely be damaged. Applica would also lose the investment it has already made in the home vacuum packaging machines.

Respondent Rival's Position

In stark contrast, a temporary exclusion order could cause Rival significant hardship, and potential irreparable harm, including a severe loss of credibility with Rival's customers that would affect Rival's ability to introduce new products unrelated to this proceeding; a loss of sales of its Seal-A-Meal vacuum food sealer machine as well as bags and accessories; expenses incurred as a result of product built but which cannot be shipped or sold; a loss of profitability; a loss of money committed to advertising; and factory overhead costs for manufacturing the Seal-A-Meal vacuum food sealer machine at its subsidiary Holmes (Far East) Limited. Additionally, depending on the magnitude and length of the injunction, Rival might be forced to release employees. The evidence is expected to show that Jarden (Tilia's owner), Applica, and Holmes/Rival sell a large variety of products other than home vacuum packaging machines at issue.

Commission Investigative Staff's Position

The Staff contends that it knows of no evidence that would support a conclusion that any one of these parties is more at risk than the other two. However, the Staff contends that ZeroPack is essentially a one-product company with only a few employees. As such, Staff argues, if ZeroPack

were forced out of the home vacuum packaging market, it would suffer harm proportionally greater than that which would be suffered by Tilia if ZeroPack were to remain in the market. Accordingly, the Staff contends that the balance of harms to all parties tips slightly in favor of the Respondents.

Discussion, Analysis and Conclusion

In balancing the hardships to the parties, the magnitude of the threatened injury to the patentholder is weighed, in light of the strength of the showing of likelihood of success on the merits, against the injury to the accused infringer if the preliminary decision is in error. Hardware Logic, TEO ID at 142, quoting H.H. Robertson Co. v. United Steel Deck, Inc., 820 F.2d 384, 390 (Fed. Cir. 1987).

On Complainants' side of the scale, there is no showing that Complainants are likely to succeed on the merits of their infringement and invalidity case. See pp. 100-37, 145-97 supra. Complainants have shown no irreparable harm. See pp. 204-21 supra. Complainants' domestic industry, against which irreparable harm is measured, [

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On Respondents' side of the scale, according to the TEO proceeding testimony of Joon-Young Ahn, ZeroPack's CEO, ZeroPack is a small company. Ahn, Tr. 785:2-14; **FF 286**. The evidence is uncontroverted that when, in 2001, Tilia sued ZeroPack in Korea for infringing Tilia's Korean counterpart patent to the '310 patent by reason of ZeroPack's manufacture of a vacuum packaging machine called the "SkyZeroPack," resulting in an injunction against ZeroPack, ZeroPack reduced its workforce to three people and did not manufacture any products. SX-2C (ZeroPack

Answer to Staff Interrogatory No. 2); **FF 287**. ZeroPack today has only six employees and has no capability to manufacture vacuum machines. Instead, ZeroPack operates through its relationships with other companies in order to manufacture and export vacuum machines. Ahn, Tr. 782:2-19; SX-2C (ZeroPack Answer to Staff Interrogatory No. 2); **FF 288**. Judging from the impact that the Korean injunction has had on ZeroPack's activities, it is likely that temporary relief here would put ZeroPack out of business.

As for Applica, according to the testimony of Harry Schulman, its president and CEO, Wal-Mart carries Applica's complete product line. Schulman, Tr. 733:9-13; **FF 289**. Right now, Applica sells its Black & Decker freshGUARD vacuum packaging machine only to Wal-Mart, [] Schulman, Tr. 732:20-733:1; **FF 290**. [

] Schulman, Tr. 737:2-16; **FF 291**. Applica's small kitchen business contributes [] of Applica's [] sales to Wal-Mart. Schulman, Tr. 734:14-25; **FF 292**. Hence, temporary relief against Applica is likely to have a substantially adverse affect on it.

With regard to Holmes and Rival, they would lose sales and profits if temporary relief were issued, according to Bart Plaumann, the Senior Vice President and General Manager of the Holmes Group's Kitchen Unit. Plaumann, Tr. 743:15-19; **FF 293**. Rival's budgeted sales in 2004 are forecast to be approximately []. Plaumann, Tr. 743:22-24; **FF 294**. Based on Plaumann's no-growth estimate, a temporary exclusion order extending until mid-November 2004 would result in lost sales in the first quarter of 2005 in the amount of about [], or approximately [

] in gross margin loss. Plaumann, Tr. 746:10-14, 747:15-748:2; **FF 295**. [

] Hence, on balance, the harm to Holmes and Rival compared to the harm to Tilia is in equipoise.

Accordingly, the balance of harms tips in favor of more harm to Respondents than to Tilia, particularly in light of the weakness of Tilia's lack of a showing of likelihood of success on the merits.

V. Effect on the Public Interest

Complainants' Position

The public interest favors a Temporary Exclusion Order, in view of the strong interest in the protection of intellectual property rights and the absence of any adverse effect on competitive conditions in the industry, the public health and welfare, directly competitive noninfringing products, and the availability of the product.

Respondents' Position

Respondents contend that the public interest weighs against a temporary exclusion order.

[

]. Granting temporary relief will foreclose an entire U.S. consumer segment from this market and the benefits it provides to its users.

Commission Investigative Staff's Position

The Staff is not aware of any evidence that the public interest factors set forth in 19 U.S.C. § 1337(e)(1) would be substantially affected by the issuance of temporary relief. Accordingly, the Staff submits that the public interest does not preclude issuance of temporary relief in this investigation.

Discussion, Analysis and Conclusion

Complainants argue that the public interest in this case favors the protection of their intellectual property rights. CIB 88-89; CRB 47. Respondents, Holmes and Rival, by contrast, argue that the public interest favors no temporary relief in order to protect "consumers who now have access to a product that will keep their food fresher longer without overextending their pocketbook." RRHRB 45; also see RRHIB 74. Staff argues that none of the public interest factors set forth in 19 U.S.C. § 1337(e)(1) would be substantially affected by the issuance of temporary relief, and therefore the public interest does not preclude such relief. SIB 47; SRB 32.⁶²

As of September 12, 2003, Applica has shipped [] products to Wal-Mart and Wal-Mart had, in turn, sold [] products to consumers. Ensor, Tr. 488:14-489:6; **FF 296**. Thus, as of September 12, 2003, Wal-Mart had approximately [] Applica units remaining in inventory. However, Wal-Mart is not a party to this investigation and the Commission has not asserted any jurisdiction over Wal-Mart. Consequently, there can be no temporary cease and desist order against Wal-Mart's sales of Applica's allegedly infringing Black & Decker freshGUARD machines. Assuming that Applica's current sales rate at Wal-Mart of approximately [] units per week stays

⁶² Respondents Applica and ZeroPack took no position on the public interest in the JNSI or in their brief. Accordingly, they have waived the issue.

the same, the Wal-Mart inventory as of September 12, 2004 amounts to an approximately [] weeks' supply, which should last Wal-Mart through []. Moreover, it can only be assumed that Applica has been steadily shipping freshGUARD machines to Wal-Mart since September and will continue to ship such machines right through the implementation of temporary relief, if any, in mid-January 2004, which would probably be a sufficient stockpile to effectively immunize Wal-Mart sales from at least the initial impact of temporary relief. []

[] it is apparent that temporary relief would do nothing to stem the "irreparable harm" that Tilia complains of. It is not in the public interest to issue useless temporary relief. See, e.g., New York Times Co. v. United States, 403 U.S. 713, 744 (1971) (Marshall, J., concurring) ("It is a traditional axiom of equity that a court of equity will not do a useless thing . . ."). Further, in view of the findings of this Initial Determination, it would not be in the public interest to foreclose the market in vacuum packaging machines to the broadest economic cross-section of U.S. consumers in advance of a full determination on the merits, which at this juncture does not appear likely to favor Complainants. Accordingly, the public interest does not favor temporary relief in this case.

VI. Unclean Hands

Complainants' Position

Complainants contend that Respondents have failed to establish a defense of unclean hands. First, there can be no "unclean hands" as a matter of law with respect to Tilia's going forward with

this Investigation despite its knowledge of Martin Franklin's statements and the Flaem license because Order No. 10 has held that those issues present litigable issues. Second, the imposition of sanctions for discovery abuse can only be imposed following the violation of an order compelling discovery. Because Respondents did not seek such an order when the alleged misconduct could have been corrected (and while discovery was still ongoing), they cannot obtain such sanctions in the form of "unclean hands" remedies now. Moreover, Respondents failed to identify trial exhibits or other admissible evidence supporting their allegations of discovery abuse and will be precluded from entering evidence to support those allegations. Moreover, the facts do not support Respondents' allegations of unclean hands.

Respondents' Position

Respondents contend that Complainants have engaged in "unclean hands" conduct so that Complainants are not entitled to temporary relief.

Complainants knew before filing this action about the arbitration proceeding between Tilia and Flaem Nuova in which many of the facts regarding inventorship and unenforceability first came to light. Complainants withheld documents from that proceeding until near the end of fact discovery and just before the deposition of Mr. Kristen. Both the substantial inventorship and enforceability issues, as well as the efforts to withhold information concerning these issues, constitute unclean hands.

Secondly, one day before the close of discovery (after fact witnesses identified by the documents were deposed, expert reports were complete and while experts were being deposed),

[

] Four days before the hearing, Tilia's parent, Jarden, produced similar documents that established that Tilia prepares these documents weekly. Tilia should have produced these documents itself at the beginning of discovery. Even as this document is filed, Respondents still do not have the complete set of documents identified in Jarden's latest production. Respondents believe that, based on the slow and reluctant production of documents by Complainants throughout the discovery process, Complainants continue to withhold other documents. Complainants' discovery tactics in this investigation have impeded the fair and orderly discovery of evidence concerning Tilia's alleged irreparable harm, and thereby constitute a basis for unclean hands.

Lastly, Tilia's senior-most management has taken positions regarding irreparable harm that are directly contrary to positions it has taken in public statements. Those positions were stated publicly in the same time frame as contrary statements made in Complainants' motion for a temporary exclusion order.

Commission Investigative Staff's Position

The Staff is of the view that the evidence does not support Respondents' "unclean hands" defense.

Discussion, Analysis and Conclusion

Respondents contend that Complainants should be denied temporary relief under the doctrine of "unclean hands" for several reasons. First, Respondents contend that Complainants knew before filing their Section 337 complaint that the '310 patent is invalid for lack of proper inventorship and withheld documents relating to the Swiss arbitration proceeding with Flaem concerning inventorship. RAZIB 52-53; RRHIB 74-75; RAZRB 45-46; RRHRB 45-46. Respondents also contend that Complainants' senior-most management, Franklin of Jarden Corporation, was representing to the

public that Tilia was not suffering any harm as a result of competition from Respondents even though it sought temporary relief at the Commission. Id. Respondents further allege that Complainants withheld numerous documents that show Tilia's performance to be better than expected. Id.

