United States District Court,
S.D. New York.

RUBIE'S COSTUME, CO., INC,
Plaintiff.
v.
DISGUISE, INC,
Defendant.

No. 99 CIV. 3189(AGS)

June 21, 2000.

OPINION and ORDER

SCHWARTZ**, District J.**

Plaintiff Rubie's Costume, Co., Inc. ("plaintiff") filed this action against defendant Disguise, Inc. ("defendant"), alleging infringement of U.S. Patent No. 5,747,144 ("the '144 Patent"). Litigation in patent infringement cases has been bifurcated since the decision in Markman v. Westview Instruments, 52 F.3d 967 (Fed.Cir.1995) (*en banc*), *aff'd,* 517 U.S. 370 (1996), in which the Federal Circuit held that the interpretation of a patent's claims is the exclusive province of the court. During phase one, the court construes the claims, conducting a " *Markman* hearing" to collect evidence pertinent to claim construction. During phase two, the trier of fact determines whether infringement has occurred by comparing the allegedly infringing device to the scope and meaning of the claims as construed. This Court conducted a *Markman* hearing on March 28, 2000. On the basis of that hearing, the parties' submissions, and the Court's reading of the disputed patent, we now construe the claims at issue for the purpose of a subsequent decision on the question of infringement.

BACKGROUND

Plaintiff and defendant manufacture costumes. Plaintiff is the assignee of the '144 Patent, which issued on May 5, 1998. (Exh. A att. to Complaint.) The '144 Patent is entitled "Costumes with Semi-Rigid Fabric Components and Method of Manufacture of Same". (Exh. A att. to Complaint.) The invention comprises a laminate, formed by fusing a layer of fabric to a layer of foam, that is "vacuum molded" or "vacuum formed" into a semi-rigid, three-dimensional model of a muscular human chest. ('144 Patent, Col. 3, lines 30-40; Col. 4, lines 20-23, 32-35.) This chestpiece is then integrated into a costume by being sewn to costume components that are made of fabric alone. ('144 Patent, Col. 4, lines 43-45, 65-66.)

Prior to the '144 Patent, costume manufacturers had to choose between ease of integration and realism. Specifically, manufacturers could either make the entire costume out of fabric components that were easily sewn together but did not realistically portray a muscular chest, or manufacturers could mold a three-dimensional, plastic chestpiece that did look realistic but, because plastic is too hard to admit penetration by

needle, could not be sewn to the rest of a fabric costume. ('144 Patent, Col. 1, lines 49-62.) The advantage of the invention taught by the '144 Patent is that the costume is (i) easily integrated, because the fabric layer of the laminate can be sewn to the fabric arms, legs, and other costume components, *and* (ii) realistic, because the chestpiece is three-dimensional. ('144 Patent, Col. 2, lines 1-7.)

The parties disagree over the meaning of the following terms used in the patent's claims to describe the process that transforms the laminate into a three-dimensional chestpiece: "vacuum formed", "vacuum molded", and "vacuum molding". Each of the independent claims FN1 of the '144 Patent, claims 1, 9, 14, and 19, contains one of the three disputed terms. Claim 1 recites the term "vacuum molding", claims 9 and 14 recite the term "vacuum molded", and claim 19 recites the term "vacuum formed". Because all of the independent claims in the '144 Patent contain a disputed term and because independent claims are incorporated by dependent claims, all 21 claims of the '144 Patent recite one of the three disputed terms. The Court notes that the three disputed terms are used interchangeably by both plaintiff and defendant. (Plaintiff's Memorandum of Claim Interpretation ("Pl's.Mem.") at 8; Defendant's Pre-Markman Hearing Memorandum ("Def's.Mem.") at 5; Transcript of *Markman* hearing, dated Mar. 28, 2000 ("Tr.") at 68:4-10.) Therefore, although the parties' disagreement over meaning encompasses three separate terms and embraces all 21 claims, in order to resolve the disagreement the Court need engage in only a single exercise in claim construction.

