United States District Court,
N.D. Illinois, Eastern Division.

CANNON RUBBER LIMITED and Avent America, Inc,
Plaintiffs.
v.
THE FIRST YEARS INC,
Defendant.

Sept. 17, 2004.

Thomas Irving Ross, Julianne Marie Hartzell, Marshall, Gerstein & Borun, Chicago, IL, for Plaintiff.

MEMORANDUM OPINION AND ORDER

ST. EVE, J.

Plaintiffs Cannon Rubber Limited and Avent America, Inc. ("Cannon") accuse Defendant The First Years, Inc. ("TFY") of infringing United States Patent No. 5,749,850 ("the '850 patent"). On September 9, 2004, the Court conducted a hearing during which it heard argument regarding the construction of certain claim terms within Claims 1, 3, and 5 of the '850 patent. The Court's construction of the disputed claim terms is set forth below.

LEGAL STANDARD

I. Claim Construction

A determination of patent infringement is a two-step process in which the Court first construes the claims. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed.Cir.1998) (*en banc*). Claim construction, the interpretation of the patent claims that define the scope of a patentee's rights under a patent, is a matter of law exclusively for the court. Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed.Cir.1995) (*en banc*), *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). The factfinder then compares the properly construed claims to the accused device to determine, as a question of fact, whether all of the claim limitations are present in the accused device. Cybor, 138 F.3d at 1454.

The language of the claims is the starting point for all claim construction analysis, because it frames and ultimately resolves all issues of claim interpretation. Robotic Vision Sys., Inc. v. View Eng'g, Inc., 189 F.3d 1370, 1375 (Fed.Cir.1999); Abtox. Inc. v. Exitron Corp., 122 F.3d 1019, 1023 (Fed.Cir.1997). In construing an asserted claim, the analytical focus of the construction must begin, and remain centered, on the language of the claims themselves. Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1201-02 (Fed.Cir.2002).

In the absence of an express intent by the patentee to impart a novel meaning to a claim term, the words are

presumed to take on the ordinary and customary meaning attributed to them by those of ordinary skill in the art. Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed.Cir.2002). The Court may determine the ordinary and customary meaning of a claim term by reviewing a variety of sources, beginning with the intrinsic evidence consisting of the claim terms themselves, the written specification, drawings, and prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). The Court may consult dictionaries, encyclopedias and treatises to determine the ordinary meaning of a word. Texas Digital, 308 F.3d at 1202-03.

II. Means-Plus-Function Claims

A claim limitation may be expressed in means-plus-function format in accordance with 35 U.S.C. s. 112, para. 6. FN1 Section 112, para. 6 allows the patentee to define the structure for performing a particular function generically through the use of a means expression, provided that it discloses specific structure corresponding to that means in the patent specification. Kemco Sales, Inc. v. Control Papers Co., 208 F.3d 1352, 1360-61 (Fed.Cir.2000). Whether claim language invokes section 112, para. 6 is an exercise of claim construction and is therefore a question of law. Wenger Mfg., Inc. v. Coating Mach. Sys., Inc., 239 F.3d 1225, 1231 (Fed.Cir.2001).

FN1. Section 112, para. 6 provides: "An element of 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." 35 U.S.C. s. 112, para. 6.

The use of the word "means" gives rise to "a presumption that the inventor used the term advisedly to invoke the statutory mandates for means-plus-function clauses." Micro Chem., Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1257 (Fed.Cir.1999). This presumption, however, is not conclusive. For example, where a claim uses the word "means," but specifies no corresponding function for the "means," section 112, para. 6 does not apply. Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1302 (Fed.Cir.1999); York Prods., Inc. v. Cent. Tractor Farm & Family Ctr., 99 F.3d 1568, 1574 (Fed.Cir.1996). Similarly, 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. Sage Prods. v. Devon Indus., Inc., 126 F.3d 1420, 1427-28 (Fed.Cir.1997); Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531 (Fed.Cir.1996).