Complainants and Staff dispute Respondents' allegations. Complainants allege that there is no reason to believe that anyone other than Kristen has a legitimate claim to ownership of the '310 patent, and hence the bringing of this action does not demonstrate unclean hands. CRB 48. Further, Complainants assert that the statements of Franklin to the securities industry are fully consistent with every position that Tilia has taken in this action. CIB 89-90; CRB 48. Staff asserts that Respondents have not put forward sufficient evidence that would lead to the conclusion that Complainants "knew" the '310 patent was invalid. SIB 47-48; SRB 32-33. Also, Staff contends that the statements of Complainants' senior management that Respondents claim refute Complainants' allegations of irreparable harm were ruled in Order No. 10 to refer to activities in the first half of 2003 and were not a prediction of future events, and therefore do not refute Complainants' assertions of future irreparable harm. Id.

There is insufficient evidence that the acts Respondents complain of rise to the level of unconscionability warranting application of the "unclean hands" doctrine. Accordingly, Respondents' contentions are rejected.

FINDINGS OF FACT FOR TEMPORARY RELIEF PURPOSES

- FF1.** Applica, Inc. is a holding company that does not manufacture, design, or engineer any products. See Schulman Tr. 730:3-12.
- FF2.** Applica and ZeroPack's Black & Decker freshGUARD VS 200 vacuum sealing machine is mechanically the same as all of those Respondents' other accused product models. Kirk, Tr. 252:6-23; CPX-3.
- FF3.** The Applica/ZeroPack Black & Decker freshGUARD machine satisfies all elements of claim 34 other than: (1) the preamble limitation of a "plastic bag having overlying first and second panels defining an evacuative chamber;" (2) the "trough means;" (3) the "static seal means;" and (4) the "evacuation means." See CX-1 ('310 patent, col. 12:12-48).
- FF4.** The freshGUARD machine satisfies the "heat sealing means" element of claim 34. See CX-1 ('310 patent, col. 12:43-48).
- FF5.** The Black & Decker plastic bags that are sold with the freshGUARD machine consist of first and second panels on the outside of the bag, which form a sleeve as they come off the roll. Kirk, Tr. 315:11-23; JPX-5.
- FF6.** The Black & Decker plastic bags that are sold with the freshGUARD machine have inserts that are attached to and located on either lateral side of the inside of the sleeve. See Kirk, Tr. 315:24-316:2; JPX-5.
- FF7.** There are protuberances and air channels in the Black & Decker plastic bags that are sold with the freshGUARD machine, but they are located only on the inserts that are attached to the sides of the bag, not on the first and second panels. See Kirk, Tr. 316:3-317:2; JPX-5.
- FF8.** The freshGUARD machine works not only with the Black & Decker plastic bags that ship with the device, but also with other plastic bags. Kirk, Tr. 257:18-21.

FF9. The Black & Decker freshGUARD machine has a recessed lower vacuum chamber portion or “trough” in the base that performs the function recited in claim 34 of the ‘310 patent of collecting liquids and particles during vacuum sealing. Kirk, Tr. 259:22-260:12.

FF10. In the opinion of Dr. Kirk, the freshGUARD machine is structurally equivalent to the trough disclosed in the ‘310 patent for the following reason:

Q. Would you please set forth the basis for that opinion.

A. The trough located as what I am also calling the lower vacuum chamber portion extends from one end of their, one side of their base to the other side of the base in the Black & Decker product. The trough collects the liquid and particles that might come out of the bag when the bag is evacuated and keeps the liquid and particles that comes out in the trough and collects them so that they don't have an opportunity to go into the port where the vacuum is being drawn from.

So as a result of that action, the structure, which is the lower vacuum chamber portion in the Black & Decker product, is able to evacuate the -- is able to collect the liquids and particles in the lower vacuum chamber portion or this, the trough.

Kirk, Tr. 269:8-270:12.

FF11. The structure of the trough of the Black & Decker freshGUARD machine is identical to the trough structure 34 and 34a disclosed in the ‘310 patent. Kirk, Tr. 269:8-270:12; CPX-3.

FF12. Although the trough of the Black & Decker freshGUARD machine is functionally and structurally identical to the trough disclosed in the ‘310 patent, the “trough means” element of claim 34 requires the trough to collect liquids and particles “during vacuum sealing of said bag.” See CX-1 (‘310 patent, col. 12:29) (emphasis added).

FF13. The Black & Decker freshGUARD machine has a black oval gasket attached to the base and a black oval gasket attached to the hood that are disposed between the base and the hood and that circumvent the vacuum chamber. Kirk, Tr. 271:18-272:21; CPX-3.

- FF14.** These Black & Decker freshGUARD machine gaskets perform the functions of the “static seal means” element of claim 34 of the ‘310 patent consisting of (a) “directly engaging” both “outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position,” (b) forming “a static seal isolating the open end of said bag and said vacuum chamber from ambient,” and (c) maintaining “the open end of said bag in communication with the evacuative chamber thereof.” Kirk, Tr. 272:23-274:16; CPX-3.
- FF15.** The “static seal means” element of claim 34 of the ‘310 patent requires the static seal means to function “for directly engaging outer surfaces of the sealable panel portions of said bag,” to form a static seal “isolating the open end of said bag and said vacuum chamber from ambient,” and “to maintain the open end of said bag in communication with the evacuative chamber thereof.” See CX-1 (‘310 patent, col. 12:33-37) (emphasis added).
- FF16.** The “evacuation means” element of claim 34 of the ‘310 patent requires the evacuation means to “selectively evacuat[e] said vacuum chamber and the evacuative chamber of said bag.” See CX-1 (‘310 patent, col. 12:40-41) (emphasis added).
- FF17.** Holmes and Rival’s Seal-A-Meal Vacuum Food Sealer machine is a representative sample of all of those Respondents’ accused product models. Kirk, Tr. 284:7-23; CPX-2.
- FF18.** Rival manufactures three versions of the accused Seal-A-Meal vacuum sealer. The VS110 and VS150 are identical, except that the VS150 come packaged with three canisters, a universal sealer and a hose. The VS100 is identical to the VS110 and VS150 units except that it does not include a bag roll holder and a bag cutter. Siano, Tr. 525:16-20.
- FF19.** The Seal-A-Meal machine satisfies all elements of claim 34 of the ‘310 patent other than: (1) the “base;” (2) the “vacuum chamber;” (3) the “trough means;” (4) the “static seal means;” and (5) the “evacuation means.” See CX-1 (‘310 patent, col. 12:12-48).
- FF20.** The Seal-A-Meal machine satisfies the “plastic bag” preamble element and the “heat sealing means” element of claim 34. See CX-1 (‘310 patent, col. 12:12-16 and 43-48); CX-96C at 5; compare JPX-1 and JPX-2 with JPX-3 and JPX-4.

- FF21.** The Seal-A-Meal machine base consists of a structure that includes a lower vacuum chamber portion with a gasket running around it and an insert piece. Kirk, Tr. 287:6-20; CPX-2.
- FF22.** There are several components of the Seal-A-Meal machine that make up portions of the claimed “vacuum chamber.” Kirk, Tr. 288:16-19; CPX-2.
- FF23.** The first component of the Seal-A-Meal machine that makes up a portion of the claimed “vacuum chamber” is a “lower vacuum chamber portion” that is located in the base. Kirk, Tr. 288:20-21.
- FF24.** The next component of the Seal-A-Meal machine that makes up a portion of the claimed “vacuum chamber” is an “upper vacuum chamber portion” that is located in the intermediate piece. Kirk, Tr. 288:21-23.
- FF25.** In the intermediate piece of the Seal-A-Meal machine, the upper vacuum chamber portion is further divided into a space between the plastic guide and the opening through the intermediate piece and non-porous closed-cell foam gasket through which air flows around the plastic guide. Kirk, Tr. 288:24-289:5.
- FF26.** The gaskets of the intermediate piece of the Seal-A-Meal machine are made of a non-porous closed-cell foam that does not allow air to pass through it. See Kirk, Tr. 1199:14-16; Karvelis, Tr. 652:6-24.
- FF27.** There is a passageway or a nozzle in the plastic guide of the upper vacuum chamber portion of the Seal-A-Meal machine that connects the lower vacuum portion to the opening of the bag. See Kirk, Tr. 289:6-11.
- FF28.** Using a flashlight, Dr. Kirk showed the existence of openings between the gasket material of the intermediate piece of the Seal-A-Meal machine and the plastic guide on that piece. Kirk, Tr. 289:20-290:10; CPX-2.
- FF29.** Dr. Kirk also showed that if the nozzle in the Seal-A-Meal machine was blocked with a silicon sealant, the machine would still evacuate a bag. Kirk, Tr. 290:12-292:12; CPX-4.

- FF30.** Dr. Kirk further demonstrated that certain Seal-A-Meal machines form a “vacuum chamber” when a bag is not present. Two of the six machines that he tested ran through the vacuum and seal process (known as “cycling”) even though there was no bag in the machine. Kirk, Tr. 292:13-293:18, 1005:3-24; CPX-2; CPX-5.
- FF31.** Some Seal-A-Meal machines cycle without a bag present if the nozzle is located a tiny bit farther inside the intermediate piece than it is in other Seal-A-Meal machines as a result of imperfections in the manufacturing process. As a result, the nozzle becomes blocked by the foam gasket on the underside of the hood when the hood is closed and is sealed off from ambient, thereby forming an enclosed vacuum chamber between the hood and the base. See Kirk, Tr. 293:20-295:22.
- FF32.** Dr. Kirk admitted that his cycling tests of various Seal-A-Meal machines without bags present were inconclusive; in his words, “[i]t just means that some do and some don’t.” See Kirk, Tr. 336:17-337:9.
- FF33.** In a Seal-A-Meal machine with an unblocked nozzle, Dr. Karvelis opined, the nozzle is the path of least resistance through which air will flow as the vacuum pump operates. See Karvelis, Tr. 620:21-621:15.
- FF34.** By sealing the nozzle of a Seal-A-Meal machine, that pathway for air flow necessarily changes. See Karvelis, Tr. 621:16-622:7.
- FF35.** The air pressure deforms the foam around the blocked nozzle of a Seal-A-Meal machine in order for the air to escape; pressure differentials are created which do not exist in an unmodified Seal-A-Meal machine, and the air looks for previously unused passageways through which to flow. Karvelis, Tr. 622:7-20.
- FF36.** Also, blocking the nozzle of a Seal-A-Meal machine gives rise to a “Hero machine” effect, whereby there is a net force on the nozzle that causes it to rotate out of position in a manner similar to a rotating lawn sprinkler. Karvelis, Tr. 622:21-623:8.
- FF37.** In short, blocking the nozzle of a Seal-A-Meal machine deforms the machine. Karvelis, Tr. 623:9-11.