FN1. Claims may be written in either "independent" or "dependent" format. *See* 35 U.S.C. s. 112. An independent claim recites the elements of an invention in a single paragraph without referring to any other claim. *See* Johnson Electric North America Inc. v. Mabuchi Motor America Corp., 77 F.Supp.2d 446, 452 n. 6 (S .D.N.Y.1999). A dependent claim defines an element recited in an independent claim and incorporates that claim by reference. *Id.*

DISCUSSION

I. LEGAL STANDARD GOVERNING CLAIM CONSTRUCTION

The purpose of claim construction is to determine "the meaning and scope of the patent claims asserted to be infringed." Markman, 52 F.3d at 976. Accuracy and precision in claim construction is vital. *See* Home Shopping Network, Inc. v. Coupco, Inc., No. 95 Civ. 5048(LBS), 1998 WL 85740, (S.D.N.Y. Feb. 27, 1998) (Sand, J.). One reason is that Article I of the U.S. Constitution permits Congress to grant patent owners what is essentially a lawful monopoly, and "excessive generality" in claim construction "can lead to encompassing too much within the patent's folds and a grant to the inventor of more than rights over his own invention". *Id.* "To the extent there exists any ambiguity as to the proper claim construction, the Federal Circuit has ruled, consistent with traditional canons of construction, that claims should be construed narrowly against the patent owner since it is the 'party responsible for drafting and prosecuting the patent." ' Novo Nordisk v. Becton Dickinson & Co., No. 96 Civ. 9506(BSJ), 2000 WL 294852, (S.D.N.Y. Mar. 21, 2000) (citation omitted).

In construing claims, courts must rely to the extent possible on "intrinsic evidence". Markman, 52 F.3d at 979 ("It is well settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record ...."). Intrinsic evidence is comprised of "the patent itself, including the claims, the specification,FN2 and, if in evidence, the prosecution history ." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). The language of the patent is to be accorded the meaning that one skilled in the relevant art would ascribe, unless the specification expressly imparts a novel definition. *See* Home

Shopping, 1998 WL 85740, *2; Intellectual Property Development v. UA Columbia Cablevision of Westchester, Inc., No. 94 Civ. 6296(SS), 1998 WL 142346, *19, 21 (S.D.N.Y. Mar. 26, 1998) (Sotomayor, J .) (stating that "the focus in construing disputed claim terms is always the objective test of what one of ordinary skill in the art ... understands the terms to mean" and, therefore, "the subjective intent of the inventor when using a particular term is of no probative weight in defining the scope of the claim ... *except* as documented in the specification") (citations omitted) (emphasis added); *cf.* Hoechst Celanese Corp. v. BP Chemicals Ltd., 78 F.3d 1575, 1578, (Fed.Cir.1996) ("A technical term used in a patent document is interpreted as having the meaning that it would be given by persons experienced in the field of the invention, unless it is apparent from the patent and the prosecution history that the inventor used the term with a different meaning.").

FN2. The specification is defined by statute as that portion of the patent that includes a description of the invention:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same.

35 U.S.C. s. 112. Technically, the claims are also part of the specification, but "general usage distinguishes between the specification and the claims as separate parts of the patent". Johnson, 77 F.Supp.2d at 450 n. 2 (citation omitted).
If intrinsic evidence proves insufficient to resolve an ambiguity in the language of the claims, a court may properly rely on "extrinsic evidence." *See* Key Pharmaceuticals v. Hercon Labs. Corp., 161 F.3d 709, 716 (Fed.Cir.1999) ("[A] trial court is quite correct in hearing and relying on expert testimony on an ultimate claim construction question in cases in which the intrinsic evidence ... does not answer the question.") (citation omitted). A court may also properly rely on extrinsic evidence in order to understand technical terminology that appears in the patent. *See* Home Shopping, 1998 WL 85740, *2; *see also* Key, 161 F.3d at 716 ("[T]rial courts generally can hear expert testimony for background and education on the technology implicated by the presented claim construction issues, and trial courts have broad discretion in this regard.") (citing Mantech Envtl. Corp. v. Hudson Envtl. Servs., 152 F.3d 1368, 1373 (Fed.Cir.1998)). Extrinsic evidence comprises "evidence that is external to the patent and file history," such as "expert testimony, inventor testimony, dictionaries, technical treatises, and articles." Vitronics, 90 F.3d at 1584. Where admissible for purposes of claim construction, extrinsic evidence may not be used to construe a claim in a manner that is "at odds" with the claim construction mandated by the intrinsic evidence. Key, 161 F.3d at 716 (citation omitted).