BACKGROUND

I. The '850 Patent

Cannon is the named assignee of the '850 patent. The '850 patent discloses a handheld breast pump which operates generally as follows. The user inserts her breast into the open end of a conical attachment. '850 patent, col. 5, lns. 12-13. The user squeezes the handle to begin the pumping cycle. Id. col. 5, Ins. 17-18. The handle pivots about a pivot point and distorts the diaphragm upwardly. Id. col. 5, lns. 20-24. The movement of the diaphragm creates negative pressure (a vacuum) within the upper part of the body of the pump. Id. col. 5, lns. 23-24. The negative pressure causes the valve to lift upwardly, causing it to form a seal between the wall that divides the upper part of the body and the vessel that collects the milk. Id. col. 5, lns. 23-27. As a result, the negative pressure is maintained in the upper part of the body. Id. col. 5, lns. 27-28. The negative pressure created within the region between the valve, the diaphragm, and the user's breast

causes the breast to lactate. Id. col. 5, lns. 30-33. The expressed milk flows from the breast into the pump. Id. col. 5, ln. 33.

When the user releases the handle, the diaphragm returns to its original position. Id. col. 5, lns. 34-39. This causes the valve to break its seal between the upper part of the body and the milk-collecting vessel. Id. col. 5, lns. 39-41. Gravity causes the expressed milk that is contained in the upper part of the body to flow through the aperture into the milk-collecting vessel. Id. col. 5, lns. 41-44.

II. The Disputed Claims

Cannon alleges that TFY manufactures various breast pumps that infringe Claims 3 and 5 of the '850 patent. Dependent Claim 3 depends from Claim 1, and dependent Claim 5 depends from Claim 3. Accordingly, Claim 3 contains all of the limitations of Claim 1, and Claim 5 contains all of the limitations of Claim 3. 35 U.S.C. s. 112, para. 4.

Claim 1 recites:

A breast pump comprising:

a body, said body having an inlet;

a breast receiving portion connected to the inlet and shaped to receive a portion of a user's breast and nipple;

means for releasably connecting an expressed milk collecting container to said body;

a deformable diaphragm *disposed in the body;*

actuating means operatively connected to the diaphragm for cyclically moving said diaphragm to generate a negative pressure in the inlet; and

valve means mounted in the body for cyclically releasing the negative pressure which is generated in the inlet.

'850 patent, col. 8, lns. 54-66 (emphases added). The disputed claim language is emphasized. Claim 3 recites:

A pump as claimed in claim 1, wherein the diaphragm has a connector extending upwardly therefrom and the actuating means are *releasably attached* thereto.

'850 patent, col. 9, lns. 3-5 (emphasis added). Claim 5 recites:

A pump as claimed in claim 3, wherein the connector is a separate member *releasably attached* to the diaphragm.

'850 patent, col. 9, lns. 8-9 (emphasis added).

II. Prosecution History

The application that led to the '850 patent was originally filed in the United States Patent and Trademark Office ("PTO") on March 21, 1996. It claimed priority from an earlier application that had been filed in the United Kingdom patent office on March 24, 1995.

When Cannon filed its U.S. application, Claim 1 read as follows:

A breast pump comprising

a body with an inlet thereto to receive milk expressed from a woman's breast,

means for releasably attaching the pump to a container for collecting expressed milk,

the body mounting a deformable diaphragm which, in use, is cyclicly moved by actuating means connected thereto, and

valve means in the body operable so that a negative pressure is cyclicly generated and released in the nipple region to stimulate the nipple area to cause lactation.

On June 13, 1997, the Examiner rejected all of the original claims as either indefinite under 35 U.S.C. s. 112, para. 2 or as anticipated by prior art under 35 U.S.C. s. 102. On September 18, 1997, the applicant filed an amendment in which he cancelled Claims 1-24 and added new Claims 26-46. Claim 26 replaced original Claim 1, and ultimately issued as Claim 1. The '850 patent issued on May 12, 1998.