- FF38.** Blocking the nozzle of a Seal-A-Meal machine, according to Dr. Karvelis, is tantamount to creating a different machine. Karvelis, Tr. 657:6-23.
- FF39.** Dr. Karvelis conducted an experiment in which a bag was placed in several Seal-A-Meal machines (having both blocked and unblocked nozzles) with the bag lying on top of the nozzle and half-way across it instead of wrapped around the nozzle as in normal operation. Karvelis, Tr. 667:25-672:1; CPX-2; CPX-4.
- FF40.** The bags inserted into the Seal-A-Meal machines in this way did not evacuate and the machines did not cycle. Karvelis, Tr. 671:12-672:1.
- FF41.** Later, Dr. Kirk conducted an experiment in which a bag was placed in several Seal-A-Meal machines (all having unblocked nozzles, using one that cycles without a bag present and one that does not) with the bag lying underneath the nozzle instead of wrapped around the nozzle as in normal operation. Kirk, Tr. 976:12-978:7; CPX-5; CPX-8.
- FF42.** The bags inserted into the Seal-A-Meal machines in this way evacuated, and the Seal-A-Meal machine that cycles without a bag present cycled off whereas the machine that does not cycle without a bag present did not cycle off. Kirk, Tr. 977:1-24; CPX-5; CPX-8.
- FF43.** The proper use of a Seal-A-Meal machine is to place the bag around the nozzle so that the nozzle is inside the bag. See Karvelis, Tr. 993:6-13.
- FF44.** The nozzle and spaces around the nozzle on the intermediate piece of the Seal-A-Meal machine constitute intervening structures – essentially, interconnected empty spaces – that do precisely what the specification of the ‘310 patent says that a “vacuum chamber” is supposed to do; namely, they “communicate” with the evacuation system for evacuating the evacuative chamber of the bag. See CX-1 (‘310 patent, col. 2:18-20).
- FF45.** Only a portion of the open end of a bag is placed around the nozzle of the Seal-A-Meal machine. Siano, Tr. 529:9-13; Kirk, Tr. 332:15-334:11, 979:8-980:3, 993:6-13, 1018:13-1019:25; Karvelis, Tr. 661:12-25.
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- FF46.** When the lid of a Seal-A-Meal machine is closed, the gasket materials on the inside of the lid and the top of the intermediate piece seal the bag portion around the nozzle and close off the remaining portion of the open end of the bag. Kirk, 973:1-974:6; 995:3-7.
- FF47.** The gasket material of a Seal-A-Meal machine is non-porous; therefore, there is no way for the vacuum to suck air through the closed portion of the open end of the bag. Only the bag portion surrounding the nozzle is exposed to the vacuum source. Karvelis, Tr. 661:12-662:10; Kirk, Tr. 333:3-334:11, 978:17-980:3, 994:20-22, 1017:10-1019:25.
- FF48.** The sealed portion of the bag not open to the nozzle of a Seal-A-Meal machine is not open to view of the inside of the vacuum chamber. Karvelis, Tr. 661:12-662:10; Kirk, Tr. 333:3-334:11, 978:17-980:3, 994:20-22, 1017:10-1019:25.
- FF49.** The drip tray on the Seal-A-Meal machine is functionally identical to the “trough means” of claim 34. Kirk, Tr. 306:7-15; CPX-2.
- FF50.** The length of the Seal-A-Meal drip tray is slightly less than 50 percent of the width of the front side of the base of the machine. Kirk, Tr. 303:25-304:21.
- FF51.** The drip tray of the Seal-A-Meal machine does not take in the entire open end of a plastic bag. Kirk, Tr. 334:3-11, 979:8-980:3, 993:6-13, 1018:13-1019:25; Karvelis, Tr. 661:12-25.
- FF52.** The structures of the Seal-A-Meal machine that correspond to the claimed “static seal means” are: the black gasket located around the lower vacuum chamber portion, the black gasket material on the inside of the intermediate piece, the black gasket material on the top side of the intermediate piece, and the black gasket material on the inside of the hood. Kirk, Tr. 307:8-17; CPX-2.
- FF53.** These structures of the Seal-A-Meal machine perform the function of claim 34 of the ‘310 patent consisting of “directly engaging” both “outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position” when the intermediate piece is placed down over the bag that is on the plastic guide and already in contact with the lower seal portion. See Kirk, Tr. 307:18-25; CPX-2.

- FF54.** These structures of the Seal-A-Meal machine perform the function of claim 34 of the '310 patent consisting of forming "a static seal isolating the open end of said bag in communication with the evacuative chamber thereof" when the hood is moved to the closed position, which isolates the vacuum chamber and the open end of the bag from ambient. See Kirk, Tr. 308:1-12; CPX-2.
- FF55.** These structures of the Seal-A-Meal machine perform the function of claim 34 of the '310 patent consisting of maintaining "the open end of said bag in communication with the evacuative chamber thereof" by sealing the open end of the bag and the vacuum chamber from ambient in a way that when the lid is closed, the seal does not crush the channels of the bag so that the bag still communicates with the vacuum chamber and is able to be evacuated when the vacuum button is pushed. See Kirk, Tr. 308:12-16; CPX-2.
- FF56.** Since the "vacuum chamber" element of claim 34 of the '310 patent is a sub-element of the "static seal means" of that claim, as a consequence the Seal-A-Meal machine does not have a "static seal means." See CX-1 ('310 patent, col. 12:30 and 35-36); Karvelis, Tr. 629:6-19.
- FF57.** The Seal-A-Meal machine has a vacuum pump connected to a tube that communicates with the lower vacuum chamber portion of the machine for the purpose of drawing a vacuum through that portion, thence through the vacuum chamber portion on the inside of the intermediate piece, thence through the vacuum chamber portion that flows around the plastic guide, and finally through the vacuum chamber portion that is the opening in the inside of the nozzle or passageway. Kirk, Tr. 308:22-309:17; CPX-2; CDX-92.
- FF58.** All of the foregoing functions in the Seal-A-Meal machine occur when the hood is closed so that a bag can be evacuated. Kirk, 309:18-19.
- FF59.** The Tilia FoodSaver Model VAC 550 vacuum packaging machine is representative of all of Tilia's 28 FoodSaver machine models. Alipour, Tr. 213:16-214:21; CPX-1.
- FF60.** The complete list of Tilia FoodSaver models that practice claim 34 of the '310 patent are the Compact, GameSaver / ProSport, Kenmore, Professional II, Pro / Turbo / Vac-U-Save, Vac 200, Vac 240 / Vac 420, Vac 300, Vac 350, Vac 360, Vac 370, Vac 500, Vac 540, Vac 560, Vac 570, Vac 750, Ultra, Vac 760, Vac 800, Vac 820, Vac 900, Vac 1050, Vac 1075, Vac 12300. Alipour, Tr. 214:16-21.

FF61. Every element of claim 34 of the '310 patent is present in the Tilia FoodSaver Model VAC 550 vacuum packaging machine. Alipour, Tr. 215:3-218:17; CPX-1; JPX-1; JPX-2.

FF62. All of the other Tilia FoodSaver models meet the elements of claim 34 of the '310 patent in substantially the same way as the Tilia FoodSaver Model VAC 550 vacuum packaging machine even though there are differences in geometry, color and dimension among them. See Alipour, Tr. 213:17-214:5; 220:22-221:6; CPX-1.

FF63. All of Complainants' FoodSaver vacuum packaging machines are made overseas. Silva, Tr. 356:8-10.

FF64. [

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FF65. Complainants employ [] engineers in the U.S., []].

FF66. In 2002, Complainants' salary expense for the [] U.S. engineers amounted to []. Silva, Tr. 348:20-21.

FF67. The [] U.S. engineers employed by Complainants occupy two lab facilities in San Francisco, California, one inside Tilia's headquarters building and one across the street. Silva, Tr. 348:22-349:2.

FF68. On the latter of the two lab facilities, []. Silva, Tr. 353: 12-16; CDX-54.

FF69. [

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FF70. Complainants have expended approximately [] on equipment for its research group, and overall has spent approximately [] in the U.S. to date on furniture and computer equipment for use by employees and relating to machines, bags and accessories. Silva, Tr. 353:16-354:1; CDX-54.

FF71. Complainants engage the services of [

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FF72. []

FF73. Complainants have expended in 2002 approximately [] in salaries for the work that [] in-house quality assurance employees performed, primarily on vacuum packaging machines. Silva, Tr. 354:2-16; CDX-55.

FF74. Complainants have expended approximately [] in the first half of 2003 for customer service support relating to vacuum packaging machines that has been provided by [

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FF75. U.S. Patent No. 2,778,171, entitled “Production of Air-Tight Packages,” issued on January 22, 1957 to Gerald Taunton as inventor. See CX-5.

FF76. The Taunton patent was among the cited U.S. patent documents examined during the prosecution of the ‘310 patent. See CX-1(‘310 patent, first page).

FF77. The Taunton patent discloses an invention that “relates to the production of airtight packages and in particular to means for facilitating the evacuation of the same.” CX-5 (Taunton patent, col. 1:15-17).

- FF78.** The Taunton invention “comprises the steps of forming a pouch of flexible, oxygen-proof material having at least part of one end open, providing projections within the pouch adjacent to said open end before or after the pouch is formed, withdrawing air through said open end and sealing the pouch between said open end and the commodity.” CX-5 (Taunton patent, col. 1:53-59).
- FF79.** The Taunton patent states that “[t]he projections may take any desired form,” including “hemispherical, conical, or pyramidal protuberances,” or “a plurality of ridges which may be in the form of parallel or radiating, straight, curved or zig-zag lines.” CX-5 (Taunton patent, col. 2:29-34).
- FF80.** The Taunton patent states that “[w]hen the commodity to be packed is of a pulverulent or granular nature, the distance between the adjacent projections is preferably less than the size of the individual particles of the commodity so that, while the projections permit free passage of air between them, they prevent the passage of the commodity itself, thus forming a kind of strainer or filter which prevents the commodity from being drawn into the suction source.” CX-5 (Taunton patent, col. 2:45-51).
- FF81.** Figures 14 and 15 of the Taunton patent disclose a perspective and cutaway side view of two embodiments of the claimed device. CX-5 (Taunton patent, Figs. 14 and 15).
- FF82.** In Figure 14 of the Taunton patent, “[t]he apparatus comprises a lower jaw **9** provided with a recess **10** in its upper face, said recess communicating with a suction source by means of a pipe **11**; and an upper jaw composed of a slab **12** being secured to the plate **14** provided with stop screws **15**.” CX-5 (Taunton patent, col. 3:57-64).
- FF83.** The Taunton patent states that, when in operation, “the pouch is located between the two jaws, the latter being then closed so that the open end of the pouch is located within the two recesses **10** and **13** and therefore in communication with the suction source.” CX-5 (Taunton patent, col. 3:75-4:4).
- FF84.** The Taunton patent states that “[t]he closing of the jaws may be effected by moving the lower jaw upwardly, by moving the upper jaw downwardly, or by moving both jaws towards each other.” CX-5 (Taunton patent, col. 4:5-9).