II. CONSTRUCTION OF THE CLAIMS IN THE '144 PATENT

"Claim disputes ... often boil down to the meaning of a phrase, a word, or a single functional or structural aspect of the patented device." Isogon Corp. v. Amdahl Corp., 47 F.Supp.2d 436, 438 (S.D.N.Y.1998). Here, the "claim dispute boils down to" the meaning of the term "vacuum forming".FN3 Plaintiff contends that vacuum forming should be construed to mean the shaping of heated plastic laminate using pressure, *with or without vacuum,* in order to create a three-dimensional shape. (Pl's. Mem. at 11 (emphasis added).) FN4 Plaintiff elaborates that the following forms of pressure are encompassed by vacuum forming: (i) positive air pressure; (ii) mechanical pressure; and (iii) negative pressure created by vacuum. (Pl's. Mem. at 12.) Defendant contends that vacuum forming should be construed narrowly to mean a shaping process that utilizes *vacuum* to shape the heated material into its three-dimensional configuration. (Def's. Mem. at 2;

Defendant's Proposed Findings of Fact and Conclusions of Law at 6.)

FN3. As stated *supra,* the parties use the disputed terms interchangeably. Accordingly, the Court uses one term to encompass them all.

FN4. Pressure creates the three-dimensional configuration by forcing the heated laminate onto a male mold or into the cavity of a female mold, where it cools. (Pl's. Mem. at 2.)

A. *Intrinsic Evidence*

Vacuum forming is not defined in the claims of the '144 Patent. Where the claims do not provide a definition, the specification is ordinarily "the single best guide to the meaning of a disputed term". Vitronics, 90 F.3d at 1582 (cited by Seb SA v. Montgomery Ward & Co. Inc., 77 F.Supp.2d 399, 403 (S.D.N.Y.1999)). Here, however, the specification fails to state expressly whether vacuum forming encompasses (i) positive air pressure, mechanical pressure, *and* negative pressure created by vacuum; or (ii) *only* negative pressure created by vacuum. The specification merely states, for example, that the laminate is "vacuum formed or molded into a costume component" ('144 Patent, Col 4, lines 34-35) and that vacuum forming causes the component to retain its shape "after the component is removed from the molding apparatus," ('144 Patent, Col 4, lines 50-53). This statement, like the other statements referring to vacuum forming in the specification, omits express mention of the type of pressure used to force the laminate to the shape of "the molding apparatus". ('144 Patent, Col 4, line 53.) FN5

FN5. Plaintiff argues that, although the phrase "vacuum formed or molded" ('144 Patent, Col. 4, line 35) discussed *supra* does not *expressly* state the type of pressure used, the phrase by *implication* supports the expansive definition of vacuum forming urged by plaintiff. Plaintiff reasons that the phrase equates "vacuum formed" with "molded", thereby defining "vacuum formed" as *any* type of pressure that "molds" the heated laminate into its three-dimensional shape. However, the Court finds that the conjunction of "formed" and "molded" in the phrase "vacuum formed or molded" evokes conjunctions that prove fatal to plaintiff's argument. A careful reading of the patent and the parties' submissions pertaining to claim construction reveals that "formed" is linked to "molded" in the following instances: (i) the specification and claims refer interchangeably to "vacuum formed" laminate and "vacuum molded" laminate; (ii) plaintiff itself uses "vacuum formed" and "vacuum molded" interchangeably in its papers; (iii) the specification not only contains the phrase "vacuum formed or molded" but also its converse, "vacuum molded or formed" ('144 Patent, Col. 4, line 54); and (iv) plaintiff's own expert states that "[t]he inventors used the terms 'vacuum forming', 'vacuum molding,' 'forming,' and 'molding' interchangeably", (Declaration of William McConnell, dated Mar. 17, 2000 ("McConnell Decl.") para. 37). In view of this substantial linkage between and interchangeability of "formed" and "molded" in the specific context of "vacuum formed" and "vacuum molded", the Court finds that " *molded* " in the context of "vacuum formed" is not an expansive description of how laminate is "vacuum formed" but rather a reference to " *vacuum molded* ". Because " *vacuum molded* " is interchangeable with "vacuum formed", the Court concludes that the phrase to which plaintiff refers not only fails to support an expansive definition, it fails to support any definition.

However, the specification does contain words and phrases that, by implication, define vacuum forming to mean a process using vacuum. For example, the word "vacuum" modifies all three of the disputed terms,

"vacuum formed", "vacuum molded", and "vacuum molding", and these are the only terms given in the patent to name the process of shaping the plastic. The modifier "vacuum" connotes, on its face, that the process to which the patent refers necessarily utilizes a vacuum.