ANALYSIS

I. The Disputed Claim Limitations

The parties dispute the construction of three claim limitations: (1) "valve means mounted in the body for cyclically releasing the negative pressure which is generated in the inlet;" (2) "in the body;" and (3) "releasably attached."

A. "Valve Means Mounted In The Body For Cyclically Releasing The Negative Pressure Which Is Generated In The Inlet"

This claim limitation appears in Claim 1. The parties agree that Section 112, para. 6 applies to this limitation, FN2 but disagree as to the definition of the recited function and the structure corresponding to the function.

FN2. The Court agrees. The use of the word "means" creates a presumption that Section 112, para. 6 applies. Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 702 (Fed.Cir.1998). This presumption collapses if the claim itself recites sufficient structure, material, or acts to perform the claimed function. Micro Chem., 194 F.3d at 1257. In this case, the claim does not recite sufficient structure to perform the claimed function. *See* Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1536 (Fed.Cir.1991). Accordingly, Section 112, para. 6 applies.

In the first step of construing a means-plus-function claim, the Court identifies the recited function that the "means" performs. Micro Chem., 194 F.3d at 1258. The construction of that function must include the limitations contained in the claim language, and only those limitations. Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 296 F.3d 1106, 1113 (Fed.Cir.2002).

In the second step, the Court looks to the specification to identify the corresponding structure that performs the recited function. Micro Chem., 194 F.3d at 1258. To constitute corresponding structure, the structure disclosed in the specification must perform the recited function and the patent must clearly associate or link that structure with the performance of the function. B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1424 (Fed.Cir.1997); Medtronic, Inc. v. Advanced Cardiovascular, 248 F.3d 1303, 1311 (Fed.Cir.2001). "In other words, the structure must be necessary to perform the claimed function." Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1321 (Fed.Cir.2003).

1. The Recited Function

a. The Word "Valve" Must Have Meaning

The Court must first determine whether to give meaning to the word "valve" which precedes the word "means" in Claim 1. Cannon urges the Court to disregard the word "valve" in defining the function because the word "valve" is merely a descriptor that serves as a shorthand reference for the claim limitation. TFY argues that the Court may not ignore the word "valve" because each word in the claim must have meaning. The Court agrees with TFY.

It is well-settled that each word in a claim must have meaning. Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 93 F.3d 1572, 1582 (Fed.Cir.1996). Cannon advances several arguments as to why the Court nonetheless should disregard the word "valve." None of these arguments is persuasive.

Cannon first argues that the word "valve" is merely a descriptor, serving only as a convenient shorthand reference for the otherwise lengthy claim limitation "valve means mounted in the body for cyclically releasing the negative pressure which is generated in the inlet." For support, Cannon relies on the following passage from a claim drafting treatise:

In referring back to a previously recited means element later in the claim ... one merely gives it a convenient distinctive name, such as "the reciprocating means" or "the container-reciprocating means" ... or, less desirably, "first means," "second means." The exact choice of words is not critical so long as there is no possible confusion with other means elements. The use of the definite article "the" or ("said") is also required, to avoid a double inclusion of the same element in the claim language. Wherever possible, it is best to avoid identifying means only as "first means," "second means," etc.

R. Faber, *Landis on Mechanics of Patent Claim Drafting,* s. 34 (4th ed.2000) (emphasis added). The treatise teaches how to construct a shorthand reference in a claim limitation that refers to a previously recited means-plus-function limitation. This is accomplished-in the later reference-by using a shorthand form of the original limitation, which may or may not include prefatory language. In this case, the claim language suggests that the patentee did not intend to use the word "valve" as only a descriptor. The word "valve" appears in the first recitation of the claim term, not "later in the claim" as taught by the treatise.

