

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO
EASTERN DIVISION**

THE HOOVER COMPANY,

Plaintiff,

v.

**ROYAL APPLIANCE MANUFACTURING
COMPANY,**

Defendant.

: Case No. 1:00CV347
:
: JUDGE O'MALLEY
:
: MEMORANDUM & ORDER
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:

Plaintiff Hoover Company brings this action against defendant Royal Appliance Manufacturing Company, asserting that Royal has infringed a number of patents Hoover received



in connection with the invention of its “carpet cleaning extractors” – devices configured like upright vacuum cleaners used to clean carpets through application and retrieval of a liquid

cleaning solution (see drawing).¹ Specifically, Hoover alleges it sells various models of “SteamVac” upright carpet cleaning extractors, and that Royal’s sale of its competing “Easy Steamer” products violates Hoover’s patent rights. Based on these allegations, Hoover claims Royal has: (1) infringed claims 1-8 and 15-20 of Hoover’s utility patent 5,500,977 (the “977 patent”) for an “upright carpet extractor;” (2) infringed claim 13 of Hoover’s utility patent 5,761,763 (the “763 patent”) for an “upright carpet extractor;” (3) infringed claim 7 of Hoover’s utility patent 5,406,673 (the “673 patent”) for a “tank carry handle and securement latch;” (4) infringed two of Hoover’s design patents, being patent 358,241 and patent 358,072; and (5) infringed Hoover’s trade dress, in violation of 15 U.S.C. §1125(a).

In response, Royal has asserted counterclaims against Hoover, seeking to invalidate Hoover’s patent rights. Specifically, Royal claims that: (1) all of the patents that Hoover cites should be declared invalid, void, and unenforceable; and (2) this lawsuit is actually an attempt by Hoover to monopolize the relevant market, in violation of the Sherman Act, 15 U.S.C. §2.

Pursuant to Markman v. Westview Instruments, 517 U.S. 370 (1996), the Court held a hearing on September 19, 2000, to determine the meaning or construction of the patents’ claims, as a matter of law. In advance of this hearing, the parties submitted: (1) a joint claims construction chart, identifying areas of agreement and areas of dispute; and (2) separate briefs urging a certain construction for each disputed claim. The Court’s analysis and construction of the disputed claims

¹ Drawing obtained on November 22, 2000 at:
<http://www.hoover.com/db/xq/asp/catid.6/DBID.338/zoom/qx/products.htm>. Put simply, the carpet cleaning extractor works as follows: (1) the operator pulls a trigger on the handle; (2) cleaning solution is delivered from a supply tank onto the carpet; (3) rotating brushes scrub the cleaning solution into the carpet; and (4) the extractor vacuums the dirty solution out of the carpet, where the liquid is stored in a recovery tank for later disposal. As noted, Hoover’s carpet cleaning extractor is configured to look and operate similar to an upright vacuum cleaner.

is set out below. The following chart summarizes the Court’s conclusions.

Disputed Term	Construction
“cleaning solution distribution means”	“a structure that discharges liquid cleaning solution into an airflow exiting the discharge nozzle, and equivalents thereof”
“surrounding”	[none] ²
“fluid separation means”	“a tank having a hollow lid and a system of baffles that increases precipitation, and equivalent structures”
“first tank” and “second tank”	[none]
“latch operable to selectively hold said first tank on said handle”	[none]
“liquid container”	[none]
“combination carrying handle and securement latch member”	“a single member that functions as both a handle and a securement latch”
“pivotally attached to said top portion”	“which is a movable member mounted on the tank to assist in carrying the tank and securing the tank to the ambulatory machine”

I. Legal Standards.

The construction of the patent and the terms contained therein is an issue to be determined by the Court, as a matter of law. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995), affirmed, 517 U.S. 370, 372 (1996). In construing a claim, the Court determines “the meaning and scope of the patent claims asserted to be infringed.” Id.

Claims are construed from the vantage point of a person of ordinary skill in the art at the time of the invention. Id. at 986. To ascertain the meaning of the claims, a court should consider three

² As used here, “[none]” means the disputed terms are sufficiently clear that they need no special construction by the Court, despite a request by one of the parties that the Court do so.

things: the patent claims, the patent specification, and the prosecution history. Insituform Tech., Inc. v. Cat Contracting, Inc., 99 F.3d 1098, 1105 (Fed. Cir. 1996); Markman, 52 F.3d at 979. The claim language itself defines the scope of the claim, and “a construing court does not accord the specification, prosecution history, and other relevant evidence the same weight as the claims themselves, but consults these sources to give the necessary context to the claim language.” Eastman Kodak Co. v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 1552 (Fed. Cir. 1997).