Additional support for a narrow definition of vacuum forming stems from the Federal Circuit's "repeated[ ] emphasi[s]" that claim language is to be interpreted in a manner " 'consistent with and further[ing] the purpose of the invention." ' Purdue Pharma L.P. v. Boehringer Ingelheim GmbH, No. 99 CIV 3658(SHS), 2000 WL 687690, (S.D.N.Y. May 16, 2000) (quoting CVI/BETA Ventures, Inc. v. Tura LP, 112 F.3d 1146, 1160 (Fed.Cir.1997)); *cf.* Intellectual Property Development, 1998 WL 142346, *20 ("Claims are to be read in view of the patent specification."). Here, the specification states that the invention meets the "need in the art for a method of manufacturing a costume which is ... inexpensive". ('144 Patent, Col.1, lines 66-67.) Plaintiff's expert testified that the least expensive method of molding heated plastic utilizes *vacuum*. (Tr. at 53:11-18.) This lends further support for interpreting vacuum forming in the '144 Patent to mean a process utilizing vacuum.

Plaintiff argues that in light of another stated aim of the '144 Patent, a "need in the art" for three-dimensional components, vacuum forming must be understood expansively. Plaintiff reasons that because achieving the three-dimensional shape may be accomplished by any form of pressure, vacuum forming encompasses any form of pressure. However, restricting the scope of vacuum forming to mean molding by *vacuum* does not hinder the fulfillment of the purpose to which plaintiff refers. The utilization of vacuum alone will produce the requisite three-dimensional shape. Indeed, plaintiff does not dispute this, arguing merely that *other* types of pressure will serve *equally* well. Because the molding of three-dimensional shapes does not mandate the utilization of non-vacuum forms of pressure, the Court rejects plaintiff's contention that the invention purpose to which plaintiff refers supports an expansive interpretation.

Additional support for the narrow definition of vacuum forming is afforded by the prosecution history. *See* Vitronics, 90 F.3d at 1582-83 (stating that prosecution history is "often of critical significance in determining the meaning of the claims" and incorporate a review of the prior art). The prosecution history of the '144 Patent contains two prior art references: (i) U.S. Patent No. 4,104,430 ("the '430 Patent"); and (ii) U.S. Patent No. 4,878,972 ("the '972 Patent). The first of these prior art references, the '430 Patent, includes "vacuum formed laminate" as an element of its claims. The specification of the '430 Patent states that "vacuum forming ... is well known and needs no further explanation." ('430 Patent, Col. 1, lines 65-66.) However, in spite of the fact that vacuum forming "needs no further explanation", the '430 Patent does provide one. The specification states that use of "excess fluid" pressure "is to be considered herein [in the '430 Patent] to be embraced by the term 'vacuum forming" '. ('430 Patent, Col. 1, lines 66-68---Col. 2, lines 1-2.) FN6 The Court concludes that vacuum forming does not ordinarily "embrace" this non-vacuum method and the inventor was invoking an inventor's privilege of redefining a term novelly by expressly so stating in the specification. *See, e.g.,* Home Shopping, 1998 WL 65740, *2 (finding that an inventor may ascribe a novel meaning to a term provided that he so states in the specification). The expansive definition in the '430 Patent does not, as plaintiff contends, support the proposition that vacuum forming in other patents *automatically* encompasses non-vacuum methods. Instead, the '430 Patent teaches that the specification must clearly delineate the expansive definition in order for vacuum forming to comprehend non-vacuum processes. Consequently, where, as in the '144 Patent, vacuum forming is *not* expressly redefined, the ordinary meaning of vacuum forming does *not* include this non-vacuum method.FN7

FN6. Both parties characterize the use of "excess fluid" pressure as a non-vacuum process. (Rubies' Mem. Supp. Its Proposed Findings Fact and Conclusions Law on Claim Interpretation at 10-11; Def's. Mem. at 4.)

Plaintiff elaborates that "excess fluid pressure" is an alternate name for a type of pressure that the parties have heretofore called "positive air pressure". (Rubies' Mem. in Supp. of Its Proposed Findings Fact and Conclusions Law on Claim Interpretation at 10-11.) Defendant does not dispute this assertion.