In the alternative, Cannon explains that the word "valve" was a mere "vestigal" remnant of a prior version of

the claim that had an entirely different meaning and was "inadvertently" left in the claim during prosecution. (R. 65-1 at 5.) Claims serve to put the public on notice of the metes and bounds of the patent. Given this notice function, "the patentee, rather than the public, must bear the burden of inadvertent errors in the patent." PSC Computer Prods., Inc. v. Foxconn Int'l, Inc., 355 F.3d 1353, 1359 (Fed.Cir.2004). The Court will not reward Cannon's sloppy claim drafting by disregarding "inadvertent" claim language. To do otherwise would vitiate the notice function of claims.

Cannon next argues that because there is a clear function following the word "for," the Court need look no further to define the function. The recited function, Cannon contends, is simply the phrase that is the object of the preposition "for:" "cyclically releasing the negative pressure which is generated in the inlet." Lockheed Martin Corp. v. Space Sys./ Loral, Inc., 324 F.3d 1308, 1319 (Fed.Cir.2003) ("The function is properly identified as the language after the 'means for' clause."). Cannon argues that when a means-plus-function clause has a clearly defined function following the "means for" clause, the Court need not and may not consider any words preceding the word "means." Cannon is incorrect. There is no rule that prefatory claim language in a means-plus-function limitation cannot inform the definition of the claimed function. Even where, as here, clearly functional language follows the word "for," the prefatory claim language preceding the word "means" serves to at least partially identify the function of the recited means. *See* Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1427-28 (Fed.Cir.1997) (defining the function of the means-plus-function limitation "closure means ... for controlling access" to require that the recited means perform the function of "closing the slot means" in addition to the function of "controlling access.")

Cannon next argues that it is improper to import structure from the specification into the definition of the function. Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1302-03 (Fed.Cir.1999). While this is an accurate statement of the law, it does not support Cannon's position. In this case, the structural word "valve" is within the language of the claim itself. TFY seeks to give the claim language meaning, not to import limitations from the specification.

Finally, Cannon points out that "[n]ot all language in a claim is necessarily considered to be a limitation." (R. 65-1 at 6.) For support, Cannon cites two "preamble" cases: Storage Tech. Corp. v. Cisco Sys., Inc., 329 F.3d 823, 831 (Fed.Cir.2003), and Schumer v. Laboratory Computer Sys., Inc., 308 F.3d 1304, 1310 (Fed.Cir.2002). These cases stand for the proposition that where the body of the claim sets forth the complete invention, the preamble is not necessary to "breathe life" into the claim and therefore need not be considered in claim construction. These cases are inapposite because this is not a "preamble" case ... the word "valve" appears in the body of the claim, not the preamble. FN3

FN3. The preamble of Claim 1 is the phrase "A breast pump comprising."

The Court must give effect to all of the words in the claim. Accordingly, the Court will consider the word "valve" in defining the recited function.

b. The Proper Identification Of Function Gives Effect To The Words "Valve" And "Cyclical"

Cannon argues that the recited function is "cyclically releasing the negative pressure which is generated in the inlet." The Court rejects this proposed definition because this definition disregards the word "valve." TFY contends that the recited function, taking into consideration the word "valve," must be: "regulating the flow of air through a passageway by opening, closing or obstructing the passageway in order to release the

negative pressure generated by the diaphragm." TFY bases its proposed definition on (1) the ordinary meaning of the word "valve;" and (2) the functional language following the preposition "for." The Court adopts TFY's proposed definition with two modifications.

A heavy presumption exists that the ordinary meaning of a word in a claim applies. FN4 CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002). The Court may consult dictionaries, encyclopedias and treatises to determine the ordinary meaning of a word. Texas Digital, 308 F.3d at 1202-1203. "As a general rule, the construing court interprets words in a claim as one of skill in the art at the time of the invention would understand them." Eastman Kodak Co. v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 1555 (Fed.Cir.1997). The '850 patent issued on May 12, 1998. Accordingly, the Court consults *Webster's Third New International Dictionary* (Merriam-Webster Inc.1981) and the *Random House Webster's College Dictionary* (Random House, Inc.1998).