- FF85.** In an alternative embodiment of the invention of the Taunton patent shown in Figure 15, “the upper jaw is formed by a plate **16**, having a recess **17**, one edge of the plate being cut away for the reception of a strip **18** of resilient material, such as rubber, which is secured thereto in a suitable manner. Instead of, or additionally to, the suction pipe **11**, a similar suction pipe **11'**, indicated by dotted lines, may be provided in the upper jaw.” CX-5 (Taunton patent, col. 4:21-30).
- FF86.** The Taunton patent discloses a “trough,” referred to in the patent as a “recess,” shown as item 10 in Figures 14 and 15 of the patent. See CX-5 (Taunton patent, col. 3:60 and Figs. 14 and 15).
- FF87.** The “trough” of the Taunton patent inherently performs the identical function, as construed herein, of collecting liquids and particles coming from the opening in the bag during vacuum sealing, particularly when the suction pipe 11' is located in the upper jaw 16 of the Taunton device. Freeman, Tr.910:6-911:10; 924:9-925:6; RDX-77; RDX-85.
- FF88.** The trough of the Taunton patent will capture particles that are smaller than the channels of the bags it uses. See CX-5 (Taunton patent, col. 2:45-51); Kirk, Tr. 989:16-990:6.
- FF89.** The Taunton patent recites that “[w]here apparatus comprising a recess is used, the pouch to be evacuated is positioned so that the open end thereof at least reaches the edge of the recess and preferably so that it projects beyond it into the recess.” CX-5 (Taunton patent, col. 5:22-25).
- FF90.** The Taunton patent states that “[t]he length of the recess may be less than, equal to, or greater than the width of the open end of the pouch.” CX-5 (Taunton patent, col. 5:28-30).
- FF91.** The Taunton patent specification states, “When the jaws are brought together, the recesses in one jaw intersect those in the other jaw (as indicated by dotted lines in Figure 16) so that if either or both of the pipes 24 is connected to a suction source, such as a vacuum pump, the suction is applied to all the recesses.” CX-5 (Taunton patent, col. 4:39-44).

FF92. There is no disclosure in Taunton of how a user would “selectively” evacuate the vacuum chamber by making the connection between the vacuum pump and the chamber. See CX-5 (Taunton patent).

FF93. The ‘310 patent details a particular arrangement of electrical and pneumatic controls that the user can operate in order to evacuate the vacuum chamber and the bag, as well as a wide variety of alternative electrical and pneumatic control circuits for controlling the claimed vacuum packaging machine. See CX-1 (‘310 patent, col. 5:33-6:30; Figs. 9 and 10).

FF94. With regard to Figure 20 of the Taunton patent, a passage from the Taunton specification states:

The resilient flap **29** is then laid over the pouch, as shown, and suction is applied by means of the pipe **28**. The suction draws down the flap **29** so that it closely embraces the plate **26** and the pouch **6**, thereby preventing atmospheric air from being drawn into the recess.

CX-5 (Taunton patent, col. 5:14-19; Fig. 20).

FF95. U.S. Patent No. 3,311,517, entitled “Method of Laminating Transparent Assemblies,” issued on March 28, 1967 to Leroy D. Keslar, Natrona Heights, and John S. Rankin as inventors. See RX-227.

FF96. The Keslar patent was not among the cited U.S. patent documents examined during the prosecution of the ‘310 patent. See CX-1(‘310 patent, first page).

FF97. The Keslar patent discloses an invention relating “to packaging laminated aircraft glazing closures such as laminated glass assemblies and the like within a laminated bag that is capable of being effectively evacuated and sealed” RX-227 (Keslar patent, col. 1:14-18).

FF98. According to the Keslar patent, “[t]he bag is sealed on three sides and its access opening rests on an electric heating element” that rests “on the lower jaw of a pair of jaws provided with gasket means forming a sealed chamber surrounding the access opening of the bag.” RX-227 (Keslar patent, col. 2:59-63).

- FF99.** In the Keslar patent, an evacuating pipe “communicates with the sealed chamber through an opening in the lower jaw to evacuate air and other gases entrapped within the flexible bag.” RX-227 (Keslar patent, col. 2:63-66).
- FF100.** When the pressure within the bag and sealed chamber is reduced below a predetermined level in the Keslar device, a pressure-actuated switch activates an electric circuit connected to a heat sealing element that seals the opening of the bag. RX-227 (Keslar patent, col. 3:1-17).
- FF101.** In the Keslar patent, each flat side of a bag has a smooth outer ply attached to an inner ply of polyethylene that is “embossed along its inner surface to form a checkerboard pattern of rounded protuberances 34 on the inner surface thereof.” RX-227 (Keslar patent, col. 4:12-14).
- FF102.** Alternative constructions of protuberances in the Keslar bags include squares and diamond shapes. See RX-227 (Keslar patent, col. 4:26-37, Figs. 8 and 9).
- FF103.** In the Keslar bags, there are grooves between adjacent protuberances that “provide a plurality of passageways for the escape of gas entrapped within the bag 10 in about 6 seconds when th latter is evacuated at a vacuum of 27 inches of mercury.” RX-227 (Keslar patent, col. 4:17-25; Figs. 8 and 9).
- FF104.** In the Keslar device, when the bag is evacuated, it conforms to the outer surfaces of the assembly contained within it. See RX-227 (Keslar patent, col. 4:38-41).
- FF105.** One embodiment of the vacuum packaging machine of the Keslar patent is shown in a cutaway side view of Figure 5 and a perspective view of Figure 6. RX-227 (Keslar patent, Figs. 5 and 6).
- FF106.** In the embodiment of the Keslar patent shown in Figures 5 and 6, “[t]he lower surface of upper jaw 42 and the upper surface of the lower jaw 40 are each provided with a frame 44 of gasket sealing strips of an air impervious material” that “enclose an elongated sealed chamber 46 communicating with the access opening 22 of the bag 10.” RX-227 (Keslar patent, col. 4:63-69).

- FF107.** In Keslar, “[a]n aperture **48** is provided in the lower jaw **40** intermediate the sealing strips **44**. An evacuation pipe **50** extends from the aperture **48** to an evacuation pump **52**.” RX-227 (Keslar patent, col. 4:73-75).
- FF108.** In Keslar, “[w]hen the bag **10** is properly placed with its access opening **22** entirely within the sealed chamber **46**, the evacuation pump **52** causes the removal of air and other gases from within the envelope **10** through the access opening **22**, sealed chamber **46**, aperture **48**, and evacuation pipe **50** until the thin, flexible bag conforms to the shape of the assembly inserted therewithin.” RX-227 (Keslar patent, col. 5:1-7).
- FF109.** Figure 7 of the Keslar patent shows an alternate embodiment of the apparatus. RX-227 (Keslar patent, Fig. 7).
- FF110.** In the embodiment of Keslar shown in Figure 7, “the upper jaw **42** is pivoted to the lower jaw **40** about hinge means **82** at the outer end of the jaws. Handles **84** are attached to the upper wall of upper jaw **42** to facilitate its pivoting into an open position to receive a bag for loading, evacuation and sealing and for pivoting into a closed position to form the sealed chamber **46**.” RX-227 (Keslar patent, col. 5:48-55, Fig. 7).
- FF111.** The Keslar patent notes that the Mylar bags that are used in its device have been “employed to produce plastic bags for encasing food products such as poultry in intimate contact with the contents by immersing a closed bag loosely surrounding its contents within a bath of boiling water, until the bag shrinks into intimate contact with its contents.” RX-227 (Keslar patent, col. 2:22-31); Freeman, Tr. 937:8-938:4.
- FF112.** Keslar does not mention the function of collecting liquids or particles. Freeman, Tr. 938:25-940:4; Kirk, Tr. 987:12-988:9; RX-227.
- FF113.** Although there exists in Keslar what appears to be a recessed “sealed chamber **46**” surrounded by gaskets **44**, Keslar identifies the use of this chamber only for the evacuation of “air and other gases” from the bag, not liquids or particles. See, e.g., RX-227 (Keslar patent, col. 2:65-66, 5:3-4).
- FF114.** The Keslar patent discloses an evacuation pipe **50** connected to an aperture **48** in the lower jaw **40** of the device, and most liquids and particles would be sucked into the vacuum pipe in such a setup. Freeman, Tr. 910:22-911:10; 958:21-961:24; RDX-77.

- FF115.** The recess of the device disclosed in the Keslar patent acts like a sink with a drain at the bottom that would necessarily wash liquids and particles down the drain and clog the vacuum pump, a problem that the '310 patent expressly seeks to solve. See Freeman, Tr. 958:21-961:24; CX-1 ('310 patent, col. 4:11-14) (“The trough also functions to collect liquids and powder particles that are exhausted from the bag to prevent their ingress into a vacuum pump **53** . . .”).
- FF116.** The Keslar patent does not disclose any mechanism or structure that would enable the user of the Keslar apparatus to activate the vacuum pump at a moment of his or her own choosing. Freeman, Tr. 942:5-12.
- FF117.** Nothing in the Keslar patent identifies any of the many different electrical and pneumatic structures recited in the '310 patent for accomplishing the “evacuation means” element. See CX-1 ('310 patent, col. 5:33-6:30; Figs. 9 and 10).
- FF118.** The scope and content of the prior art relevant to claim 34 of the '310 patent is directed to the design of mechanical devices, including vacuum packaging apparatus, and that art includes material as background such as stresses, forces, understanding of materials and understanding of mechanisms. Kirk, Tr. 240:3-19.
- FF119.** The relevant level of ordinary skill in the art for claim 34 of the '310 patent is that of one holding a bachelor of science degree in some engineering discipline and three to five years of relevant experience. Freeman, 898:24-899:7.
- FF120.** Complainants' first vacuum packaging machine was referred to at the TEO hearing as the “FoodSaver1,” which was offered for sale in the United States several years before the application for the '310 patent was filed in 1989. Kristen, Tr. 813:3-815:11; RX-712.
- FF121.** A subsequent design, referred to at the hearing as the “FoodSaver 1.5,” included a liquid separator and was also sold in the United States before the '310 patent application was filed. Kristen, Tr. 883:15-25; CPX-10; RX-714.
- FF122.** Although the '310 patent application referred without specifics to a prior-art “conventional vacuum sealing system us[ing] a vacuum nozzle that is inserted within a

plastic bag for evacuation purposes,” the FoodSaver 1/1.5 machine was not among the cited references examined during the prosecution of the ‘310 patent. See CX-1(‘310 patent, first page).