FN7. The Court rejects plaintiff's additional contention that it is not only the '430 Patent's own use of vacuum forming that supports an expansive interpretation but also the *Examiner's* use of the phrase "vacuum forming" in *referring* to the '430 Patent that supports such interpretation. Plaintiff reasons that the Examiner's use of the term specifically in reference to prior art in which vacuum forming includes utilization of "excess fluid pressure" mandates a similarly expansive understanding of vacuum forming in the patent-in-suit. However, the '430 Patent is *not* cited by the Examiner for the unusual meaning that Patent ascribes to vacuum forming. A careful reading of the Office Action reveals that, in comparing the '430 Patent to the '144 Patent, the Examiner specifically refers to the portion of the '430 Patent relating to the fusion of fabric to foam ('430 Patent, Col. 2, lines 8-11) and to the integration of the resulting material by sewing ('430 Patent, Col. 2, lines 16-18), *not* to the portion redefining vacuum forming. (Office Action: '144 Patent, dated Mar. 20, 1997 at 3.) The Court concludes that the unusual definition of vacuum forming in the '430 Patent is incidental. If the Examiner referred to the non-vacuum process in the '430 Patent as "vacuum forming", it was because the '430 patent itself refers to that process as "vacuum forming", having expressly redefined that term. The Court concludes that the Examiner's reference to the '430 Patent is relevant to this claim construction solely because the '430 Patent makes manifest that express redefinition is required to expand the definition of vacuum forming to include a non-vacuum process.

Language contained in the second prior art reference, the '972 Patent, likewise supports the proposition that the ordinary meaning of vacuum forming does not encompass non-vacuum methods. The '972 Patent refers to a " *vacuum molding* machine" initially, in discussing the heating and forming of a "foamed polyolefin layer." ('972 Patent, Col. 5, lines 27-28 (emphasis added).) The patent refers to a " *press molding* machine" in describing the subsequent process wherein, utilizing mechanical pressure to achieve the desired shape, "the foam backed fabric is drawn by means of a matched male and female press mold." ('972 Patent, Col. 5, lines 34-38 (emphasis added).) The '972 Patent appears to distinguish the process that requires a "vacuum molding machine" from the subsequent process that requires a "press molding machine." Further evidence of this distinction is that whenever the '972 Patent discusses the process requiring the "press molding machine" the term used for the process is always "press molding" or "draw forming", never "vacuum forming". The Examiner, in reviewing the '972 Patent for purposes of comparison to the '144 Patent, likewise distinguished between the two processes. In drawing an analogy between vacuum forming in the '972 Patent and the patent-in-suit, the Examiner stated that "a vacuum molding process is employed" and specifically cited the lines in the '972 Patent referring to the "vacuum molding machine," not the lines referring to the "press molding machine" or "draw forming." (Office Action: '144 Patent, dated Mar. 20, 1997, at 3.) The language of the '972 Patent, and the way the documents contained in the file history refer to it, distinguish between vacuum forming, on the one hand, and forming that utilizes mechanical pressure, on the other hand.FN8

FN8. Notwithstanding this distinction drawn by '972 Patent's specification and the Examiner, plaintiff argues that "vacuum forming" in the '972 Patent *does* encompass mechanical pressure and concludes that vacuum forming in the '144 Patent must do so likewise. However, even if, *arguendo,* vacuum forming in the '972 Patent were to be expansively interpreted, such interpretation would *not* form an adequate basis for expansively interpreting vacuum forming in the *'144* Patent. The '972 Patent expressly describes the method

and manner in which the shaping into a three-dimensional configuration occurs, referring, for example, to "mechanical" pressure, "matched molds", and "press time", all of which the specification then refers to as "draw forming" or "press molding." ('972 Patent, Col. 5, lines 34-38, 46-53.) Unlike the '972 Patent, the '144 Patent makes no mention of these indicia of a non-vacuum form of pressure. Unlike the '972 Patent, the '144 Patent uses the terms "vacuum formed" and "vacuum molded" without describing a non-vacuum process or calling the process by another name. Due to this lack of parallelism between the language of the '972 Patent and the language of the '144 Patent, it would be unwarranted to base an expansive interpretation of vacuum forming in the '144 Patent on the allegedly expansive definition in the '972 Patent. Instead, if the '972 Patent is applicable to this analysis, that applicability lies in teaching that vacuum forming does not encompass mechanical pressure without an express statement to that effect.

The Court concludes that these prior art references in the prosecution history of the '144 Patent support the proposition that the utilization of non-vacuum methods, such as "excess fluid" pressure or mechanical pressure, is *not* within the scope and ordinary meaning of vacuum forming. In sum, the intrinsic evidence supports a narrow interpretation of vacuum forming.

