United States District Court,
D. New Jersey.

Akos SULE and Neptune Research & Development, Inc,
Plaintiffs.
v.
KLOEHN COMPANY, LTD,
Defendant.

No. CIV. A. 95-1090(HAA)

June 18, 2001.

Owner of patents for solenoid valves sued competitor for infringement. On cross-motions for summary judgment, the District Court, Ackerman, J., held that: (1) "poppet means" for closing orifice, called for in patent, was means-plus-function element, limited to corresponding semi-spherical structure disclosed in specification and its equivalents, and (2) accused valve, which used flat poppets, did not literally or equivalently infringe patents.

Plaintiff's motion denied; defendant's motion granted.

34,261. Not Infringed.

C. Stephen Barrett III, C. Stephen Barrett III, P.A., Newark, NJ, for plaintiffs.

Arnold B. Calmann, Saiber, Schlesinger, Satz & Goldstein, Newark, NJ, for defendant.

OPINION

ACKERMAN**, District Judge.**

This matter comes before the court on the parties' cross-motions for summary judgment pursuant to Federal Rule of Civil Procedure ("Rule") 56. The plaintiffs have moved for entry of summary judgment on their patent infringement claim. The defendant has moved for a determination of non-infringement and entry of summary judgment dismissing Count III of the plaintiffs' Amended Complaint. This court's jurisdiction is invoked pursuant to 28 U.S.C. s.s. 1331 and 1338. For the reasons discussed below, the plaintiffs' motion is denied and the defendant's motion is granted.

Background

This patent litigation arises from the production by two corporations of "solenoid valves," or "isolation

valves." FN1 On March 2, 1995, plaintiffs Akos Sule ("Sule") and Neptune Research & Development, Inc. ("Neptune") filed a complaint alleging, *inter alia,* that defendant Kloehn Company, Ltd. ("Kloehn") infringed plaintiffs' U.S. Patent No. 34,261 (the " '261 Patent").FN2 In addition, on November 26, 1996, plaintiffs filed an Amended Complaint alleging that Kloehn infringed plaintiffs' U.S. Patent No. 5,546,987 (the " '987 Patent").FN3 The plaintiffs contend that Kloehn has literally infringed claims 32-40 of the ' 261 patent and claims 18-20 of the ' 987 patent.

FN1. this court granted defendant's motion for partial summary judgment on plaintiffs' product configuration claims in an opinion issued on July 23, 1997. This opinion will address the patent claim only.

FN2. The '261 Patent was issued to Sule by the United States Patent and Trademark Office ("PTO") on May 25, 1993 as a "reissue" of Sule's U.S. Patent 4,711,269. *See* Affidavit of John M. Hintz ("Hintz Aff.") at Exhibit 1.

FN3. The '987 Patent was issued to Sule by the PTO on August 20, 1996.

The solenoid valves at issue are small cylinders-usually between 1 and 1 1/2 inches in diameter-used to control the flow of liquids or gases in, among other things, medical diagnostic instruments. The particular valves at issue in this case are 3-way solenoid valves. *See* Hintz Aff. at Exh. 5. A 3-way valve is comprised of three ports, or openings, in the body of the valve. One port is "normally open," another is "normally closed," and the third port is a "common port." When the electricity to the valve is off, the solenoid is de-energized so that the "normally open" port is open and the "normally closed" port is closed. When this occurs, fluid is able to pass through the normally open port to the common port, but is prevented from passing through the normally closed port to the common port. When the electricity to the 3-way solenoid valve is turned on, the solenoid is activated, which forces a plunger to move within the valve, causing the normally closed port to open and causing the normally open port to close. In this condition, fluid may pass through the normally closed port to the common port, but not through the normally open port to the common port. When the electricity is turned off, the solenoid is de-energized, and the valve returns to its original state.

Specifically at issue in this motion are the means by which the ports are opened and closed in the respective Sule and Kloehn valves. Claims 32-40 of the '261 patent and claims 18-20 of the '987 patent each require, among other things, that the claimed solenoid valve have the following: (1) a "first poppet means formed as part of said first diaphragm means with said first poppet means operative to close said first orifice"; and (2) a "second poppet means separable from said first poppet means and formed as part of said second diaphragm means with said second poppet means operative to close said second orifice." Hintz Aff. at Exh. 1. The plaintiffs contend that Kloehn's valves contain each and all of the elements set forth in claims 32-40 of the ' 261 patent and claims 18-20 of the '987 patent, including the "poppet means" component, and thus, Kloehn's valves infringe on Sule's patents. Kloehn responds that its valves do not contain "poppet means;" rather, they contain a diaphragm coupled with a "receiver." Moreover, even if its valves contain some type of "poppet," Kloehn argues that the structure of its poppet is entirely different than the "poppet means" described and referenced in Sule's patents. FN4 The court will address this dispute more fully below, in the context of the parties' cross-motions for summary judgment on the issue of literal infringement.

FN4. Kloehn also makes the vague assertion that it "could present evidence showing that its valves do not contain other elements of the claims of the '261 patent and the '987 patent or that those patents are invalid." Brief of Defendant Kloehn in Opposition to Plaintiffs' Summary Judgment Motion at 2, n. 2. However, Kloehn has not presented those arguments to the court and thus, the court will address only the issue of the "poppet means" element.

General Standards

Summary Judgment Standard

At the outset, it must be noted that the standard for summary judgment in a patent case is the same as in any other type of action. *See* Union Carbide Corp. v. American Can Co., 724 F.2d 1567, 1571 (Fed.Cir.1984); Katz v. AIWA America, Inc., 818 F.Supp. 730, 735 (D.N.J.1993). Indeed, with respect to patent cases, the Federal Circuit has instructed that:

[w]here no genuine issue of material fact remains and the movant is entitled to judgment as a matter of law, the court should utilize the salutary procedure of Fed.R.Civ.P. 56 to avoid unnecessary expense to the parties and wasteful utilization of the jury process and judicial resources.

Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd., 731 F.2d 831, 835 (Fed.Cir.1984).

Federal Rule of Civil Procedure 56 provides that summary judgment may be granted only if the pleadings, supporting papers, affidavits, and admissions on file, when viewed with all legitimate inferences in favor of the nonmoving party, demonstrate that there is no genuine issue of material fact and that the movant is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(c); *see also* Todaro v. Bowman, 872 F.2d 43, 46 (3d Cir.1989); Chipollini v. Spencer Gifts, Inc., 814 F.2d 893, 896 (3d Cir.1987). In other words, "[s]ummary judgment may be granted only if there exists no genuine issue of material fact that would permit a reasonable jury to find for the nonmoving party." Miller v. Indiana Hosp., 843 F.2d 139, 143 (3d Cir.1988).

The party seeking summary judgment always bears the initial burden of production, *i.e.*, of making a prima facie showing that it is entitled to summary judgment. Celotex Corp. v. Catrett, 477 U.S. 317, 323, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986). This may be done either by demonstrating that there is no genuine issue of fact and that the moving party must prevail as a matter of law, or by demonstrating that the nonmoving party has not produced sufficient evidence relating to an essential element of the case for which it bears the burden of proof. Id. at 322-23, 106 S.Ct. 2548. Once either showing is made, the burden shifts to the nonmoving party who must demonstrate facts supporting each element for which it bears the burden, as well as establish the existence of a genuine issue of material fact. Id. at 322-324, 106 S.Ct. 2548.

The substantive law will identify which facts are "material." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247-48, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). Therefore, "[o]nly disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment." *Id.* An issue is "genuine" if a reasonable jury could possibly hold in the nonmovant's favor with regard to that issue. *Id.* To raise a genuine issue of material fact, " 'the [summary judgment] opponent need not match, item for item, each piece of evidence proffered by the movant,' but simply must exceed the 'mere scintilla' standard." *Id.* (quoting Big Apple BMW, Inc. v. BMW of North America, Inc., 974 F.2d 1358, 1364 (3d Cir.1992)); *see also* Anderson, 477 U.S. at 252, 106 S.Ct. 2505 ("The mere existence of a scintilla of evidence in

support of the [nonmovant's] position will be insufficient; there must be evidence on which the jury could reasonably find for the [nonmovant]."). "Although a 'scintilla of evidence' supporting the nonmovant's case is not sufficient to defeat a motion for summary judgment, it is clear that a district court should not weigh the evidence and determine the truth of the matter itself, but instead should determine whether there is a genuine issue for trial." Country Floors, Inc. v. Country Tiles, 930 F.2d 1056, 1061-62 (3d Cir.1991). Indeed, at the summary judgment stage, a court may not weigh the evidence or make credibility determinations; these tasks are left to the factfinder. Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co., Inc., 998 F.2d 1224, 1230 (3d Cir.1993).