- FF123.** A representative drawing of the front of the FoodSaver1, which is similar to that for the FoodSaver1.5, appears in the owners’ manual for that product. See RX-712 at T065087; RX-714 at T023859.
- FF124.** The FoodSaver 1/1.5 was an apparatus for vacuum sealing plastic bags with panels having evacuative protuberances and channels of the same type as are now used in the current Tilia FoodSaver machines. It also included a base that was configured to receive the end of the plastic bag, a pivotally attached hood, a vacuum pump with circuitry that allowed it to be activated at the user’s discretion, and a heat sealing element. See RX-712 at pp. T065087-88; RX-714 at pp. T023859-60.
- FF125.** The hood and base of the FoodSaver 1/1.5 machine each had pressure pads made of black rubber to hold bags in place during vacuuming and sealing and to prevent air from entering the bag. Kirk, Tr. 331:20-334:11; CPX-10; RX-712 at p. T065088.
- FF126.** The opening of the FoodSaver 1/1.5 also contained a plastic nozzle that was inserted into the open end of the bag. Kirk, Tr. 332:8-333:5; CPX-10; RX-712 at p. T065093.
- FF127.** When the cover of the FoodSaver 1/1.5 machine was closed down, the bag was compressed around the nozzle, and other portions of the bag between the pressure pads were sealed shut by the pads as they conformed around the nozzle so no air could enter the bags at those locations. Kirk, Tr. 333:6-334:7; CPX-10.
- FF128.** The only element of claim 34 of the ‘310 patent that Complainants and Staff argue is missing from the FoodSaver 1/1.5 is that portion of the “vacuum chamber” comprising a “trough means . . . for collecting liquids and particles therein” See Freeman, Tr. 920:18-922:13.
- FF129.** The owners’ manual for the FoodSaver1, copyrighted in 1987, at the very outset of its “Operating Instructions” section, cautions the user as follows:

When sealing in *Foodsaver* bags, always exercise care in vacuuming liquids or powders. Once drawn into the pump, any residue can cause the pump to jam. Some models have a filter which prevents liquids or powders from being drawn into the pump.

RX-712, at p. T065092.

FF130. Elsewhere in the manual for the FoodSaver1, the user is told:

The vacuum pump may become jammed from sucking liquids or powders through the nozzle. A jammed pump makes a low humming sound.

RX-712, at p. T065097.

FF131. In the FoodSaver1.5, the vacuum nozzle was equipped with a particle filter resting inside the nozzle assembly that was removable for cleaning. See RX-714, at pp. T023859-60.

FF132. Despite the presence of this added feature in the FoodSaver1.5, the same two cautionary statements found in the owners' manual for the FoodSaver1 appear in the 1988-copyrighted manual for the FoodSaver1.5 as well. See RX-714 at pp. T023863 and T023872.

FF133. It was commonplace for designers of home appliances in the 1980s to make themselves aware of other appliances in the marketplace, whether commercial products or those disclosed in patent or other literature. Freeman, Tr. 915:22-916:25.

FF134. the User Manual for the Tilia FoodSaver VAC 550 machine, which has the claimed "trough means," no longer carries the warning statements that appeared in the instruction manuals for the FoodSaver1/1.5. Instead, it states only:

IMPORTANT: You will need to pre-freeze foods that have excess liquid or moisture before vacuum packaging in FoodSaver Bags because the liquid can be drawn up into the vacuum pump.

CPX-1 (Tilia FoodSaver VAC 550 User Manual at 9).

- FF135.** A “trough means . . . for collecting liquids and particles . . .” as required by claim 34 of the ‘310 patent is missing from the prior-art FoodSaver1/1.5 machine. See Kirk, Tr. 987:8-988:22.
- FF136.** Hanns Kristen had seen the Dazey Vacuum Seal-A-Meal machine before he devised the invention of the ‘310 patent. Kristen, Tr. 820:2-24.
- FF137.** Although the ‘310 patent application referred without specifics to a prior-art “conventional vacuum sealing system us[ing] a vacuum nozzle that is inserted within a plastic bag for evacuation purposes,” the Dazey Vacuum Seal-A-Meal food sealer machine was not among the cited references examined during the prosecution of the ‘310 patent. See CX-1(‘310 patent, first page).
- FF138.** A representative drawing of a top view of the Dazey Vacuum Seal-A-Meal Model SAM-3 machine appears in the Instruction and Recipe Book for that product. RX-44.
- FF139.** The only elements of claim 34 of the ‘310 patent that are missing from the Dazey Vacuum Seal-A-Meal machine is that portion of the “vacuum chamber” comprising a “trough means . . . for collecting liquids and particles therein . . .” and the use of bags having protuberances and channels as required by the preamble of claim 34. See Freeman, Tr. 920:18-922:13; also see Hearing Tr. 1157:7-1158:3.
- FF140.** The Dazey Vacuum Seal-A-Meal machine and the Tilia FoodSaver1/1.5 machine are almost identical to one another. See Freeman, Tr. 901:19-24; compare CPX-10 to RPX-5; compare RX-714 to RX-44.
- FF141.** The Dazey Vacuum Seal-A-Meal machine has a base, a pivotal hood, a vacuum nozzle, heat sealing means and a means to seal the bag against the nozzle. Freeman, Tr. 900:23-901:7.
- FF142.** The Dazey Vacuum Seal-A-Meal machine operated in much the same way as the Tilia FoodSaver1/1.5 machine. RPX-5; RX-44 at RC000058.
- FF143.** The Dazey Vacuum Seal-A-Meal Instruction and Recipe Book contained cautionary language for the user:

IMPORTANT NOTE: Do not attempt to vacuum seal liquids. They [can] effectively be sealed in the conventional non-vacuum sealing method [using] the bag pegs. The Vacuum Seal-A-Meal has a drain mechanism in [case] liquids should be drawn into the vacuum orifice. If this should happen, you will hear a grinding noise as the liquid passes through and drains out of the underside vents of your appliance.

RX-44 at RC000058-59.

FF144. The Dazey Vacuum Seal-A-Meal machine utilized a nozzle inserted into the bag in order to evacuate the bag. RX-44 at RC000058.

FF145. A person of ordinary skill in the art in the 1980s would have readily substituted the “trough means” and bags having protuberances and channels of the Taunton patent for the nozzle and plastic bags of the Dazey Vacuum Seal-A-Meal device in order to solve the problem of clogging the vacuum pump. Freeman, Tr. 919:12-23.

FF146. Ahn did not meet with his importers about the nozzle-less freshGUARD machine design until after ZeroPack had won a patent infringement suit brought against it by Tilia under the latter’s Korean counterpart patent to the ‘310 patent. See Ahn, Tr. 803:6-15.

FF147. [

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FF152. [

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- FF153.** Hanns Kristen is the inventor named on the face of the '310 patent. Kristen, Tr. 807:6-8; CX-1 ('310 patent, first page).
- FF154.** Kristen is an aeronautical astronautical engineer by training, and after a career with several multinational corporations, he came to be employed by Complainant Tilia, Inc. until the year 2000. Kristen, Tr. 807:9-12, 865:8-21.
- FF155.** [
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- FF156.** Kristen became interested in vacuum packaging machines sometime around 1980 or 1981 when, while in South Africa, he saw a vacuum packaging machine made by an Italian company called Mefar. Kristen, Tr. 808:18-23; 809:17-20, 865:22-866:15.
- FF157.** Kristen began thinking about a design of his own for a vacuum packaging machine, and recognized that a small vacuum pump was an important part of such a machine. Kristen, Tr. 810:14-18.
- FF158.** Kristen investigated potential sources of supplies of such vacuum pumps, which led him to Flaem Nuova, S.p.A. ("Flaem"), a company in Brescia, Italy that manufactured such pumps for medical appliances. Kristen, Tr. 810:19-24, 811:8-10, 812:5-15.
- FF159.** After approaching Flaem for a vacuum pump supply, Kristen looked to that company for manufacturing expertise in making a home appliance. Kristen, Tr. 812:21-24.
- FF160.** The person with whom Kristen worked at Flaem was Luigi Abate, the owner of the company. Kristen, Tr. 812:25-813:2, 869:2-10; RX-438C at p. 9 (Arbitration Tr. 369:18-20).
- FF161.** Kristen worked with Abate and Flaem to produce Tilia's first vacuum packaging machine, the FoodSaver1. Kristen, Tr. 813:3-19; RX-712.
- FF162.** The FoodSaver1 was sold in the United States around 1984 or 1985.

- FF163.** Flaem manufactured the FoodSaver1 and prepared the formal engineering drawings for manufacture; Kristen did not perform those tasks. Kristen, Tr. 816:20-817:817:6, 817:12-18.
- FF164.** Kristen communicated with Flaem on design through sketches, but he did not save any of these documents and could not recall any individual instances of such communications with Flaem. See Kristen, Tr. 817:20-818:5, 819:21-25.
- FF165.** Although Kristen applied for and secured a U.S. patent for the plastic bag that was used in the FoodSaver1 machine, he never applied for a patent on that machine because it did not appear to him to be that innovative. Kristen, Tr. 818:6-19.
- FF166.** Kristen, through Tilia as it was then constituted, entered into a development cooperation agreement with Flaem in 1985, and executed a new agreement in 1990. RX-215C at T030375.
- FF167.** In the 1985 and 1990 agreements, Tilia and Flaem agreed that they “jointly and separately own all ideas, developments, and other relevant information and intelligence (including certain patents) connected with the product line.” RX-215C at T030375.
- FF168.** In the 1990 agreement, Tilia and Flaem also declared that U.S. Patent No. 4,756,422, the so-called “bag patent,” was “the exclusive property of Tilia.” RX-215C at T030375.
- FF169.** Tilia and Flaem also agreed that a U.S. patent for a lid attachment and an Italian patent for the FoodSaver1 “are the only issued patents for vacuum technology jointly developed by Tilia and Flaem,” and that if the agreement is ever terminated, both parties “shall have the right to manufacture and sell Products containing technology taught in such patents without any royalty payments” except for one particular circumstance not relevant here. RX-215C ¶ 28, at T030382.
- FF170.** Tilia and Flaem further agreed that:

The only new invention pending in a patent application as of the date of this agreement [February 20, 1990] is in the USA and is for claims in connection with the “new generation” or “trough type” machines. Upon the issuing of a patent for this invention, Flaem shall have the right to manufacture and sell machines protected under such patent without royalty payments due Tilia in the event that this Agreement is terminated for any reason.

RX-215C ¶ 29, at T030382.

- FF171.** During 1990-1992, Tilia and Flaem encountered disagreements about the quality of machines manufactured by Flaem and the payments made by Tilia. RX-216C ¶ 12, at p. 5.
- FF172.** In 1993, the cooperation agreement was terminated and the parties entered into a settlement agreement to deal with their post-termination differences. RX-216C ¶¶ 12-18, at pp. 5-8.
- FF173.** The 1993 agreement failed to resolve the dispute, and in 1998, Tilia sued Flaem in U.S. District Court for the Northern District of California. RX-216C ¶ 19, at p. 8.
- FF174.** The U.S. District Court for the Northern District of California ordered arbitration. RX-216C ¶ 19, at p. 8.
- FF175.** An arbitration proceeding was commenced between Tilia and Flaem on January 25, 2000 in the International Court of Arbitration in Geneva, Switzerland, and a witness hearing was held in Geneva on April 30-May 3, 2001. RX-216C, at p. 2.
- FF176.** Subsequently, the sole arbitrator issued his written award opinion (the “Award Sentence”) on January 14, 2002. RX-216C.
- FF177.** In the Award Sentence, the arbitrator characterized the dispute as follows:

The case is about whether Flaem has a right to practice the ‘310 Patent. Since that patent is held by Tilia, Flaem’s right would have to result either from a license or some co-ownership right. The

central issue is whether or not the Settlement Agreement, in particular its Clauses 2 and 6, put an end to Flaem's post-termination royalty-free license of the '310 Patent, as provided for in Clause 29 of the 19909 Agreement. Flaem further asserts that it co-owns the technology, including that protected by the '310 Patent.