“Claim language is given its ordinary and accustomed meaning except where a different meaning is clearly set forth in the specification or where the accustomed meaning would deprive the claim of clarity.” Northern Telecom Ltd. v. Samsung Electronics, 215 F.3d 1281, 1287 (Fed. Cir. 2000). While a patentee can “act as his own lexicographer to specifically define terms of a claim contrary to their ordinary meaning, the written description in such a case must clearly redefine a claim term so as to put a reasonable competitor or one reasonably skilled in the art on notice that the patentee intended to so redefine that claim term.” Elekta Instrument S.A. v. O.U.R. Scientific Intern., Inc., 214 F.3d 1302 (Fed. Cir. 2000) (quoting Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357 (Fed. Cir. 1999)) (internal quotation marks omitted). For purposes of construing the claim, the written description contained in the specification may “act as a sort of dictionary, which explains the invention and may define the terms used in the claims.” Markman 52 F.3d at 979.

Although claims should be read in view of their specification, Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996), the Federal Circuit has repeatedly cautioned against limiting the scope of a claim to the preferred embodiment or specific examples disclosed in the specification. See Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1303 (Fed. Cir.

1997) (“[w]hile examples disclosed in the preferred embodiment may aid in the proper interpretation of a claim term, the scope of a claim is not necessarily limited by such examples”); Intervet American, Inc. v. Kee-Vet Laboratories, Inc., 887 F.2d 1050, 1053 (Fed. Cir. 1989) (“limitations appearing in the specification will not be read into claims, and . . . interpreting what is meant by a word in a claim ‘is not to be confused with adding an extraneous limitation appearing in the specification, which is improper’”) (citation omitted).

In construing the claims, the Court may look to the patent’s prosecution history if it is a part of the record in the case. Markman, 52 F.3d at 980. “This ‘undisputed public record’ of proceedings in the Patent and Trademark Office [“PTO”] is of primary significance in understanding the claims.” Id. Although the prosecution history “can and should be used” when construing the claims, it “cannot ‘enlarge, or diminish or vary’ the limitations in the claims.” Id. (citation omitted).

Prosecution history is relevant to the construction of a claim written in means-plus-function form.

Indeed, “just as prosecution history estoppel may act to estop an equivalence argument under the doctrine of equivalents, positions taken before the PTO may bar an inconsistent position on claim construction under § 112, ¶6. Clear assertions made in support of patentability thus may affect the range of equivalents under § 112, ¶6. Cybor Corp. v. FAS Technologies, Inc., 138 F.3d 1448, 1457 (Fed. Cir. 1998) (citations and internal quotation marks omitted). The Court does not, however, apply the doctrine of prosecution history estoppel at this stage of the analysis. “There is a clear line of distinction between using the contents of the prosecution history to reach an understanding about disputed claim language and the doctrine of prosecution history estoppel, which ‘estops’ or limits later expansion of the protection accorded by the claim to the patent owner under the doctrine of equivalents when the claims have been purposefully amended or distinguished over relevant prior

art to give up scope.” Biodex Corp. v. Loredan Biomedical, Inc., 946 F.2d 850, 862 (Fed. Cir. 1991) (citations omitted).

Extrinsic evidence such as expert testimony may be considered, if needed to assist the Court in understanding the technology at issue or in determining the meaning or scope of technical terms in a claim. Aqua-Aerobic Systems, Inc. v. Aerators, Inc., 211 F.3d 1241, 1244-45 (Fed. Cir. 2000); Hoechst Celanese Corp. v. BP Chemicals LTD., 78 F.3d 1575, 1579 (Fed. Cir. 1994), cert. denied, 117 S.Ct. 275 (1996). Expert testimony may not be relied upon, however, to “correct errors or erase limitations or otherwise diverge from the description of the invention as contained in the patent documents.” Id. at 1254 (citing Markman, 52 F.3d at 981). Reliance on any extrinsic evidence is also discouraged where the public record – that is, the claims themselves, the specification, and the file history – unambiguously defines the scope of the claims. Vitronics, 90 F.3d at 1583. Courts are not prohibited, though, from examining extrinsic evidence, even when the patent document is itself clear. Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1308 (Fed. Cir. 1999).