B. *Extrinsic Evidence*

Because a clearer grasp of the technology underlying the technical terms used in the claims would assist in resolving the ambiguity in the claim language, the Court considers the extrinsic evidence. In considering extrinsic evidence, dictionary definitions are "preferred over opinion testimony" because dictionaries are "accessible to the public in advance of litigation" and, therefore, are "more objective and reliable guides". Vitronics, 90 F.3d at 1585; *see also* EMI Group North America, Inc. v. Intel Corp., 157 F.3d 887, 892 (Fed.Cir.1998) ("The Federal Circuit has admonished that claims should preferably be interpreted without recourse to extrinsic evidence such as expert testimony, other than perhaps dictionaries or reference books ....") (citation omitted); Tenneco Packaging Specialty and Consumer Products, Inc. v. S.C. Johnson & Son, Inc., No. 98 C. 2679, 1999 WL 1044840 (N.D.Ill. Nov. 16, 1999) ("Dictionary definitions, though extrinsic, 'are worthy of special note'.") (citation omitted). The *McGraw-Hill Dictionary of Scientific and Technical Terms* (Daniel N. Lapedes, ed., 2d ed.1978), admitted into evidence in relevant part as Defendant's Exhibit E, defines "vacuum forming" as: "Plastic sheet forming in which the sheet is clamped to a stationary frame, then heated and drawn ... into a mold *by vacuum*." (Def's. Exh. E (emphasis added); Tr. at 48:1-6 .) Plaintiff's own expert,FN9 testified that he agreed with the dictionary's definition insofar as it narrowly defines vacuum forming as a process utilizing vacuum.FN10 (Tr. at 40:5-22.)

FN9. Plaintiff's expert, William McConnell, has been involved in the thermoforming industry since 1948 and is currently president of a company that does consulting work in the thermoforming industry. (Exh. B att. to McConnell Decl.) "Thermoforming" means "forming by heat and pressure". (McConnell Decl. para. 6.)

FN10. The portion of the dictionary's definition with which plaintiff's expert disagreed is not relevant to the interpretive problem before the Court. The expert, who agreed that vacuum was necessarily utilized, merely disagreed over the verb used to describe the vacuum's effect. Specifically, the expert disagreed that vacuum causes the plastic sheet to be "drawn down" to the mold, asserting that, instead, vacuum causes atmospheric pressure to "force[ ] [the plastic] to the shape" of the mold. (Tr. at 40: 10-13.)

The Court next considers expert testimony. The only expert called was plaintiff's expert, who testified that (i) "thermoforming" is the omnibus term for the shaping of heated plastic sheets and encompasses utilization of various types of pressure; and (ii) "vacuum forming" is the thermoforming process that utilizes pressure created by vacuum. (McConnell Decl. para. 21; Tr. at 32:11-33:6.) Plaintiff's own expert testified that "vacuum forming" is narrowly defined.

Q: What's your definition of "vacuum forming"?

A: Shaping of a heated sheet to the particular shape that is wanted by atmospheric pressure.

Q: Not using a vacuum?

A: That's a vacuum.

* * *

Q: Can you vacuum form without a vacuum?

A: No.

* * *

THE COURT: "The popular [thermo]forming method is by use of vacuum" ... and does that include vacuum molding?

THE WITNESS: Yes.

THE COURT: And does that include pressure forming by compressed air?

THE WITNESS: No.

THE COURT: Does it include the method of manufacturing something by mechanical means without hot air or without compressed air or without a vacuum?

THE WITNESS: No.

THE COURT: Thank you, Mr. McConnell.

(Tr. at 33-34, 57:22-58:14.)

Additionally, the textbook on thermoforming to which the expert referred in support of his opinions, pursuant to Federal Rule of Civil Procedure 26(a)(2)(B), narrowly defines "vacuum forming" as that method of thermoforming utilizing a vacuum. (Def's. Exh. C at 37; Tr. at 57:20-58:13; Def's. Mem. at 5-6; Tr. at 48:1-6 (admitting Def's. Exh. C into evidence).) Specifically, vacuum forming occurs when " *vacuum* is

used to quickly remove the air between [the hot plastic sheet and the mold]" and the atmospheric pressure holds the heated plastic sheet in shape against the mold until the plastic has cooled. (Def's. Exh. C at 37 (emphasis added); Tr. at 57:20-58:2.) In sum, the extrinsic evidence, which comprises the dictionary definition, expert testimony, and treatise, confirms the narrow interpretation of vacuum forming that is supported by the intrinsic evidence.