RX-216C Art. C, at p. 9.

FF178. In resolving this dispute, the arbitrator found, inter alia, as follows:

Co-ownership of the technology. The above finding does not touch on the ownership of the '310 Patent. It is because Mr. Kristen alone applied for, and was granted, the '310 Patent that the parties had to provide for the royalty-free license in favor of Flaem. At the time of the discovery and of the development of the trough system, the parties were still living under the 1985 Agreement, which provided for shared ownership of joint developments; [footnote omitted] in addition, Flaem appeared to have had a major role in developing the trough system, to say the least. [footnote: "As evidence inter alia by Flaem's letter of November 19, 1997 and the sketch by Mr. Luigi Abate." (of which more later)] Regarding the '310 Patent, the parties appear to have chosen, not a co-ownership of the patent, but instead a royalty-free license for Flaem. This is not an unusual arrangement when one of the two joint venture partners obtains a patent over a jointly developed technology. This arrangement precludes me from declaring that the '310 Patent is jointly owned by Flaem at least as a matter of Swiss contract law.

RX-216C ¶ 40, at p. 16.

FF179. In the Swiss arbitration hearing, Abate testified that while he was working on the development of the FoodSaver1, he learned of a machine manufactured by a company named Berkel that could vacuum-package smooth, folded bags. See RX-563C at p. 7 (Arbitration Tr. 358:13-359:4).

FF180. Abate testified in the Swiss arbitration proceeding that he went to Berkel to view the machine, which was much bigger than the household appliance he was developing with Kristen and was made of stainless steel for commercial uses. See RX-563C at p. 7 (Arbitration Tr. 360:2-6).

- FF181.** Abate testified in the Swiss arbitration proceeding that he bought the Berkel machine, took it back to Flaem, sketched a drawing to show how it worked, and had the drawing sent to Kristen in the United States. See RX-563C at pp. 7 and 10 (Arbitration Tr. 360:14-25, 379:4-12).
- FF182.** The Abate sketch was faxed to Kristen in a letter dated November 19, 1987 from a Flaem marketing consultant named Grazia (the “Grazia letter”). Kristen, Tr. 823:19-824:15; RX-563C at pp. 10-11 (Arbitration Tr. 381:24-382:25); RX-438.
- FF183.** According to Abate’s testimony at the Swiss arbitration proceeding, the Berkel machine had a trough for collecting liquids and particles that Abate copied onto his drawing for Kristen. See CX-134C at pp. 6-7 (Arbitration Tr. 368:7-9, 373:1-21, 374:14-24).
- FF184.** On his sketch to Kristen, Abate drew a trough that was equipped with a vacuum pipe connected to the bottom of the trough, that rose above the level of liquids and particles collecting in the trough, and by that means avoided sucking the liquids and particles into the vacuum motor connected to the pipe. See CX-134C at p. 7 (Arbitration Tr. 368:19-369:1, 376:18-377:21).
- FF185.** In his sketch for Kristen, Abate depicted a trough holding a bag that had liquid was dripping from the bag’s mouth into the trough, and also showed the upright vacuum pipe opening above the liquid level and connecting to a vacuum filter and pump. RX-438.
- FF186.** At one point in his testimony before the Swiss arbitrator, Abate stated that he did not invent the trough shown in his sketch, but instead took it from the existing Berkel machine and built it into his own prototype. See CX-134C at p. 7 (Arbitration Tr. 374:17-24).
- FF187.** At another point in his testimony before the Swiss arbitrator, Abate said that the drawings do not wholly represent Berkel; that instead “[t]here is a bit of the Berkel but also a bit of our idea and the way we wanted to do it.” See RX-563C at p. 11 (Arbitration Tr. 384:2-10).
- FF188.** Abate stated to the Swiss arbitrator that the formation of a curved surface creating a trough was his idea, whereas the lower surface of the trough of the Berkel machine was flat. See RX-563C at p. 11 (Arbitration Tr. 384:15-385:1).

FF189. Abate noted to the Swiss arbitrator that, instead of the Berkel machine's vacuum intake on the bottom of the trough as shown in the sketch, his prototype for Tilia was designed with the vacuum intake on the top of the vacuum chamber. See RX-563C at p. 9 (Arbitration Tr. 368:19-369:7); CX-134C at p. 7 (Arbitration Tr. 376:18-24).

FF190. In response to the November 19, 1987 Grazia letter, Kristen wrote back by fax dated November 20, 1987 (the "Kristen letter"). Kristen, Tr. 827:9-25; RX-439.

FF191. The first page of the Kristen letter is marked "URGENT." RX-439.

FF192. According to Kristen, this "urgent" indicator referred to an order for 250 "small lid attachments" that he was placing with Flaem. RX-439; Kristen, Tr. 835:9-12, 864:20-865:7.

FF193. Among other statements in the letter, Kristen made the following comment:

I have studied your faxes and the Flaem drawings and I am excited about the new ideas. I think this new concept may cause us to rethink our marketing strategies.

Kristen, Tr. 828:7-12; RX-439.

FF194. Kristen also stated in the letter:

I understand the new vacuum method and think it is marvelous. I hope it is not patented by Berkel! The folded bag design is interesting but I'm not sure it will work well for wet or liquid foods. There are always air pockets which will not get to the edges where the bag is folded, and it is along these folds that the air gets out of the folded bag into the machine.

Kristen, Tr. 829:7-19; RX-439; CX-134C (Arbitration Tr. 400:12-18) (noting exclamation point).

FF195. When asked at trial why he referred to Berkel in this passage, Kristen had no idea. Kristen, Tr. 832:3-5.

FF196. Kristen stated at trial that this passage did not refer to the Abate sketch, but referred instead to a concept shown in a different drawing in the Grazia letter for using the vacuum cylinder to close the hood. Kristen, Tr. 832:14-833:23 RX-439.

FF197. This concept of using the vacuum cylinder to close the hood excited Kristen, he further testified, because it allowed a user to operate the machine without getting dirty hands or getting food on the bags. Kristen, Tr. 833:13-23.

FF198. Nevertheless, Kristen further noted at trial, he was "not quite sure what I'm referring to where here." Kristen, Tr. 834:10-11.

FF199. Kirsten further stated in his letter to Grazia:

I am excited about the liquid and dust separation technique of the new system. And the big volume of the liquid that can be trapped in the chamber.

Kristen, Tr. 842:20-24; RX-439.

FF200. Here, Kristen claimed at trial, he was referring to the trough, to a diagonal pipe for removing liquids from the trough that is shown in the Abate sketch as emanating from the lower right side of the trough, and also to a vertical pipe emanating from the bottom of the trough and ending in a "powder filter," that separates the liquids from the powders instead of having them all end up in the same place. Kristen, Tr. 842:25-844:17.

FF201. At the arbitration proceeding, Abate testified that he received the Kristen letter a few days after it was sent and that Kristen came to Flaem a few days later to view the Berkel machine and Abate's newly-designed prototype. See Kristen, Tr. 835:21-24; RX-563C at pp. 7 and 10 (Arbitration Tr. 361:1-4, 379:25-380:10).

FF202. Abate further testified that he understood Kristen's elation with the design to center on the trough and the gaskets surrounding the bag. See RX-563C at p. 10 (Arbitration Tr. 380:11-23).

- FF203.** Abate's testimony was supported at the arbitration proceeding by the testimony of two other Flaem employees, Ezio Breda and Franco Aiolfi. See RX-564 (Breda); RX-565 (Aiolfi).
- FF204.** When Kristen filed his patent application that matured into the '310 patent, he believed that the vacuum chamber design with the trough for collecting liquids and particles was an important feature of his invention. Kristen, Tr. 820:11-24.
- FF205.** Kristen denied that Abate is the inventor of the trough concept or any other technology in the '310 patent. Kristen, Tr. 872:14-873:2.
- FF206.** Kristen testified that he had conceived of the trough element at a lunchtime conversation with Abate before receiving Abate's sketch. See Kristen, Tr. 846:20-25, 871:12-872:13.
- FF207.** Kristen has not retained any records of sketches or other correspondence corroborating his earlier conception of this element, including in particular a restaurant napkin on which he claims to have sketched the trough design during the lunch with Abate. Kristen, Tr. 847:9-18.
- FF208.** Kristen further testified that in the 10 years or more following the invention of the '310 patent, Abate and Flaem never challenged Kristen's sole inventorship until the Swiss arbitration proceeding commenced. Kristen, Tr. 873:20-874:6.
- FF209.** Both Kristen at the TEO hearing and Abate at the arbitration proceeding testified that they had no concerns about the marketing or patenting of the vacuum packaging machine invention by the other, because both were bound by contracts. See Kristen, Tr. 853:3-854:17; CX-134C at pp. 3 and 5 (Arbitration Tr. 356:2-357:6; 367:12-368:5).
- FF210.** Kristen received the Abate sketch and Kristen believes that it depicts the invention of the '310 patent. See Kristen, Tr. 891:1-8.
- FF211.** The vacuum tube of the Abate sketch comes up through the bottom of the trough and rises high enough to clear the liquids and particles that gather in the trough. See RX-438.

- FF212.** In the "trough means" disclosed in the '310 patent, by contrast, the vacuum tube (identified as item 54) enters the vacuum chamber through the top of the chamber of which the trough is a part, not the bottom of the trough, as shown in Figure 6 of the patent. See CX-1 ('310 patent, Fig. 6).
- FF213.** The same is true for the alternative embodiment shown in Figure 11 of the '310 patent (identified as item 54a). See CX-1 ('310 patent, Fig. 11).
- FF214.** During the arbitration proceeding, Abate himself made a point of noting this distinction between the device that he sketched and the Tilia machine. See RX-563C at p. 9 (Arbitration Tr. 368:19-369:7); CX-134C at p. 7 (Arbitration Tr. 376:18-24).
- FF215.** Kristen's testimony at the TEO hearing does not credibly support Complainants' argument that either he or his prosecuting attorney informed the PTO about this device. See Kristen, Tr. 820:25-823:18.
- FF216.** Kristen's disclosure of the "conventional vacuum sealing system us[ing] a vacuum nozzle that is inserted within a plastic bag for evacuation purposes" in column 1 of the '310 patent specification does not adequately describe by itself all of the features of the FoodSaver 1/1.5 machine that satisfy the elements of claim 34 other than the "vacuum chamber comprising trough means" component. See CX-1 ('310 patent, col. 1:21-31).
- FF217.** During the prosecution of the '310 patent, the Examiner identified U.S. Patent No. 4,561,925 to Skerjanec et al. ("the '925 patent"). See CX-2 (Notice of References Cited dated December 12, 1989).
- FF218.** The Skerjanec patent is entitled "Foil Welding Device." See CX-3 at p. 89 ('925 patent, first page).
- FF219.** This device is described in the '925 patent as follows:

The present invention pertains to a foil welding device, i.e., a device for welding thermoplastic foil bags intended for storing food. The

welding device is intended for use in the household and enables the suction of air from the prior bags [sic: bags prior] to welding.