FN4. A party can overcome the "heavy presumption" by any of four ways, none of which is relevant here. "First, the claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history.... Second, a claim term will not carry its ordinary meaning if the intrinsic evidence shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention.... Third, ... a claim term also will not have its ordinary meaning if the term 'chosen by the patentee so deprive[s] the claim of clarity' as to require resort to the other intrinsic evidence for a definite meaning.... Last, as a matter of statutory authority, a claim term will cover nothing more than the corresponding structure or step disclosed in the specification, as well as equivalents thereto, if the patentee phrased the claim in step- or means-plusfunction format." CCS Fitness, 288 F.3d at 1366-67.

The definition of "valve" is "any of numerous mechanical devices by which the flow of liquid, air or other gas, or loose material in bulk may be started, stopped, or regulated by a moveable part that opens, shuts, or partially obstructs one or more ports or passageways." *Webster's Third New Int'l Dict*. at 2531. "Valve" is also defined as "any device for halting or controlling the flow of something, as a liquid, through a pipe or other passage." *Random House Webster's College Dict*. at 1419. Thus, TFY's proposed definition of the recited function properly gives the word "valve" its ordinary meaning.

TFY's proposed definition, however, improperly omits the word "cyclical" that appears in the claim. At the *Markman* hearing, counsel for TFY stated that TFY's omission of the word "cyclical" was an oversight, and that TFY would not object to its inclusion in the definition. FN5 The Court also asked TFY's counsel why TFY proposed the phrase "in order to," which connotes a causal relationship, instead of the word "and." FN6 Again, TFY's counsel agreed that the less restrictive word "and" would be appropriate.

FN5. The Court asked: "In your proposed construction, you have left out the word 'cyclically' from the function. Shouldn't that word have meaning as well?" TFY's counsel answered: "I think it should, Your Honor. If it was left out, it was inadvertent."

FN6. The Court asked: "Why do you have 'in order to' rather than 'and to release the negative pressure'?" TFY's counsel answered: "I'm not sure there's a difference there."

Accordingly, the proper definition of the function is "cyclically releasing the negative pressure which is generated in the inlet and regulating the flow of air through a passageway by opening, closing or obstructing the passageway."

2. The Corresponding Structure

The second step in construing the means-plus-function limitation is identifying the structure, if any, in the specification that corresponds to the recited function. Medtronic, 248 F.3d at 1311.

TFY contends that the only possible corresponding structure for the "valve means" is a valve and nothing else. TFY argues that the claim is indefinite because the corresponding structure (the valve) does not perform the recited function (cyclically releasing negative pressure). TFY's view of the corresponding structure is too narrow.FN7

FN7. The Court need not assess Cannon's theory of corresponding structure because Cannon limited its arguments about the corresponding structure to its own proposed recited function, which the Court has rejected.

a. The Corresponding Structure Includes The Diaphragm, Spring, and Valve

The specification links the corresponding structure to the recited function in the following passages. As to the first embodiment:

On release of the pressure on the handle 41 by the user, *the spring 32* acting between the cover 35 and the forked nose 43 of the handle 41 *which is now compressed expands and returns the handle to its rest position.... As a result, the diaphragm 20 returns to its original configuration shown in Figure 2 and thereby creating a positive pressure which allows the plug valve 11 to break its seal with the dividing wall 6* and the milk expressed from the breast contained in the area 5 to fall under gravity into the milk collecting container (not shown) attached to the lower portion 3 of the breast pump body 1. [thereby completing the cycle]

The cycle is then repeated.

'850 patent, col. 5, Ins. 34-45 (emphasis added). As to the second embodiment:

When the handle portion 65 of lever 53 is released, *the resilience of the diaphragm material causes it to return to its original position* causing the connector 54 and the nose 52 of lever 53 to drop. *The negative pressure is thereby released and the valve 80 breaks its seal with the lower face of the internal dividing wall 78* thus allowing the expressed milk to fall under gravity through the opening therein and into the vessel 60.