Only if the court determines that there is no genuine issue of material fact and that the movant is entitled to judgment as a matter of law, may summary judgment be granted.

Patent Analysis

[1] There are two steps in a patent infringement analysis. *See* Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed.Cir.1998); Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). First, the meaning and scope of the patent claims alleged to be infringed must be determined. *See* Markman, 517 U.S. at 384, 116 S.Ct. 1384. This step is commonly referred to as "claim construction" or "claim interpretation." Markman, 52 F.3d at 976. Second, the accused device must be compared to the properly construed claims to determine whether the device infringes the patent. *See* Cybor Corp., 138 F.3d at 1454; Markman, 52 F.3d at 976.

Claim Construction

[2] Patent claims are the numbered paragraphs at the end of a patent's specification that define the scope of the patent. *See* Markman, 517 U.S. at 373, 116 S.Ct. 1384. As such, a "claim provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention." Corning Glass Works v. Sumitomo Elec. U.S.A. Inc., 868 F.2d 1251, 1257 (Fed.Cir.1989). Construing the claims of a patent is closely akin to construing other written documents, such as contracts or statutes. *See* Markman, 52 F.3d at 978; Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., 2000 WL 1765358 at (S.D.Ind. Nov.29, 2000). However, some special considerations apply, based on the need of the public, and other inventors, to know as precisely as possible the scope of a patentee's claimed invention. *See Cardiac Pacemakers,* at *2. Indeed, "[i]t has long been understood that a patent must describe the exact scope of an invention and its manufacture to secure to [the patentee] all to which he is entitled, [and] to apprise the public of what is still open to them." Markman, 517 U.S. at 373, 116 S.Ct. 1384 (citations omitted). Accordingly, a patent must set out a written description of the claimed invention "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.

[3] Patent claim construction, or interpretation, is a matter which is "exclusively within the province of the court." Markman, 517 U.S. at 372, 116 S.Ct. 1384. A court therefore has "the power and obligation to construe as a matter of law the meaning of language used in the patent claim." Markman, 52 F.3d at 979. To construe the meaning and scope of a patent claim, the court may consult several sources, both intrinsic and extrinsic to the patent. *See* Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). There is, however, a hierarchy in terms of considering these sources. In general, the court should first look to the "intrinsic evidence of record, *i.e.,* the patent itself, including the claims, the specification and, if in evidence, the prosecution history ..." because it is the "most significant source of the legally operative meaning of disputed claim language." Vitronics, 90 F.3d at 1582 (citing Markman, 52 F.3d at 979).

[4] Claim construction always begins with the language of the claim itself. *See e.g.,* Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999). When interpreting a technical term used in a patent, the court must construe the term 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." Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1578 (Fed.Cir.1996). That means that while patent terms should generally be construed to have their ordinary meaning, at the time of the patent application, a patentee is still entitled to "choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history." Vitronics, 90 F.3d at 1582 (citing Hoechst Celanese, 78 F.3d at 1578). In those circumstances where the patentee's meaning is clear, the court must adopt the special definition of the term.

[5] Second, the patent claims "must be read in view of the specification, of which they are a part." Markman, 52 F.3d at 979. The specification is "highly relevant to the claim construction analysis" because it contains a written description of the invention that must be clear and complete enough to enable those of ordinary skill in the art to make and use it. *See* Vitronics, 90 F.3d at 1582; Kemco Sales, Inc. v. Control Papers Co., Inc., 93 F.Supp.2d 563, 570 (D.N.J.1998), *aff'd,* 208 F.3d 1352 (Fed.Cir.2000). However, the specification "does not delimit the right to exclude. That is the function and purpose of claims." Markman, 52 F.3d at 980. In addition, "references in the specification to a preferred embodiment, or an illustrative example, do not limit the scope of the patent claim." Kemco, 93 F.Supp.2d at 570 (quoting Lucas Aerospace, Ltd. v. Unison Indus., L.P., 890 F.Supp. 329, 332 (D.Del.1995)). An exception to these rules applies when an element in a claim employs means-plus-function language. Means-plus-function elements are defined by 35 U.S.C. s. 112, paragraph 6:

An 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.

Thus, the Federal Circuit has explained:

[u]nlike the ordinary situation in which claims may not be limited by functions or elements disclosed in the specification, but not included in the claims themselves, in writing a claim in means-plus-function form, a party is limited to the corresponding structure disclosed in the specification and its equivalents.

Kahn v. General Motors Corp., 135 F.3d 1472, 1476 (Fed.Cir.1998); *see also* C.R. Bard, Inc. v. M3 Systems, Inc., 157 F.3d 1340, 1364 (Fed.Cir.1998).

[6] As a third step in claim construction, the court may consider the prosecution history of the patent. This history may include a "complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims." *See* Vitronics, 90 F.3d at 1582. As such, "the record before the Patent and Trademark Office is often of critical significance in determining the meaning of the claims." *Id.* Although the prosecution history can, and should, be used to understand the language of the claims, it too cannot "enlarge, diminish, or vary" the limitations in the claims. Markman, 52 F.3d at 980. However, "[t]he prosecution history limits the construction of claim terms so as to exclude any interpretation that was disclaimed during prosecution."

Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1578 (Fed.Cir.1995). If a patentee takes a position before the PTO such that a "competitor would reasonably believe that the applicant had surrendered the relevant subject matter," the patentee may be barred from asserting an inconsistent position on claim construction. Cybor, 138 F.3d at 1457. If a patentee distinguishes a reference on multiple grounds to the PTO, any one of these grounds may indicate the correct construction of a term. *See* Gentry Gallery, Inc. v. Berkline Corp. 134 F.3d 1473, 1477 n. * (Fed.Cir.1998). However, "[u]nless altering claim language to escape an examiner rejection, a patent applicant only limits claims during prosecution by clearly disavowing claim coverage." York Prods., Inc. v. Central Tractor Farm & Family Center, 99 F.3d 1568, 1575 (Fed.Cir.1996).

[7] [8] Finally, although the court generally does not consider extrinsic evidence in addition to the intrinsic evidence already mentioned, it may do so in limited circumstances. While it is improper to consider extrinsic evidence where "an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term," the court may do so where necessary to resolve any persisting ambiguities. *See* Vitronics, 90 F.3d at 1583. Thus, "where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." *Id*. The Federal Circuit's reticence regarding extrinsic evidence is rooted in its understanding of the purposes of the patent system. Excessive use of extrinsic evidence could undermine the public's right to rely upon the public record. *See id*. As the Federal Circuit has noted, "competitors are entitled to review the public record, apply the established rules of claim construction, ascertain the scope of the patentee's claimed invention and thus, design around the claimed invention." *Id*. There is one exception, however, to the rule disfavoring extrinsic evidence: a court may consult technical treatises and dictionaries, notwithstanding the fact that they fall within the category of extrinsic evidence, in order to "better understand the underlying technology." *Id*. at 1584 n. 6; *see also* Key Pharm. v. Hercon Lab. Corp., 161 F.3d 709, 716 (Fed.Cir.1998). The court may rely on dictionary definitions to construe claim terms "so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents." *Id.; see also* Key Pharm., 161 F.3d at 716.