Notwithstanding the intrinsic and extrinsic evidence adduced in support of a narrow definition of vacuum forming, plaintiff contends that certain testimony given by its expert supports an expansive definition. The testimony to which plaintiff refers is its expert's assertion that, although vacuum forming is officially narrowly defined today, its original meaning encompassed non-vacuum methods of thermoforming and the original meaning is still used today, incorrectly, by "those of skill in the art." (McConnell Decl. para.para. 22, 27, 33; Tr. at 27:5-24.) However, the expert testimony to which plaintiff refers inadequately supports an expansive interpretation for several reasons.

First, the expert's testimony supporting an expansive definition of vacuum forming lacks probative value. Expert testimony "may not be used to vary or contradict the terms of the claims as understood from the intrinsic evidence." Intellectual Property Development, 1998 WL 142346, *21; *see* Novo Nordisk, 2000 WL 294852, *2 ("[E]xtrinsic evidence may not contradict the manifest meaning of the claims as set forth, even by implication, in the specification and prosecution history."). Here, the intrinsic evidence supports a narrow interpretation of vacuum forming that excludes non-vacuum processes. The portion of the expert's testimony that interprets vacuum forming expansively contradicts the teaching of the intrinsic evidence and, therefore, "may not be used". Intellectual Property Development, 1998 WL 142346, *21; *see, e .g.,* Isogon, 47 F.Supp.2d at 444 (rejecting expert's interpretation where it contradicted teaching of intrinsic evidence).

Second, even were the expansive definition *not* antithetical to the interpretation derived from the intrinsic evidence, the expert proffers little evidence to support an expansive interpretation. The expert's assertion that vacuum forming may be expansively interpreted because some individuals incorrectly continue to interpret vacuum forming expansively is, as the expert himself concedes, unsupported by any reference to an authority. (Tr. at 28:3-11; 41:11-15; 57:1-16.) In fact, the only reference offered by the expert pursuant to Fed.R.Civ.P. 26(a)(2)(B) refers to a text that defines vacuum forming *narrowly*. (Def's. Exh. C; Exh. D att. to Def's. Mem. at 4.)

Not only does the support offered for an expansive interpretation solely comprise the expert's statement that an expansive interpretation exists, but also that statement is *vitiated* by additional testimony given by the expert. While the expert did testify that vacuum forming was at one time an omnibus term that encompassed non-vacuum methods of shaping heated plastic, he also testified that the nomenclature was revised almost *40* years ago. He testified that "probably in the beginning of the [19]60s" the Society of Plastics Engineers and the Society of Plastics Industry redefined vacuum forming narrowly and re-educated the public accordingly. (Tr. at 26:12-27:6; 39:13-18; 48:14-15; 55:12-16.) He further testified that the success of this re-education is manifest in that telephone books, magazines, and textbooks no longer refer to or use vacuum forming as an omnibus term comprising vacuum and non-vacuum methods. (Tr. at 29:3-7, 49:12-24.) The expert concluded, "[W]e've done a fair job within the industry of explaining it all". (Tr. at 41:5-8.) Indeed, the reason given by the expert for why he would find it onerous to "dig up" references to works that define vacuum forming expansively is that the re-education concerning proper thermoforming nomenclature had been successful. (Tr. at 40:23-41:10.) The Court concludes that the expert testimony supporting an expansive interpretation is inadequate to substantiate plaintiff's contention that individuals skilled in the art of costume manufacture would interpret vacuum forming in the '144 Patent to encompass non-vacuum

methods of thermoforming.

The intrinsic and extrinsic evidence overwhelmingly support a narrow definition of vacuum forming. Accordingly, the terms "vacuum molding", "vacuum molded", and "vacuum formed" as they appear in the claims of the '144 Patent must be construed to mean the thermoforming process that utilizes a vacuum.

CONCLUSION

For the foregoing reasons, the Court rejects plaintiff's construction of the terms "vacuum molded", "vacuum formed, and "vacuum forming" as they appear in the claims of the '144 Patent and construes these terms to mean a thermoforming process utilizing a vacuum to draw the material to be molded into its shaped configuration.

SO ORDERED.

S.D.N.Y.,2000.
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