CX-3 at p. 94 ('925 patent, col. 1:4-8).

- FF220.** The specification of the '925 patent discloses a nozzle-type vacuum packaging device for evacuating only the open end of a "thermoplastic foil bag." CX-3 at pp. 93-94 ('925 patent, col. 2:63-66; Fig. 5).
- FF221.** The '925 patent also discloses the functions of evacuating and sealing such a bag. CX-3 at p. 95 ('925 patent, col. 3:29-37).
- FF222.** The device disclosed in the '925 patent has a hood pivotally mounted on the base. CX-3 at pp. 90 and 94 ('925 patent, col. 2:20-21; Fig. 1).
- FF223.** An overall view of the device is shown in Figure 1 of the '925 patent. CX-3 at p. 90 ('925 patent, Fig. 1).
- FF224.** The device of the '925 patent utilizes a nozzle 4 to receive the open end of a bag that attaches underneath and over the nozzle, and after the bag is filled, a "strainer 9" stretches the open end D of the bag over the length of the front of the device and across the heat-sealing wire 10. CX-3 at p. 93 ('925 patent, Figs. 5 and 6).
- FF225.** When the hood 2 of the device of the '925 patent is closed over the bag, the nozzle evacuates the bag and the heat-sealing wire seals the bag shut. CX-3 at p. 94 ('925 patent, col. 2:56-3:37).
- FF226.** The '925 patent discloses many features of the invention of the '310 patent, but it is lacking in three claimed elements: the "plastic bag having overlying first and second panels defining an evacuative chamber," the "trough means," and the "static seal means." See CX-3 at p. 93 ('925 patent, Figs. 5 and 6).
- FF227.** [
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FF228. [

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FF246. [

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FF247. Applica forecasts sales to Wal-Mart of [] vacuum packaging machines through August 2004, for a total price of over []. Ensor, Tr. 494:4-11; CX-59C.

FF248. Applica's average profit margin on its vacuum packaging machines is []% compared to an average profit margin on its kitchen electric appliances of []%. Lopez, Tr. 514:11-21.

FF249. Holmes and Rival's Seal-A-Meal vacuum packaging machines were introduced at Kmart in May 2003. Graebner, Tr. 70:17-71:3.

FF250. [

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FF252. Holmes and Rival also plan on selling at several other U.S. stores. Plaumann, Tr. 756:7-17.

FF253. Target was slated to begin selling the Seal-A-Meal beginning in October 2003. Plaumann, Tr. 756:18-22.

FF254. Holmes has forecast that it will sell approximately [] Seal-A-Meal units for approximately [] in 2003. Plauman, Tr. 759:22-650:9; CX-74.

FF255. As of the TEO hearing, Holmes and Rival had sold approximately 68,000 units in calendar year 2003. Plaumann, Tr. 754:2-25; CX-75.

FF256. []

FF257. []

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- FF280.** Retailers such as Wal-Mart carry more than one brand of vacuum packaging machine and that she is unaware of any retailer that has a policy against carrying more than one brand. Graebner, Tr. 151:2-153:2.
- FF281.** Jarden's CEO, Martin Franklin, gave a favorable report of Tilia's upside potential to the securities market, even in the face of impending competition. See Franklin, Tr. 194:8-195:18; RX-277, at p. 23.
- FF282.** [
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- FF283.** [
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- FF284.** [
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- FF285.** [
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- FF286.** According to the TEO proceeding testimony of Joon-Young Ahn, ZeroPack's CEO, ZeroPack is a small company. Ahn, Tr. 785:2-14.
- FF287.** When, in 2001, Tilia sued ZeroPack in Korea for infringing Tilia's Korean counterpart patent to the '310 patent by reason of ZeroPack's manufacture of a vacuum packaging machine called the "SkyZeroPack," resulting in an injunction against ZeroPack, ZeroPack reduced its workforce to three people and did not manufacture any products. SX-2C (ZeroPack Answer to Staff Interrogatory No. 2).
- FF288.** ZeroPack today has only six employees and has no capability to manufacture vacuum machines. Instead, ZeroPack operates through its relationships with other companies in order to manufacture and export vacuum machines. Ahn, Tr. 782:2-19; SX-2C (ZeroPack Answer to Staff Interrogatory No. 2).

- FF289.** Wal-Mart carries Applica's complete product line. Schulman, Tr. 733:9-13.
- FF290.** Right now, Applica sells its Black & Decker freshGUARD vacuum packaging machine only to Wal-Mart, []. Schulman, Tr. 732:20-733:1.
- FF291.** []
- FF292.** Applica's small kitchen business contributes [] of Applica's [] sales to Wal-Mart. Schulman, Tr. 734:14-25.
- FF293.** Holmes and Rival would lose sales and profits if temporary relief were issued. Plaumann, Tr. 743:15-19.
- FF294.** Rival's budgeted sales in 2004 are forecast to be approximately []. Plaumann, Tr. 743:22-24.
- FF295.** Based on a "no-growth" estimate, a temporary exclusion order extending until mid-November 2004 would result in lost sales in the first quarter of 2005 in the amount of about [] or approximately [] in gross margin loss. Plaumann, Tr. 746:10-14, 747:15-748:2.
- FF296.** As of September 12, 2003, Applica has shipped [] products to Wal-Mart and Wal-Mart had, in turn, sold [] products to consumers. Ensor, Tr. 488:14-489:6.
- FF297.** As of September 10, 2003, Holmes/Rival has [] units in inventory. Plaumann, Tr. 753:22-755:24; CX-75C.
- FF298.** ZeroPack has shipped approximately [] machines to Applica in the United States. Ahn, Tr. 785:23-786:3.

- FF299.** Holmes/Rival has forecast that it would have [] in sales of home vacuum packaging machines and bags in 2003 and [] in sales in 2004. Plaumann, Tr. 743:3-744:8, 743:22-24, 753:11-14.
- FF300.** Holmes/Rival's gross margin on the Seal-A-Meal products is approximately [] percent. Plaumann, Tr. 742:14-16.
- FF301.** Holmes/Rival expects to lose approximately [] in gross profit during the pendency of this investigation in 2004 if its products are excluded from the United States. Plaumann, Tr. 743:3-744:8, 753:11-14.
- FF302.** Applica's forecast for sales of the freshGUARD Model VS200 vacuum packaging machine, the only machine it sells to Wal-Mart, for September 2003 through August 2004 is [] units, amounting to []. Ensor, Tr. 486:25-487:12; CX-59C at APP035853.
- FF303.** Wal-Mart is Applica's only customer for home vacuum packaging machines. Schulman, Tr. 734:14-735:15, 740:8-13.
- FF304.** Applica's profit margin on the Black & Decker freshGUARD machine is [] percent. Lopez, Tr. 514:18-21.
- FF305.** Applica's home vacuum packaging machines have an average retail price of \$58.87. Ensor, Tr. 486:3-24; CX-58C.
- FF306.** Holmes/Rival offers its home vacuum packaging machine for \$89.99. CX-67.
- FF307.** []

CONCLUSIONS OF LAW

- CL1.** Complainants have standing to bring this Section 337 investigation.
- CL2.** The Commission has jurisdiction over the subject matter of this investigation.
- CL3.** The Commission has personal jurisdiction in this investigation.
- CL4.** The term in claim 34 of the '310 patent "a plastic bag having overlying first and second panels defining an evacuative chamber and overlying heat sealable panel portions terminating at an open end of said bag communicating with said evacuative chamber" is construed, for purposes of temporary relief only, to be a substantive limitation of claim 34 in that the inventive apparatus must operate on "a plastic bag" as so described, and is further construed as not precluding intervening structure between the "overlying first and second panels defining an evacuative chamber."
- CL5.** The term in claim 34 of the '310 patent "a base defining an upper support surface adapted to receive the open end and sealable panel portions of said bag thereon" is construed, for purposes of temporary relief only, to mean a base that "defines" (in accordance with any one of the meanings of that word set forth hereinabove) an upper support surface that is adapted to "receive" (in accordance with any one of the meanings of that word set forth hereinabove) the open end and sealable panel portions of said bag thereon.
- CL6.** The term in claim 34 of the '310 patent "a hood mounted on said base and movable to a closed position" is construed, for purposes of temporary relief only, to mean a hood that is fastened to the base in some manner and, having been thus fastened, can then be moved to a closed position.
- CL7.** The term in claim 34 of the '310 patent "said hood and base defining a vacuum chamber therebetween adapted to receive the open end of said bag in exposed relationship therein" is construed, for purposes of temporary relief only, to mean (i) that the hood and base "define" (in accordance with any one of the meanings of that word set forth hereinabove) a vacuum chamber but do not solely delineate that chamber's boundary and shape; (ii) that the vacuum chamber is adapted to "receive" (in accordance with any one of the meanings of that word set forth hereinabove) the entire open end of the bag inside the

chamber, not just a part of it; and (iii) that there is no restriction of “vacuum chamber” regarding the presence or absence of a nozzle inserted into the bag.