Infringement

[9] After the court has construed the patent claim, patent infringement may be found in either of two ways: by literal infringement or under the doctrine of equivalents. At this stage in the present case, the court is confronted only with the question of literal infringement. *See Sule v. Kloehn,* Opinion and Order of this Court dated April 20, 2001 (affirming Magistrate Judge Chesler's order barring the plaintiffs from obtaining affirmative relief at this time based on the doctrine of equivalents). To succeed on its literal infringement claim, the patentee must demonstrate that every limitation or element set forth in a claim is present in the accused device, exactly. *See* Southwall, 54 F.3d at 1575; Corning, 868 F.2d at 1258; Wright Med. Tech., Inc. v. Osteonics Corp., 122 F.3d 1440, 1443-44 (Fed.Cir.1997) (" 'Literal infringement exists if each of the limitations of the asserted claim(s) read[s] on, that is, [is] found in, the accused device.' " (citations omitted)). If any one or more limitations of a claim is missing from the accused device, there can be no infringement as a matter of law. London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1538 (Fed.Cir.1991); Katz, 818 F.Supp. at 735-36.

Claim Construction of Claims 32-40 of the '261 Patent ***and Claims 18-20 of the*** '987 Patent FN5

FN5. The court notes that defendant Kloehn has raised several objections to particular documents and exhibits presented by the plaintiffs in connection with the instant motions. *See* Brief of Defendant Kloehn in Opposition to Plaintiffs' Summary Judgment Motion at 17-20. The defendant asks that the court either strike the exhibits or refuse to consider them. Plaintiffs respond that the documents and exhibits should not be

stricken and assert that Kloehn is itself guilty of discovery violations. The court need not resolve these issues because, as will be seen below, the disputed exhibits are not central to the court's analysis. Suffice it to say that the court has considered the parties' arguments and afforded all exhibits the appropriate degree of weight and consideration in reaching its decision.

As discussed above, the '261 patent and the '987 patent each describe a solenoid valve which is used, for example, in medical diagnostic instruments, to control the flow of liquids or gases. The parties' dispute as to literal infringement centers on one particular element of the valve, as articulated in the patent claims. Claims 32-40 of the '261 patent and claims 18-20 of the ' 987 patent disclose: (1) a "first poppet means formed as part of said first diaphragm means with said first poppet means operative to close said first orifice; and (2) a "second poppet means separable from said first poppet means and formed as part of said second diaphragm means with said second poppet means operative to close said second orifice." Hintz Aff. at Exh. 1. Sule and Kloehn disagree as to the meaning and scope of the term "poppet means."

[10] First, the parties have raised the issue of whether this element should be construed as a means-plus-function element under 35 U.S.C. s. 112 para. 6.FN6 That section provides that:

FN6. Defendant asserts that the plaintiffs "do not contest" that the disputed "poppet means" claim element should be treated as a means-plus-function element. *See* Reply Brief of Defendant Kloehn in Support of its Motion for Summary Judgment at 1. It is not clear to this court, however, that the plaintiffs have conceded this point. In any event, even if the parties are in agreement, this court must nonetheless itself determine whether the claim element should be construed under s. 112 para. 6.

an 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.
35 U.S.C. s. 112 para. 6. In effect, s. 112 para. 6 allows a patentee to state claims in broad, general language by stating the "functions" of the invention, rather than repeating the detailed structures or materials that perform the claimed functions. Means-plus-function rules apply if the claim is expressed as a means for performing a specified function without also identifying in the claim itself the specific material or structure that accomplishes that function. As such, means-plus-function language may be an economical way of expressing the more complex structures covered by the claim.
The patentee may use such means-plus-function statements so long as the missing structural detail appears in the specification. *See* Kemco Sales, Inc. v. Control Papers Co., Inc., 208 F.3d 1352, 1360 (Fed.Cir.2000) (recognizing that the duty to link structure to function is the "statutory quid pro quo" for the convenience of employing s. 112 para. 6). The relevant structural details from the specification are essentially incorporated into the function claims. *See* Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1479 (Fed.Cir.1998). Thus, the "cost" of using means-plus-function language is that the scope of the claim is restricted to the particular structures disclosed in the specification, as well as their equivalents. *See* Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 703 (Fed.Cir.1998). An accused device will be a s. 112 para. 6 "equivalent" if (1) it performs the identical function and (2) it is otherwise insubstantially different with respect to structure. *See* Kemco, 208 F.3d at 1364 (citing Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267 (Fed.Cir.1999)). If s. 112 para. 6 applies to a claim then, the court construing the claim must (1) "construe the function recited in that claim," and (2) "determine

what structures have been disclosed in the specification that correspond to the means for performing that function." Kemco, 208 F.3d at 1361.

In the present case, defendant Kloehn asserts that the term "poppet means operative to close a[n] ... orifice" is a means-plus-function element and thus, the meaning of that element should be limited to the particular structures disclosed in the patent specification. Kloehn further submits that each and all of the structures disclosed in the specification differ substantially from the accused device, and thus the accused device does not infringe Sule's patents. It is not clear whether Sule agrees that the "poppet means" element should be construed as a means-plus-function element. *See infra* at 122 n. 6. In any event, Sule contends that Kloehn's "flat poppet," which seats *on* and seals an orifice,is the equivalent of the structures disclosed in the patent specification, *i.e.,* poppets with bulged or semi-spherical components that "seat *in* and seal" an orifice. *See* Plaintiffs' Brief in Opposition to Defendant's Motion for Summary Judgment at 22-23 (emphasis added).

[11] The threshold issue in this matter is whether s. 112 para. 6 applies at all, *i.e.,* whether the disputed element is a means-plus-function element. The Federal Circuit has examined this issue in several recent cases and has established guidelines for determining the applicability of s. 112 para. 6. First, the specific language of the claim is significant. Use of the word "means" creates a presumption that s. 112 para. 6 applies. *See* York Prods., 99 F.3d at 1574. Conversely, failure to use the word "means" creates a presumption that s. 112 para. 6 does not apply. *See* Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1213 (Fed.Cir.1998). These presumptions, however, may be rebutted if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant. *See* Personalized Media, 161 F.3d at 703-04; Kemco, 208 F.3d at 1361.

For example, the presumption created by the use of the word "means" may be rebutted if the claim element itself identifies sufficient structure. The test is whether one skilled in the art would understand the term to connote sufficiently definite structure. *See* Personalized Media, 161 F.3d at 703-05 (finding that the term "digital detector" recited sufficient structure to avoid s. 112 para. 6; "[e]ven though the term 'detector' does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as 'detectors.' "); Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed.Cir.1996) (stating that the requisite inquiry is whether the term used as the name for the structure "has a reasonably well understood meaning in the art."); *see also* Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1427-28 (Fed.Cir.1997); Cardiac Pacemakers, 2000 WL 1765358 at *12. If a claim element recites such sufficient structure, it falls outside the ambit of s. 112 para. 6, despite the use of the word "means."

[12] Applying these guidelines to claims 32-40 of the '261 patent and claims 18-20 of the '987 patent, it appears that the applicability of s. 112 para. 6 is a close question. The disputed claim element identifies a "poppet means operative to close a[n] ... orifice." Use of the word "means," coupled with the stated function of "closing an orifice," gives rise to the presumption that s. 112 para. 6 applies. *See* York Prods., 99 F.3d at 1574. The question then is whether there is a basis for departing from that presumption in this case because one skilled in the art would understand the term "poppet means" to connote sufficiently definite structure to perform the stated function. *See e.g.,* Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531 (Fed.Cir.1996) (although the term "perforation means" created the presumption that s. 112 para. 6 applied, the claim recited sufficient structure to rebut that presumption); *see also* Personalized Media, 161 F.3d at 703-05 (where the claim element did not use the word "means," the court presumed that s. 112 para. 6 did not apply; that presumption was not rebutted because the term "digital detector" recited sufficient structure to those skilled in the art); Greenberg, 91 F.3d at 1583-84 (noting that the claim element did not use the word "means" and

that the term "detent mechanism" had a reasonably well understood meaning, in terms of structure, in the art; thus, s. 112 para. 6 did not apply); *Al* Site Corp. v. VSI Int'l, Inc., 174 F.3d 1308, 1318 (Fed.Cir.1999) (finding the claim element"eyeglass hanger member" to be outside the purview of s. 112 para. 6 because the claim did not use the word "means" and the claim itself gave sufficient structure for performing the stated function); *see generally Cardiac Pacemakers,* at *13.