The operation is then completed in a cyclic fashion so as to create an alternating negative pressure in the nipple region which promotes lactation.

Id., col. 7, lns. 44-51 (emphasis added).

Accordingly, under the Court's definition of the recited function, the corresponding structure with respect to

the first embodiment is the diaphragm 20, the spring 32, and the plug valve 11. As to the second embodiment, the corresponding structure is the resilient diaphragm 51 and the button valve 80. The term "valve means" thus comprises multiple components.

b. The Corresponding Structure Of The "Valve Means" Is Not Limited To A Single Component

The recited function requires the means to perform the dual functions of (1) cyclically releasing negative pressure; and (2) regulating the flow of air through a passageway by opening, closing or obstructing the passageway. *See* Sage Prods., 126 F.3d at 1428.

TFY essentially argues that a single mechanical structure must perform both functions of the recited function without aid from any other structure because the prefatory word "valve" limits the corresponding structure to a valve. FN8 TFY cites Unidynamics Corp. v. Automatic Prods. Int'l, Ltd., 157 F.3d 1311 (Fed.Cir.1998), for the proposition that, when prefatory structural language precedes the word "means" in a means-plus-function claim, the prefatory structural language not only informs the definition of function, it also narrows the corresponding structure to that particular structure. *Unidynamics* sets forth no such rule. In *Unidynamics,* the Federal Circuit analyzed the means-plus-function limitation "spring means tending to keep the door closed." After determining that the structure "spring" was insufficient to remove the limitation from the ambit of s. 112, para. 6, the court defined the function as requiring "a closing action in addition to keeping the door closed once it is in a closed position," and defined the corresponding structure as "a spring in a strip hinge." *Id*. at 1322. In determining infringement, the court held that neither a padded bracket nor a magnet in the accused device were equivalent structure because neither performed the recited function. The court did not consider the question whether the prefatory language "spring" narrowed the possible range of corresponding structure. *Unidynamics* does not support TFY's position.

FN8. "There is no structure in the specification that (1) acts as a valve to block or unblock a passageway, *and* (2) repeatedly releases the negative pressure in the pump body." (R. 55-1 at 12-13) (emphasis in original).

It is well-settled that a combination of structural components can perform the recited function where the patent claim language permits, and where the specification clearly identifies corresponding structures. Cardiac Pacemakers, 296 F.3d at 1117. In this case, the "valve means" comprises a combination of structural components working together to complete the pressure cycle. The "valve means" is not limited to only a valve. This conclusion is supported by the language in the specification and dependent Claim 18.

i. The Specification

The specification refers to the "valve means" as "comprising" a structure: "The valve means preferably *comprises a valve* fitted in an aperture in a wall extending across the body adjacent where it is attached to the milk collecting container." '850 patent, col. 2, Ins. 53-55 (emphasis added). " 'Comprising' is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim." Genentech, Inc. v. Chiron Corp., 112 F.3d 495, 501 (Fed.Cir.1997). Thus, the open-ended term "comprising" allows for the possibility of additional structure other than the structure specifically recited.

ii. Dependent Claim 18

Dependent Claim 18 recites: "A pump as claimed in claim 1, wherein the *valve means comprises a plug valve* fitted in an aperture in a wall extending across the body." '850 patent, col. 10, Ins. 18-20 (emphasis added). TFY argues that dependent Claim 18 defines the "valve means" as a valve and nothing more. Because the claim uses the open-ended word "comprising," however, dependent Claim 18 requires only that the "valve means" contain a valve, and leaves open the possibility that the "valve means" contains other components.

c. The Valve Works Together With The Diaphragm And Spring To Achieve The Pressure Cycle

TFY bases its argument on the undisputed fact that the diaphragm, not the valve, releases the negative pressure. As already stated, however, TFY disregards the word "cyclically" in its analysis. The claim term "cyclically" must have meaning.