- CL8.** The term in claim 34 of the ‘310 patent “said vacuum chamber comprising trough means defined on said base for collecting liquids and particles therein during vacuum sealing of said bag” is construed, for purposes of temporary relief only, as a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6 to mean a trough (i) that performs the function of collecting liquids and particles in the bag during vacuum sealing of said bag, without reference to its impact on the vacuum pump; and (ii) that corresponds to component 34 in Figures 6, 7 and 8, or component 34a in Figure 11 of the ‘310 patent, consisting of a trough located near the front side of the machine’s base and extending along a substantial portion of the front side of the base, without regard to any particular dimensionality to the trough, or the structural equivalent thereof.
- CL9.** The term in claim 34 of the ‘310 patent “static seal means circumventing said vacuum chamber and disposed between said base and said hood for directly engaging outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position to form a static seal isolating the open end of said bag and said vacuum chamber from ambient and to maintain the open end of said bag in communication with the evacuative chamber thereof,” is construed, for purposes of temporary relief only, as a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6 to mean a static seal (i) that performs the functions of (a) “directly engaging” both “outer surfaces of the sealable panel portions of said bag in response to movement of said hood to its closed position,” (b) forming “a static seal isolating the open end of said bag and said vacuum chamber from ambient,” and (c) maintaining “the open end of said bag in communication with the evacuative chamber thereof”; and (ii) that corresponds to components in the embodiment shown in Figures 6-8 of the patent consisting of an elastomeric or gasket-like material on the base (component 39) surrounding the trough (component 34), an “optional” elastomeric seal on the hood (component 49), sidewalls on the hood (components 41 and 42), and end struts on the hood (components 45 and 46), or the components in the embodiment shown in Figure 11 of the patent consisting of an elastomeric or gasket-like material on the hood (component 39a) surrounding the chamber portion 40a and the base 32a or a flat surface such as a countertop, or the structural equivalents thereof.
- CL10.** The term in claim 34 of the ‘310 patent “evacuation means communicating with said vacuum chamber for selectively evacuating said vacuum chamber and the evacuative chamber of said bag” is construed, for purposes of temporary relief only, as a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6 to mean an evacuation means (i) that performs the function of evacuating the vacuum chamber and the evacuative

chamber of the bag under the selective control of the user; and (ii) that corresponds to components in the embodiment shown in Figure 9 of the patent consisting of at least vacuum pump 53 communicating with the vacuum chamber through tube 54, or in the embodiment shown in Figure 11, the components consisting of at least vacuum pump 53a communicating with the vacuum chamber through tube 54a, or the structural equivalents thereof. Further, there is no restriction of “evacuation means” regarding the presence or absence of a nozzle inserted into the bag. Moreover, there is no restriction of the “evacuation means” in connection with the location of the tube that connects the vacuum pump to the vacuum chamber.

- CL11.** There is no reasonable likelihood of success on the merits in proving that Applica and ZeroPack's Black & Decker freshGUARD vacuum packaging machine infringes claim 34 of the '310 patent.
- CL12.** There is no reasonable likelihood of success on the merits in proving that Holmes and Rival's Seal-A-Meal vacuum packaging machine infringes claim 34 of the '310 patent.
- CL13.** There is a reasonable likelihood of success on the merits in proving that the technical prong of the domestic industry requirement of Section 337 is satisfied.
- CL14.** There is a reasonable likelihood of success on the merits in proving that the economic prong of the domestic industry requirement of Section 337 is satisfied.
- CL15.** There is no reasonable likelihood of success on the merits in proving that claim 34 of the '310 patent is invalid as anticipated under 35 U.S.C. § 102(b).
- CL16.** There is a reasonable likelihood of success on the merits in proving that claim 34 of the '310 patent is invalid as obvious under 35 U.S.C. § 103(a) in view of a combination of the Taunton patent and either (i) the FoodSaver1/1.5 vacuum packaging machine, or (ii) the Dazey Seal-A-Meal vacuum packaging machine.
- CL17.** There is no reasonable likelihood of success on the merits in proving that the '310 patent is invalid for derivation under 35 U.S.C. § 102(f) or improper inventorship under 35 U.S.C. §§ 116 and 256.

- CL18.** There is a reasonable likelihood of success on the merits in proving that the '310 patent is enforceable.
- CL19.** Complainants will not suffer irreparable harm if temporary relief is not granted.
- CL20.** The balance of hardships tips in favor of Respondents.
- CL21.** Temporary relief would have an unfavorable impact on the public interest.
- CL22.** Temporary relief under 19 U.S.C. §§ 1337(e) and (f) is not warranted.

Accordingly, Complainants' motion for temporary relief is denied.

REMEDY, THE PUBLIC INTEREST, AND BONDING

Under the Commission's Rules, an initial determination on temporary relief must cover "the issues listed in [19 C.F.R.] §§ 210.52 and 210.59." 19 C.F.R. § 210.66(a). These include, inter alia, "(1) [w]hether the complainant should be required to post a bond as a prerequisite to the issuance of temporary relief; and (2) [t]he appropriate amount of the bond, if the Commission determines that a bond will be required." 19 C.F.R. § 210.52(b). In addition, the initial determination on temporary relief "may, but is not required to, address the issues of remedy, the public interest, and bonding by the respondents pursuant under sections 337 (e)(1), (f)(1), and (j)(3) of the Tariff Act of 1930." 19 C.F.R. § 210.66(a). These issues are now addressed.

Remedy

Temporary Exclusion Order

In the event that the Commission determines that temporary relief is warranted, then the appropriate relief would be a temporary limited exclusion order directed to those accused home vacuum packaging machines found likely to be infringing.

Temporary Cease and Desist Order

Respondents have amassed a significant inventory of allegedly infringing home vacuum packaging machines in the United States. As of September 10, 2003, Holmes/Rival has [] units in inventory. Plaumann, Tr. 753:22-755:24; CX-75C; **FF 297**. ZeroPack has shipped approximately [] machines to Applica in the United States. Ahn, Tr. 785:23-786:3; **FF 298**.

This level of inventory warrants the issuance of temporary cease and desist orders against Respondents in the event that Complainant is found to be entitled to temporary relief.⁶³

The Public Interest

For the reasons stated earlier herein, the public interest does not favor the issuance of temporary relief in this case. See pp. 225-27 supra.

Complainants' Bond

In determining whether to require a bond from a complainant as a prerequisite to the issuance of temporary relief, the Commission is guided by practice under Rule 65 of the Federal Rules of Civil Procedure. 19 C.F.R. § 210.52(c).⁶⁴ Fed. R. Civ. P. 65(c) provides, in relevant part, as follows:

No restraining order or preliminary injunction shall issue except upon the giving of security by the applicant, in such sum as the court deems proper, for the payment of such costs and damages as may be incurred or suffered by any party who is found to have been wrongfully enjoined or restrained.

Fed. R. Civ. P. 65(c).

As to what "such costs and damages as may be incurred or suffered by any party who is found to have been wrongfully enjoined or restrained" may be, the Federal Circuit looks to the law of the relevant regional circuit. Hupp v. Siroflex of America, Inc., 122 F.3d 1456, 1467 (Fed. Cir. 1997).

⁶³ As of September 12, 2003, Applica has shipped [] products to Wal-Mart and Wal-Mart had, in turn, sold [] products to consumers. Ensor, Tr. 488:14-489:6; **FF 296**. Thus, as of September 12, 2003, Wal-Mart had approximately [] units remaining in inventory. However, Wal-Mart is not a party to this investigation, and the Commission has not asserted any jurisdiction over Wal-Mart. Consequently, a cease and desist order against Wal-Mart's sales cannot be issued. Accordingly, Wal-Mart's inventory is not relevant to the issue of whether a temporary cease and desist order is warranted.

⁶⁴ In describing the factors to consider in setting the amount of a complainant's bond, Respondents referred to a five-factor test that used to be set forth in Rule 210.24(e)(1)(iii) of the Commission's old "interim" rules of practice and procedure. That test was superceded in 1994 by the current wording of Rule 210.52(c) in order to comply with statutory amendments to Section 337. See 59 Fed. Reg. 67622, 67626 (December 30, 1994).

In the Ninth Circuit, where Tilia's principal place of business is located, district courts are afforded wide discretion in setting the amount of the bond, and the bond amount may be zero if there is no evidence the opposing party will suffer damages from the injunction. Connecticut General Life Ins. Co. v. New Images of Beverly Hills, 321 F.3d 878, 882 (9th Cir. 2003). In calculating the appropriate amount, the courts of the Ninth Circuit rely upon an estimate of lost sales during the injunction period multiplied by the expected profit margin on those sales. See, e.g., Nintendo of America, Inc. v. Lewis Galoob Toys, Inc., 16 F.3d 1032, 1038-39 (9th Cir.), cert. denied, 513 U.S. 822 (1994).

Here, Holmes/Rival has forecast that it would have [] in sales of home vacuum packaging machines and bags in 2003 and [] in sales in 2004. Plaumann, Tr. 743:3-744:8, 743:22-24, 753:11-14; **FF 299**. Holmes/Rival's gross margin on the Seal-A-Meal products is approximately [] percent. Plaumann, Tr. 742:14-16; **FF 300**. Thus, Holmes/Rival expects to lose approximately [] in gross profit during the pendency of this investigation in 2004 if its products are excluded from the United States. Plaumann, Tr. 743:3-744:8, 753:11-14; **FF 301**. Applica's forecast for sales of the freshGUARD Model VS200 vacuum packaging machine, the only machine it sells to Wal-Mart, for September 2003 through August 2004 is [] units, amounting to []. Ensor, Tr. 486:25-487:12; CX-59C at APP035853; **FF 302**. Wal-Mart is Applica's only customer for home vacuum packaging machines. Schulman, Tr. 734:14-735:15, 740:8-13; **FF 303**. Applica's profit margin on the Black & Decker freshGUARD machine is [] percent. Lopez, Tr. 514:18-21; **FF 304**. Therefore, Applica and ZeroPack together stand to lose approximately [] in gross profit from lost sales.

Accordingly, if temporary relief is granted, a complainants' bond from Tilia in the amount of \$17.9 million [] would be appropriate and is recommended.

Respondents' Bond

Under Section 337, a bond may imposed on imports of a respondent's accused articles "sufficient to protect the complainant from any injury." 19 U.S.C. § 1337(e)(1). The amount of this bond is typically determined by comparing the price differential between a complainant's and a respondent's products to determine respondent's competitive advantage. applica's home vacuum packaging machines have an average retail price of \$58.87. Ensor, Tr. 486:3-24; CX-58C; **FF 305**. Holmes/Rival offers its home vacuum packaging machine for \$89.99. CX-67; **FF 306**. [

FF 307.

]

* * *

Pursuant to 19 C.F.R. § 210.38(d), the record in the temporary relief phase of this investigation is hereby certified to the Commission. The final exhibit lists of the parties, the Staff and the Administrative Law Judge on temporary relief are appended hereto.

Pursuant to 19 C.F.R. § 210.66(b), this Initial Determination shall become the determination of the Commission thirty (30) calendar days after issuance unless the Commission modifies, reverses, or sets aside the initial determination in whole or part within that period.

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 may be made by facsimile and/or 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' submissions concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

Delbert R. Terrill, Jr.
Administrative Law Judge

Washington, D.C.

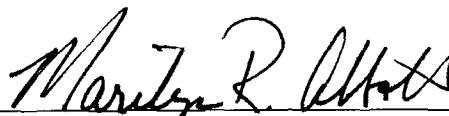
APPENDIX OF FINAL EXHIBIT LISTS ON TEMPORARY RELIEF

**CERTAIN HOME VACUUM
PACKAGING MACHINES**

INV. NO. 337-TA-496

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **INITIAL DETERMINATION** was served upon Thomas S. Fusco, Esq., Commission Investigative Attorney, and the following parties via first class mail and air mail where necessary on January 29 , 2003.



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**CERTAIN HOME VACUUM
PACKAGING MACHINES**

INV. NO. 337-TA-496

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**CERTAIN HOME VACUUM
PACKAGING MACHINES**

INV. NO. 337-TA-496

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