This court finds that the "poppet means" element at issue here does not recite sufficient structure to overcome the presumption that s. 112 para. 6 applies. After careful consideration of the cases in which the Federal Circuit has departed from the presumption established by the use of "means" language, this court finds that something more than a minimal recital of structure is required to overcome the presumption. *Accord Cardiac Pacemakers,* at *14. For example, in *Cole,* the court found that the term "perforation means" recited sufficient structure to remove the element from the ambit of s. 112 para. 6. 102 F.3d at 531. In addition to the fact that the term "perforation" connotes a particular structure, the claim in *Cole* went on to provide further structural details as well as information concerning the location and extent of the structure. *Id.* Likewise, in *Rodime PLC v. Seagate Tech., Inc.,* the court held that the claim element "positioning means for moving said transducer means between the concentrically adjacent tracks on said micro hard-disk" fell outside the purview of s. 112 para. 6 because the claim also provided a detailed description of the structure, its location and its interconnection with the structural sub-elements. 174 F.3d 1294, 1303-04 (Fed.Cir.1999). The Federal Circuit reached a similar result in Envirco Corp. v. Clestra Cleanroom, Inc., 209 F.3d 1360, 1365 (Fed.Cir.2000). In that case, the court held that because the term "baffle" in the "second baffle means" element connotes some degree of structure and the claim provided additional details as to the location and formation of the structure, the presumption of s. 112 para. 6 was overcome. *See id.; see also* Wenger Mfg., Inc. v. Coating Mach. Sys., Inc., 239 F.3d 1225, 1237 (Fed.Cir.2001) (holding that the trial court did not err in concluding that s. 112 para. 6 did not apply to the element "means defining a plurality of separate product coating zones" because the claim went on to specifically state a detailed and definite structure).

Not every recitation of structure, however, removes the claim element from the ambit of s. 112 para. 6. For instance, the Federal Circuit has adhered to the presumption created by the use of the word "means" and held that the claim element "spring means tending to keep the door closed," in the absence of a further recitation of structure, invoked s. 112 para. 6. *See* Unidynamics Corp. v. Automatic Prods. Int'l, Ltd., 157 F.3d 1311, 1319 (Fed.Cir.1998). In that case, the court held that the mere recitation of "spring," which is structural language, was not sufficient to rebut the presumption created by the use of the word "means," and thus, the claim remained within the ambit of s. 112 para. 6. *See id.* (distinguishing the *Cole* case based on the fact that the *Cole* claim element contained a more extensive description of the formation, location and extent of the relevant structure). Moreover, when the recited structure tells only what the recited means *does,* rather than what it *is* structurally, the claim is properly interpreted under s. 112 para. 6. *See* Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1536 (Fed.Cir.1991) (emphasis in original) (holding that "[t]he recitation of some structure in a means plus function element does not preclude the applicability of section 112(6) [when it] merely serves to further specify the function of that means").

In the present case, the term "poppet" arguably refers more to what the "poppet means" *does* than what it *is* structurally. *See id.* A poppet is generally understood to be a valving element that "rises perpendicularlyfrom its seat." *See* Second Affirmation of Bernard Malina ("Second Malina Aff."), Exh. 1; *see also* Plaintiffs' Reply Brief in Support of its Motion for Summary Judgment at 4-5. As such, the term "poppet" does not necessarily connote *structure,* but rather indicates the *way* in which the function of "clos[ing] the orifice" is to be performed, *i.e.,* by an element that rises perpendicularly from its seat. Nevertheless, even if the term

"poppet" does connote some degree of structure, that structure is not sufficiently definite to overcome the presumption created by the use of the word "means." *See* Unidynamics, 157 F.3d at 1319; Laitram, 939 F.2d at 1536. Importantly, the claim in this case lacks the detailed information as to structure and location that was found sufficient to overcome the presumption in such cases as *Cole, Rodime, Envirco Corp.,* and *Wenger*. *See infra* at 124-25. Here, the claim provides that the "poppet means" must form a unitary member with the "diaphragm means." That piece of information, however, is not a recitation of structure; rather, it simply indicates the relationship between the poppet means and another claim element. Therefore, because "poppet" is the only recitation of structure in the disputed claim, the presumption created by the use of the word "means" is not rebutted and the claim falls within the ambit of s. 112 para. 6.

The next step then is to look to the specification and the drawings in order to determine the proper construction of the disputed claim element. *See* Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc., 145 F.3d 1303, 1307-08 (Fed.Cir.1998). "Unlike the ordinary situation in which claims may not be limited by functions or elements disclosed in the specification, but not included in the claims themselves, in writing a claim in means-plus-function form, a party is limited to the corresponding structure disclosed in the specification and its equivalents." Kahn v. General Motors Corp., 135 F.3d 1472, 1476 (Fed.Cir.1998); *see also* Personalized Media, 161 F.3d at 703 (holding that the "cost" of using a s. 112 para. 6 function statement is that the scope of the claim is restricted to the particular structures disclosed in the specification, as well as their equivalents). In essence, the relevant structural details from the specification are incorporated into the means-plus-function claim. *See* Multiform Desiccants, 133 F.3d at 1479. However, "only the structural aspects that *correspond* to the recited function, *i.e.*, are the means by which the function is performed, constitute limitations on the scope of the means clause." Kemco, 93 F.Supp.2d at 571 (citing Chiuminatta, 145 F.3d at 1307-08) (emphasis in original).

Upon examination of the specification and drawings accompanying claims 32-40 of the '261 patent and claims 18-20 of the '987 patent, it is apparent that the structure of the "poppet means" includes a semi-spherical bulge on the sealing side of the diaphragm means that performs the function of closing the orifice by seating in and sealing the orifice. Every single drawing depicting an embodiment of the invention, in both patents, shows this structure as the means for performing the function of sealing the orifice. In addition, the summary of the invention describes a "centrally disposed semi-spherical poppet member." *See* Hintz Aff. Exh. 1, '261 patent, col. 2, lines 38-39; *see also* Hintz Aff. Exh. 2, '987 patent, col. 2, lines 35-36.

Further, in response to a restriction requirement by the PTO, Sule chose to prosecute the particular species of valve depicted in Figures 1-4 in connection with the '261 patent. *See* Hintz Aff. Exh. 12; *see also* Appendix A. The portion of the specification describing Figures 1-4 indicates that "the upper and lower diaphragm members 70, 84 each have semispherical poppet surfaces 86, 88." *See* Hintz Aff. Exh. 1, '261 patent, col. 4, lines 17-18; *see also* Hintz Aff. Exh. 2, '987 patent, col. 4, lines 14-15. The specification goes on to state that "the poppet surface 86 is proportioned to be capable of easily seating in and sealing the upper orifice 174 and the poppet surface 88 is proportioned to be capable of easily seating in and sealing the lower orifice 176." *See* Hintz Aff. Exh. 1, '261 patent, col. 5, lines 41-45; *see also* Hintz Aff. Exh. 2, '987 patent, col. 5, lines 31-34.

With respect to the '987 patent, Sule elected to prosecute the species of valve depicted in Figures 5-7. *See* Hintz Aff. Exh. 35; *see also* Appendix B. In describing Figures 5 7, the specification provides that "the poppet surfaces 264, 266 are proportioned so that they are capable of easily seating in and sealing the orifices 284, 286 respectively, in the manner which has been previously described". *See* Hintz Aff. Exh. 2, '987 patent, col. 7, lines 20-23; *see also* Hintz Aff. Exh. 1, '261 patent, col. 7, lines 36-40. Moreover, this

section of the specification refers back to Figures 1-4 in terms of the structure of the diaphragm means, which included an attached semi-spherical poppet means. *See* Hintz Aff. Exh. 1, '261 patent, col. 7, lines 12-13; *see also* Hintz Aff. Exh. 2, '987 patent, col. 6, lines 65-66.