The word "cyclically" refers to the role of the "valve means" in the pressure cycle. The "actuating means" performs the beginning of the pressure cycle during which pressure is created, and the "valve means" performs the end of the pressure cycle during which pressure is released and the system returns to its ambient position:

actuating means operatively connected to the diaphragm for cyclically moving said diaphragm to *generate a negative pressure* in the inlet; and

valve means mounted in the body for cyclically *releasing the negative pressure* which is generated in the inlet.

The diaphragm, spring, and valve work together to accomplish the second half of the pressure cycle by cyclically releasing negative pressure and regulating the flow of air through a passageway. The spring causes the diaphragm to return to its original position, thereby creating a positive pressure. This causes the valve to break the seal with the dividing wall which allows the milk to flow into the milk-collecting vessel. The valve thereby regulates the flow of air and milk through the aperture. The pump is then ready to being the next pressure cycle. The diaphragm cannot cyclically release the negative pressure unless the valve properly opens and closes. (R. 54-1 at 7.)

Accordingly, the recited function is "cyclically releasing the negative pressure which is generated in the inlet and regulating the flow of air through a passageway by opening, closing or obstructing the passageway," and the corresponding structure is the diaphragm 20, the spring 32, the plug valve 11 in the first embodiment, and the resilient diaphragm 51 and the button valve 80 in the second embodiment.

B. "In The Body"

This claim term appears in Claim 1: "a deformable diaphragm disposed in the body" and "valve means mounted in the body." The parties dispute the meaning of the word "body" and the terms "disposed in the body" and "mounted in the body."

1. "Body"

Cannon argues that the term "body" should be construed as "the main, central, or principal part of the breast pump. It may consist of a single component or multiple assembled components."

TFY contends that the "body" is limited to a single, unitary structure. (R. 61-1 at 6.) TFY points out that throughout the patent, the term "body" is used to refer to a single piece of molded plastic. TFY attempts to improperly import a limitation from the specification into the claim by narrowing the claim to a particular embodiment. There is no indication in the specification or the prosecution history that Cannon narrowed the ordinary meaning of "body" to require a single piece of plastic.

There is no reason to depart from the ordinary meaning of "body." The ordinary meaning of "body" is "the main or central mass of a thing, such as the hull of a ship, the fuselage of a plane, or the nave of a church." *Random House Webster's College Dict.* at 147. Accordingly, the Court construes the word "body" to mean "the main, central, or principal part of the breast pump."

2. "In The Body"

This claim term limits the location of the diaphragm ("disposed in the body") and the valve means ("mounted in the body").

TFY argues that it requires that both the diaphragm and valve means be disposed or mounted entirely within the body of the pump. TFY argues that the language of the specification compels this construction. In the first embodiment, the diaphragm is located within the cup-shaped upper portion of the body. The specification describes this design as "the diaphragm 20 is *mounted directly in the body*." '850 patent, col. 4, Ins. 51-52. In the second embodiment, the diaphragm is not actually within the body, but instead merely covers an opening of the body at one end, and sits on the annular surface. The specification describes the diaphragm in this embodiment as "*mounted thereon*" the body, and teaches to assemble the pump of the second embodiment by lowering the diaphragm "onto the body." FN9 '850 patent, col. 6, ln. 15; col. 7, ln. 67-col. 8, ln. 1.

FN9. The specification describes "a moulded plastic body 50 with a diaphragm 51 mounted thereon at its upper end."'850 patent, col. 6, lns. 14-16. When this design is assembled, "[t]he diaphragm 51 with the connector 54 fitted thereto is lowered onto the body 50 until the lip 62 of the diaphragm 61 engages with the annular shoulder 61 of body 50." Id., col. 7, ln. 67-col. 8, ln. 3.