Indeed, every embodiment described or represented in the specification indicates a semi-spherical poppet means located on the sealing side of the diaphragm means, with such poppet means capable of seating in and sealing an orifice. For example:

A second alternative embodiment of the invention 400 is shown in FIGS. 8 through 10 ... The upper and lower diaphragm members each have semispherical poppet surfaces ... FIG 11 shows a third embodiment of the invention which incorporates three diaphragm assemblies 602, 604, 606 each of which is similar to the diaphragm assemblies 432, 434 of FIG. 10 ...

See Hintz Aff. Exh. 1, '261 patent, col. 8, lines 44-46, col. 9, lines 62-65; *see also* Hintz Aff. Exh. 2, '987 patent, col. 8, lines 23-25, col. 9, lines 36-39. Plaintiffs' own witness, Alan Cohan, confirms that none of the drawings or descriptions in either the '261 patent or the '987 patent indicates anything other than a semi-spherical poppet means. *See* Hintz Aff. Exh. 6, Cohan Tr. 16-17, 19.

Thus, since the structure for performing the function of closing the orifice, as clearly indicated in the specification and drawings, constitutes a semi-spherical poppet means located on the sealing side of the diaphragm means such that the poppet means is capable of seating in and sealing an orifice, these requirements constitute limitations on claims 32-40 of the '261 patent and claims 18-20 of the '987 patent.

[13] [14] Plaintiffs assert that this interpretation violates the doctrine of claim differentiation. Claim differentiation is a rule of construction that "presumes that there is a difference in scope among the claims of a patent." Multiform Desiccants, 133 F.3d at 1479-80. Under this doctrine, narrow claim limitations cannot be read into broader claims to escape infringement. *See e.g.,* Marsh-McBirney, Inc. v. Montedoro-Whitney Corp., 882 F.2d 498, 504 (Fed.Cir.1989) (citations omitted). Plaintiffs point out that the claims asserted in this litigation contain no reference to a particular geometric shape in terms of the "poppet means" element. In contrast, *all* of the non-asserted claims are limited to "semi-spherical" poppet means. *See* Plaintiff's Brief in Opposition to Defendant's Motion for Summary Judgment on Patent Infringement Claims at 20-21. Thus, the plaintiffs argue that the asserted claims are broader than the non-asserted claims and that the doctrine of claim differentiation precludes reading the more narrow definition of "poppet means" disclosed in the specification into such broadly drafted claims. *See id*. The defendant contends that the doctrine of claim differentiation is inapplicable where, as here, the claim limitation at issue is a means-plus-function element.

The defendant is correct. As discussed above, "claims that are written in the form authorized by section 112 paragraph 6 are by statute limited to the structure described in the specification and equivalents of that structure." C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1364 (Fed.Cir.1998). The judicially developed doctrine of claim differentiation simply cannot trump that statutory mandate. Laitram, 939 F.2d at 1538. A "means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure." *Id*. Indeed, "the doctrine of claim differentiation can not broaden claims beyond their correct scope, determined in light of the specification and the prosecution history and any relevant extrinsic evidence." Multiform Desiccants, 133 F.3d at 1480. Where, as here, the meaning of the term "poppet means" is clear based on the relevant intrinsic and extrinsic evidence, pursuant to s. 112 para. 6, the doctrine of claim differentiation cannot alter that meaning. "Claim differentiation is a guide, not a rigid rule. If a claim will bear only one

interpretation, similarity will have to be tolerated." Autogiro Co. of America v. United States, 181 Ct.Cl. 55, 384 F.2d 391, 404 (1967). Under the circumstances, as set forth above, the disputed claim will bear only one interpretation. Thus, similarity with other non-asserted claims will have to be tolerated.

Moreover, even when limited to the semi-spherical structures disclosed in the specification, claims 32-40 in patent '261 and claims 18-20 in patent ' 987 are not identical in scope to the other claims in those patents. Claims 1-31 in the '261 patent differ from claims 32-40 in that the former claims do not indicate a first poppet means and a *separable* second poppet means. Claims 41-48 of the '261 patent reference a first poppet means and a second poppet means, but provide for additional structures not included in claims 32-40. As such, even if all claims in the '261 patent are interpreted as having semi-spherical poppet means, each independent claim maintains its own individual scope, which is not identical to the scope of any other claim in the patent. Similarly, claims 1-17 in the '987 patent do not indicate a first poppet means and a *separable* second poppet means; rather, those claims refer to one poppet means alone. As such, claims 18-20 in the '987 patent maintain a different scope than the other claims even if all claims are interpreted to require semi-spherical poppet means.

Infringement of Claims 32-40 of the '261 Patent ***and Claims 18-20 of the*** ' 987 Patent

[15] Having thus identified the structure corresponding to the claim element "poppet means," the next question is whether the accused device contains an identical or equivalent structure. "In the context of section 112, ... an equivalent results from an insubstantial change which adds nothing of significance to the structure, material, or acts disclosed in the patent specification." Chiuminatta, 145 F.3d at 1309 (quoting Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1043 (Fed.Cir.1993)). This "insubstantial difference" analysis requires a determination of "whether the 'way' the [accused structure] performs the claimed function, and the ' result' of that performance, is substantially different from the 'way' the claimed function is performed by the 'corresponding structure ... described in the specification,' or its 'result.' " Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267 (Fed.Cir.1999) (holding also that "[l]iteral infringement of a s. 112 para. 6 limitation requires that the relevant structure in the accused device perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the specification"); *see also* Ishida Co., Ltd. v. Taylor and TNA Australia Pty Ltd., 221 F.3d 1310, 1316-17 (Fed.Cir.2000). The Federal Circuit has recently resolved an outstanding question and held that the issue of equivalence under s. 112 para. 6 is a question of fact for the jury. *See* IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1430 (Fed.Cir.2000); Odetics, 185 F.3d at 1268-69. Thus, in assessing the parties' motions for summary judgment, this court must determine whether a genuine issue of material fact exists as to equivalence of structure.

Kloehn argues that its "flat poppet," which has no structure at all on the sealing side of the diaphragm and performs its function by seating *on* and sealing the orifice, is not equivalent to the structure described in the '261 and '987 patent specifications. Sule responds that although the two structures are not identical, they are certainly equivalents, in that they perform the same function, *i.e.,* closing an orifice, in the same way, *i.e.,* by reciprocating toward and away from the seat perpendicular to the plane of the seat, to achieve the same result, *i.e.,* alternately opening and sealing the orifice. This court, however, finds that no genuine issue of material fact exists as to the structural equivalence of the Sule "poppet means" and the Kloehn "flat poppet." The semi-spherical poppet means, which is disclosed and required by the specification and drawings of the '261 patent and the ' 987 patent, is substantially different from the flat poppet in the accused Kloehn valve. *See* Appendix C (Declaration of Alan Cohan, Exh. C) (a drawing of the accused Kloehn valve prepared by plaintiffs' witness, Alan Cohan, with the shaded area being the so-called "flat poppet"); *see also* Appendixes

A, B.

First, the two structures are neither identical nor equivalent. Under the meansplus-function analysis set forth above, the term "poppet means" is construed as a semi-spherical bulge on the sealing side of the diaphragm such that the semi-spherical poppet means seats in and seals an orifice. As the defendant notes, the Kloehn valve has no structure whatsoever on the sealing side of the diaphragm. Certainly, a semi-spherical bulge is not the structural equivalent of a complete lack of structure. Moreover, the specification reveals that this difference is a significant one. In the "Background of the Invention" section of both '261 and '987, the prior art is described as having certain deficiencies. For instance, the specification states that conventional solenoid valves generally contain a poppet member with a conical portion that seats in and seals an orifice. One problem with the conventional valves is that "even slight misalignment of the poppet member and the orifice results in an elliptical line of contact between the conical surface of the poppet member and the circular edge of the orifice, requiring substantial force on the poppet member in order to deform the poppet member and the orifice seat to create a seal." Hintz Aff. Exh. 1, '261 patent, col. 1, lines 54-59, *see also* Hintz Aff. Exh. 2, '987 patent, col. 1, lines 48-53. The unitary construction of the diaphragm, sealing rings and poppet surfaces, coupled with the semi-spherical shape of the poppet means, was thus proposed as a method of eliminating this problem. *See* Hintz Aff. Exh. 1, '261 patent, col. 2, lines 47-60; Hintz Aff. Exh. 2, '987 patent, col. 2, lines 43-55; *see also* "Summary of the Invention," Hintz Aff. Exh. 1, '261 patent, col. 2, lines 38-39; Hintz Aff. Exh. 2, '987 patent, col. 2, lines 35-36 (describing a "centrally disposed semi-spherical poppet member").

The structural difference between the Sule valve and the Kloehn valve is not insubstantial-it is significant in terms of performing the recited function of closing the orifice. Notably, the *way* in which the two structures perform their functions is different. *See* Odetics, 185 F.3d at 1267. The Sule "poppet means" closes the orifice by penetrating the valve seat, seating *in* and sealing the orifice. The Kloehn "flat poppet" accomplishes the same function by seating *on* the sealing rings, without penetrating the plane of the valve seat. Thus, while the Sule "poppet means" and the Kloehn "flat poppet" perform the same function, they perform the function in *different ways,* using *different structures*. Accordingly, the Sule "poppet means" and the Kloehn "flat poppet" are not structurally equivalent, and no reasonable jury could so find.

Because the flat poppet of the accused device is not structurally equivalent to the poppet means disclosed in the '261 and '987 patents, the accused structure is not within the scope of the asserted claims. Therefore, defendant's motion for entry of summary judgment on plaintiffs' claim of literal infringement is granted and the plaintiffs' motion for summary judgment is denied.

[16] In the alternative, even if the "poppet means" element is *not* construed pursuant to s. 112 para. 6, entry of summary judgment in favor of the defendant on the issue of literal infringement is nonetheless appropriate.

As discussed earlier, in construing a claim, the court looks to the claim language, the specification, the prosecution history and, if necessary, extrinsic evidence. *See* Vitronics, 90 F.3d at 1582-83. The disputed claim in this case includes a "poppet means" element, which is not defined in the claim language itself. To determine the meaning of this element then, the plaintiffs suggest that the court consider several dictionary definitions of the term "poppet" and find that these definitions constitute the ordinary meaning of the term to those skilled in the art. The plaintiffs assert that when a term has a clear ordinary meaning, even if that meaning is broad, there is no need to look further. *See* Plaintiffs' Brief in Opposition to Defendant's Motion for Summary Judgment at 12-14. The defendant responds that, in this case, the broad dictionary definitions

are irrelevant, or at least unpersuasive, in light of the clear definition of the term "poppet means" in the patent specification and history. The defendant submits that these intrinsic sources should be given more weight than extrinsic dictionary definitions.

It has been held that dictionary definitions may be helpful to the court in terms of understanding the underlying mechanisms and technology of an invention. *See* Vitronics, 90 F.3d at 1584 n. 6. Such definitions can even be used in construing claims, so long as they do not contradict definitions found in the patent documents themselves. *See id*. In the present case, the dictionary definitions presented by the plaintiffs provide that the term "poppet" refers generally to a valve that "rises perpendicularly from its seat." *See* Second Malina Aff., Exh. 1; *see also* Plaintiffs' Reply Brief in Support of its Motion for Summary Judgment at 4-5. The plaintiffs submit that this ordinary meaning is broad enough to encompass both Sule's valves and the accused Kloehn valves, and thus, Kloehn's valves infringe on Sule's patents. The defendant responds that the patent specification and drawings clearly indicate a more narrow definition of the term "poppet means," *i.e.,* a poppet with a semi-spherical bulge on the sealing side of the diaphragm which is capable of seating in and sealing an orifice.

This court finds that the defendant's interpretation is the correct one. As noted earlier, every embodiment described or represented in the patent specification indicates a semispherical poppet means located on the sealing side of the diaphragm means, with such poppet means capable of seating in and sealing an orifice. *See infra* at 126. Indeed, plaintiffs' witness, Alan Cohan, confirmed that none of the drawings or descriptions in either the ' 261 patent or the '987 patent indicates anything other than a semi-spherical poppet means. *See* Hintz Aff. Exh. 6, Cohan Tr. 16-17, 19. When the plaintiffs were asked by the PTO to elect a particular species of valve for prosecution in connection with the patents, the plaintiffs chose figures that depicted semi-spherical poppet members. *See* infra at 126. Also, the summary of the invention describes a "centrally disposed semi-spherical poppet member." *See* Hintz Aff. Exh. 1, '261 patent, col. 2, lines 38-39; *see also* Hintz Aff. Exh. 2, '987 patent, col. 2, lines 35-36.

Plaintiffs argue that this interpretation improperly incorporates the embodiments set forth in the specification into the meaning of the claims. It is true that "references in the specification to a preferred embodiment, or an illustrative example, do not limit the scope of the patent claim." Kemco, 93 F.Supp.2d at 570 (quoting Lucas Aerospace, Ltd. v. Unison Indus., L.P., 890 F.Supp. 329, 332 (D.Del.1995)). Only the claims themselves limit the right to exclude. *See* Markman, 52 F.3d at 980. However, when faced with a claim element that is undefined by the claim itself, the other intrinsic evidence, such as the patent specification, is the "most significant source of the legally operative meaning of disputed claim language." Vitronics, 90 F.3d at 1582 (citing Markman, 52 F.3d at 979). Indeed, it is entirely appropriate to read the patent claims "in view of the specification, of which they are a part." Markman, 52 F.3d at 979; *see also* E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co., 849 F.2d 1430, 1433 (Fed.Cir.1988) (holding that "it is entirely proper to use the specification to interpret what the patentee meant by a word or phrase in the claim."). As noted earlier, the specification is "highly relevant to the claim construction analysis" because it contains a written description of the invention that must be clear and complete enough to enable those of ordinary skill in the art to make and use it. *See* Vitronics, 90 F.3d at 1582; Kemco, 93 F.Supp.2d at 570.

This court concludes that one skilled in the art reading the claims, description, and prosecution history in this case would conclude that the term "poppet means" in claims 32-40 of the '261 patent and claims 18-20 of the ' 987 patent includes only those means with a semispherical bulge on the sealing side of the diaphragm such that the poppet means seats in and seals the orifice. *See e.g.,* O.I. Corp. v. Tekmar Co. Inc., 115 F.3d 1576, 1581-82 (Fed.Cir.1997). Because the intrinsic evidence clearly defines the meaning of the