Cannon argues that the Court should construe the term "in the body" to mean "at least partially contained within" the body. Cannon contends that the word "in" has a range of meaning, and nothing in the specification or prosecution history disclaims the broad meaning of "in." FN10

FN10. "In" is defined as: "on the interior or inner side: within; so as to confine or surround; that is located inside or within." *Webster's Third New Int'l Dict.* at 1139. It is also defined as "on the inside, within." *Random House Webster's College Dict.* at 657.

The Court agrees with TFY. The specification selectively uses the phrase "in the body" to describe the location of a diaphragm that is completely contained within the body, but uses different language to describe a diaphragm that is merely mounted on top of it, even though part of that diaphragm extends into the main body of the pump. Accordingly, the diaphragm and valve means must be actually located within the main, central, or principal part of the breast pump, rather than being on top of it or attached to it through some external structural element. The Court construes the term "in the body" to mean "disposed or mounted

entirely within the body of the pump."

C. "Releasably Attached"

The claim term "releasably attached" appears in Claims 3 and 5. In Claim 3, "the diaphragm has a connector extending upwardly therefrom and the actuating means are *releasably attached* thereto." In Claim 5, "the connector is a separate member *releasably attached* to the diaphragm." The parties agree that a releasably attached structure is one designed for repeated assembly and disassembly.

Cannon contends that the term "releasably attached" requires that the components be "capable of being readily attached to and separated from [each other] by ordinary manual force and without the use of specialized tools." Cannon argues that the purpose of the invention compels this construction-the breast pump is to be assembled and disassembled by a mother in the home environment, not by engineers in a laboratory.

TFY argues that the term requires that the components must be "capable of being readily attached to and separated from" each other in a non-destructive way.

The Court agrees with TFY. The specification teaches that "an advantage of the illustrated breast pump is the ease by which it may be assembled and disassembled to enable it to be properly sterilized before use." '850 patent, col. 7, lns. 58-60. The summary of the invention teaches that "[i]t is an object of the present invention to provide an improved pump which is easier and more convenient to use and simpler to strip down for cleaning and reassembly." '850 patent, col. 1, lns. 46-48.

The definition of "releasably" is: "capable of being released." *Webster's Third New Int'l Dict*. at 1917. "Release" is defined as: "to set free from restraint, confinement, or servitude; the act of liberating or freeing: discharge from restraint." *Webster's Third New Int'l Dict*. at 1917. The definition of "attach" is: "to make fast or join (as by string or glue); bind, fasten, tie; to fix or fasten itself, adhere." Id. at 140.

Although Cannon's definition is consistent with the purpose of the patent, nothing requires the construction of "releasably attached" to require the limitation of ordinary manual force. Indeed, nothing in the specification specifies the degree of difficulty with which the components can be attached and separated.

TFY's proposed construction is consistent with the ordinary meaning and with the specification and summary of invention. Accordingly, the Court defines "releasably attached" as "capable of being non-destructively attached to and separated from."

II. The Court's Construction Of The Disputed Claim Terms

The Court having considered all of the submissions and the oral presentation of Cannon and TFY, and having been fully advised, IT IS HEREBY ORDERED as follows:

Claim 1 recites a "valve means mounted in the body for cyclically releasing the negative pressure which is generated in the inlet." The Court interprets this means-plus-function limitation to have a recited function of "cyclically releasing the negative pressure which is generated in the inlet and regulating the flow of air through a passageway by opening, closing or obstructing the passageway," and corresponding structure of the diaphragm 20, the spring 32, the plug valve 11 in the first embodiment, and the resilient diaphragm 51 and the button valve 80 in the second embodiment.

Claims 1 and 3 recite "in the body." The Court interprets the word "body" to mean "the main, central, or principal part of the breast pump." The Court interprets the term "in the body" to mean "disposed or mounted entirely within the body of the pump."

Claims 3 and 5 recite "releasably attached." The Court interprets this claim limitation to mean "capable of being non-destructively attached to and separated from."

N.D.Ill.,2004.
Cannon Rubber Ltd v. First Years, Inc.

Produced by Sans Paper, LLC.