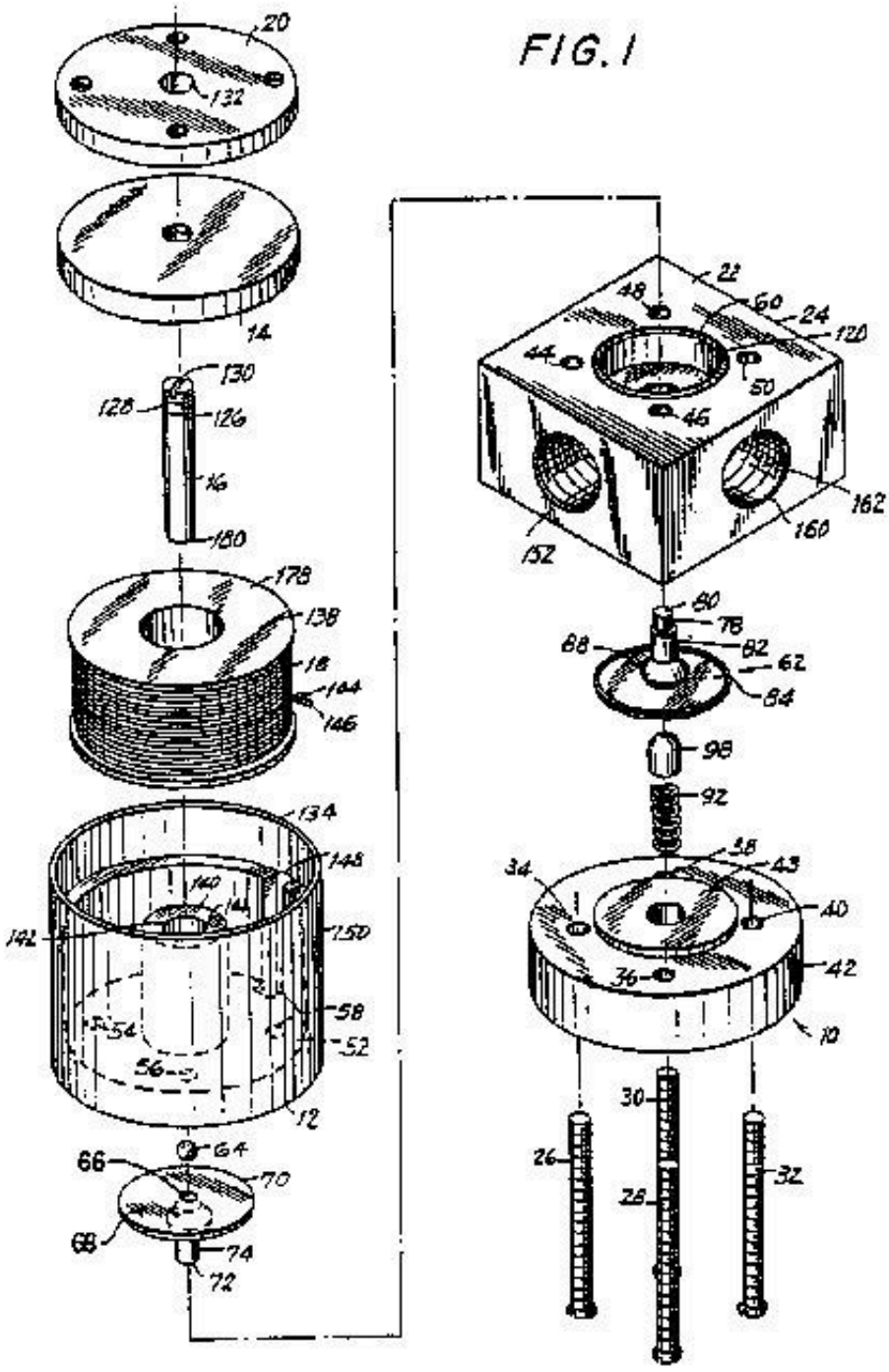
"poppet means" claim element, the court need not turn to extrinsic evidence. *See id*. (citing Vitronics, 90 F.3d at 1582-83).

[17] Again, contrary to the plaintiffs' argument, the doctrine of claim differentiation does not alter this result. "Although the doctrine of claim differentiation may at times be controlling, construction of claims is not based solely upon the language of other claims; the doctrine cannot alter a definition that is otherwise clear from the claim language, description, and prosecution history." *See* O.I. Corp., 115 F.3d at 1582 (citing Hormone Research Found., Inc. v. Genentech, Inc., 904 F.2d 1558, 1567 n. 15 (Fed.Cir.1990)). Since the patent specification and drawings in this case provide a clear meaning for the language of the claim, the doctrine of claim differentiation is not controlling. *See id*. In any event, as discussed earlier, even if all claims are limited to semi-spherical poppet means, the asserted claims nevertheless maintain a different scope than the non-asserted claims. *See infra* at 22-23.

Therefore, this court concludes that claims 32-40 of the '261 patent and claims 18-20 of the '987 patent are limited to "poppet means" which incorporate semi-spherical bulges on the sealing side of the diaphragm such that the poppet means seats in and seals an orifice. A claim of literal infringement will only be successful if the patentee demonstrates that every limitation or element set forth in a claim is present in the accused device, exactly. *See* Southwall, 54 F.3d at 1575; Wright Med. Tech., 122 F.3d at 1443-44 (" 'Literal infringement exists if each of the limitations of the asserted claim(s) read[s] on, that is, [is] found in, the accused device.' " (citations omitted)). If any one or more limitations of a claim is missing from the accused device, there can be no infringement as a matter of law. London, 946 F.2d at 1538; Katz, 818 F.Supp. at 735-36. Because the Kloehn valves do not have a semi-spherical poppet means which seats in and seals an orifice, there is no literal infringement of Sule's patents. A reasonable jury could not find otherwise. Accordingly, even if the "poppet means" element is not a means-plus-function element, entry of summary judgment in the defendant's favor on the issue of literal infringement is nevertheless appropriate.

APPENDIX A

FIG. 1


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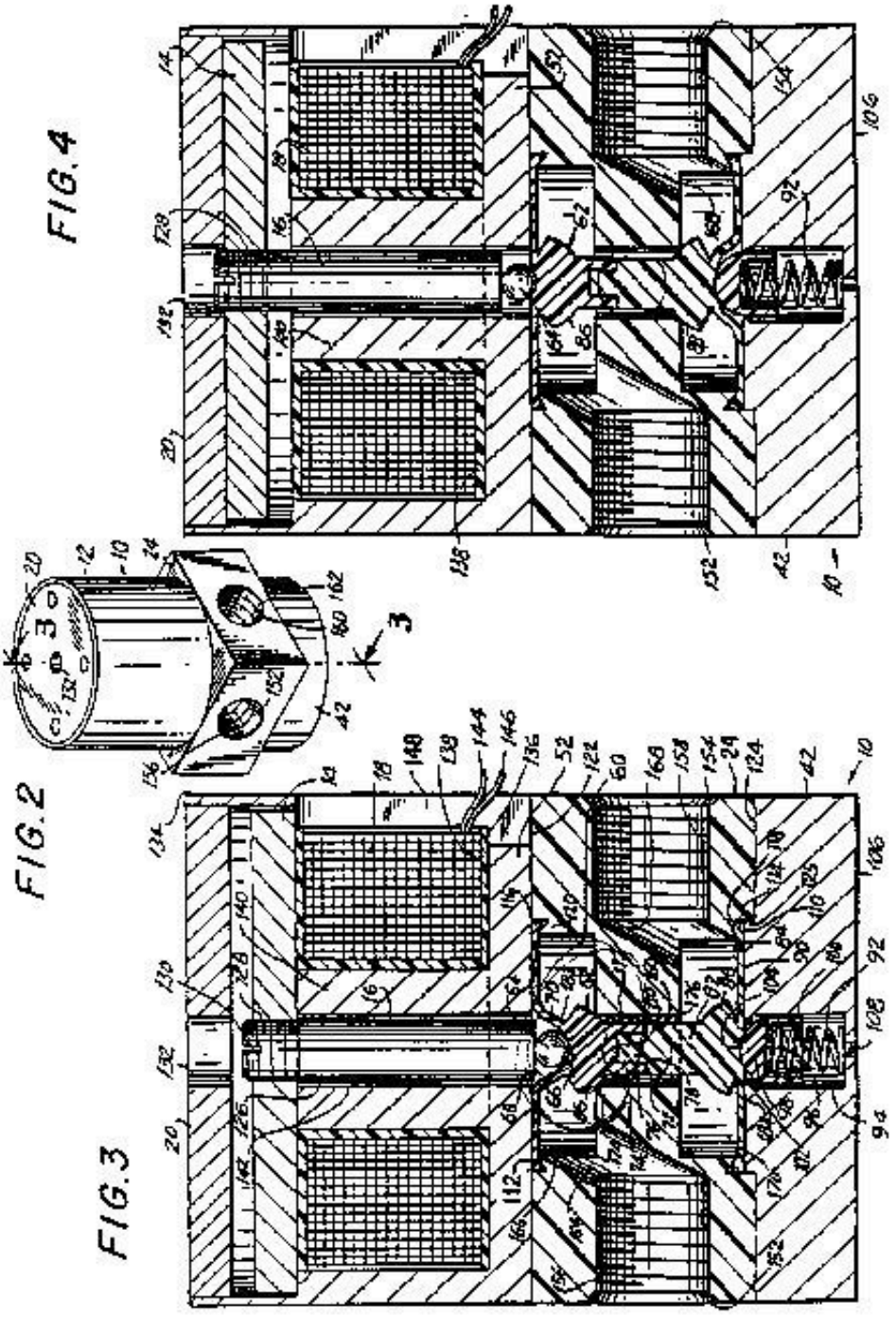


FIG. 4

FIG. 2

FIG. 3

APPENDIX B

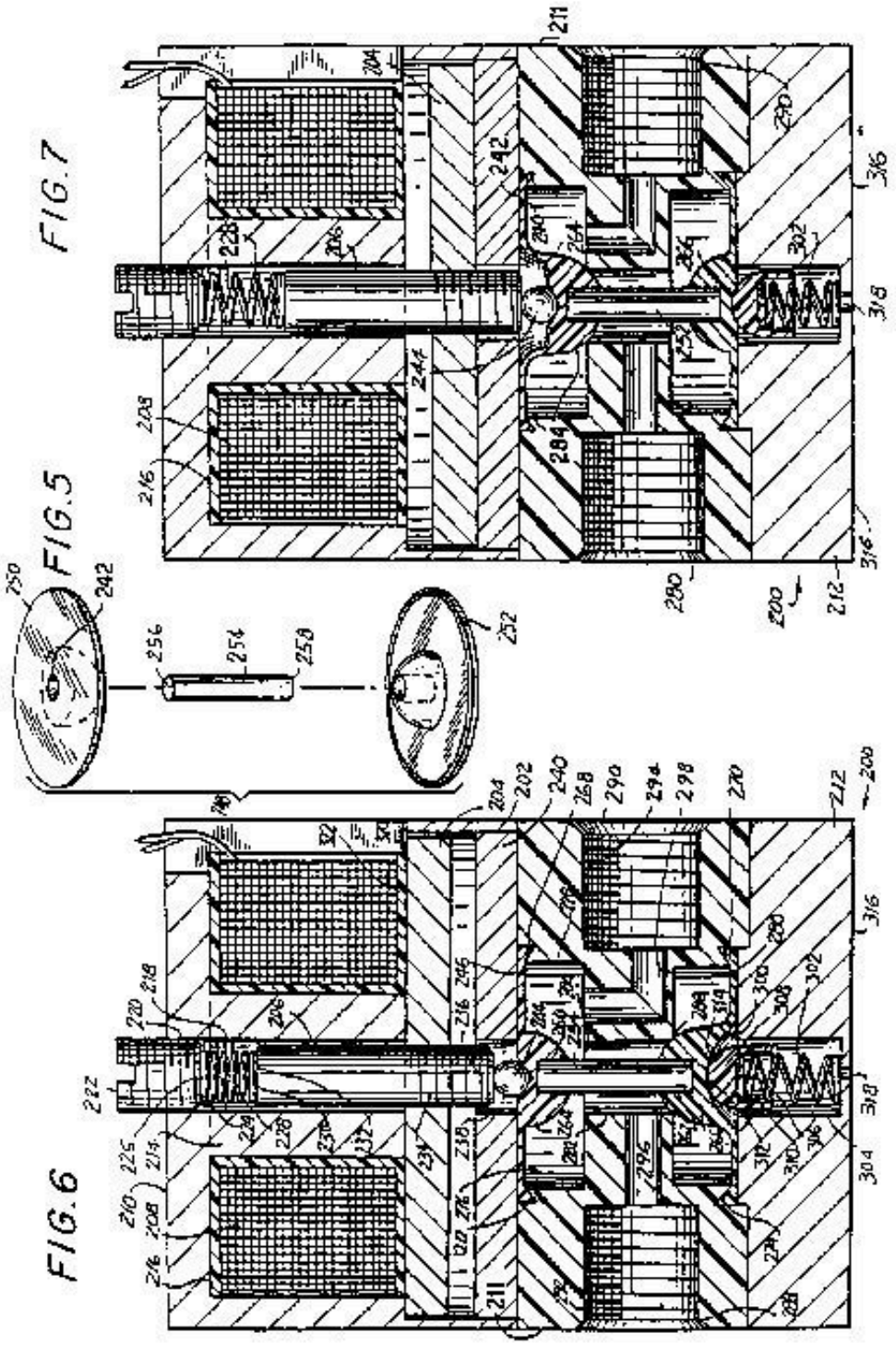
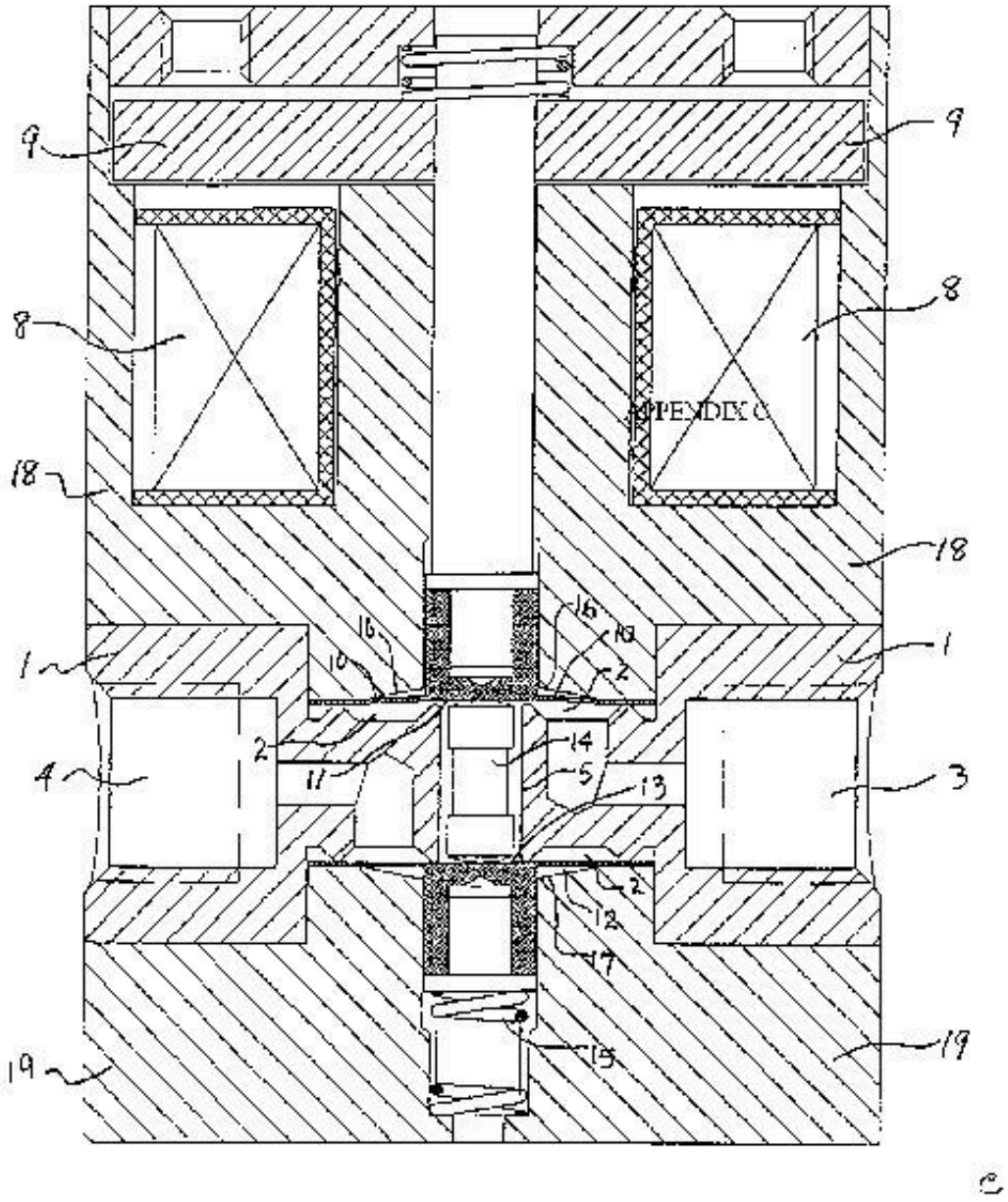


FIG. 6

FIG. 5

FIG. 7

APPENDIX C



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