There is presumed to be “a difference in meaning and scope when different words or phrases are used in separate claims.” United States v. Telectronics, Inc., 857 F.2d 778, 783 (Fed. Cir. 1988). There is a presumption against construing claims as being so similar as to “make a claim superfluous.” Id. That claims are presumed to differ in scope, however, “does not mean that every limitation must be distinguished from its counterpart in another claim, but only that at least one limitation must differ.” Kraft Foods, Inc., v. International Trading Co., 203 F.3d 1362, 1369 (Fed. Cir. 2000); Mantech Envtl. Corp v. Hudson Envtl. Servs., 152 F.3d 1368, 1376 (Fed. Cir. 1998). The doctrine of claim differentiation, moreover, “only creates a presumption that each claim in a patent has a different scope; it is ‘not a hard and fast rule of construction.’” Kraft Foods, Inc., 203

F.3d at 1369 (citing Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186 (Fed. Cir. 1998)). “Claim differentiation can not broaden claims beyond their correct scope.” Multiform Dessicants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1480 (Fed. Cir. 1998).

When construing claims, the Court must be mindful of the word “means.” As explained in 35 U.S.C. §112 ¶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, when claim terms are in the form commonly referred to as “means plus function,” the language must be construed as limited to the specific structure described in the specification “and equivalents thereof.” Signtech USA, Ltd. v. Vutek, Inc., 174 F.3d 1352, 1358 (Fed. Cir. 1998).

Application of §112 ¶6 is normally required if the claim language includes the word “means.” If a claim element uses the word “means” but recites no function corresponding to that means, however, §112 ¶6 does not apply. Also, if a claim element recites sufficient structure or material for performing a function, then §112 ¶6 does not apply, even if the claim element also specifies a function. Personalized Media Comm. LLC v. International Trade Comm’n, 161 F.3d 696, 704 (Fed. Cir. 1998); Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531 (Fed. Cir. 1996); Desper Prods., Inc. v. QSound Labs, Inc., 157 F.3d 1325, 1336 (Fed. Cir. 1998); Mas-Hamilton v. LaGard, Inc., 156 F.3d 1206, 1213-15 (Fed. Cir. 1998).

When applying a means plus function analysis, the claimed element must be specifically limited to the structure disclosed in the patent specification for performing the stated function, and very limited “equivalents” of such structure within the meaning of “equivalents” set forth in §112 ¶6. Johnston v. IVAC Corp., 885 F.2d 1574, 1580 (Fed. Cir. 1989). A means plus function

limitation incorporates only the disclosed structure necessary to perform the specified function. See General Elec. Co. v. United States, 572 F.2d 745, 776 (Ct. Cl. 1978) (refusing to incorporate elements into limitation from the specification not necessary for performing the function); Lockheed Aircraft Corp. v. United States, 553 F.2d 69, 81 (Ct. Cl. 1977) (“a ‘means-plus-function’ claim covers the structure necessary to perform the specified function”). The function which defines the limitation is determined by the terms of the claim, not the specification. Section 112 ¶ 6 restricts the scope of a functional claim limitation as part of a literal infringement analysis. Al-Site Corp. v. VSI, Int’l, Inc., 174 F.3d 1308, 1320 (Fed. Cir. 1999). Thus, §112 ¶ 6 procedures restrict a functional claim element’s “broad literal language . . . to those means that are ‘equivalent’ to the actual means shown in the patent specification.” Warner-Jenkinson Co. v. Hilton-Davis Chemical Co., 520 U.S. 17, 26 (1997).

A structural equivalent under §112 must have been available at the time of the issuance of the claim. Chiuminatta Concrete Concepts Inc. v. Cardinal Inds., Inc., 145 F.3d 1303, 1310-11 (Fed. Cir. 1998). An equivalent structure or act under §112 cannot embrace technology developed after the issuance of the patent because the literal meaning of a claim is fixed upon its issuance. Al-Site, 174 F.3d at 1320. An “after arising equivalent” infringes, if at all, only under the doctrine of equivalents. Id.; Warner-Jenkinson, 520 U.S. at 36; Hughes Aircraft Co. v. United States, 140 F.3d 1470, 1475 (Fed. Cir.1998).

While the Court must construe “means plus function” language as limited to the specific structure described in the specification “and equivalents thereof,” the Court may not apply the “doctrine of equivalents” at the claim construction stage. See Athletic Alternatives v. Prince Mfg., Inc., 73 F.3d 1573, 1582 (1996) (“[a]s we have often observed, however, the doctrine of equivalents

is not a license to ignore or ‘erase structural and functional limitations of the claim,’ limitations ‘on which the public is entitled to rely in avoiding infringement.’”). The doctrine of equivalents is reserved for the infringement stage of the analysis.

II. Construction.

The parties agree that none of the terms contained in the two design patents require construction by the Court. The parties further agree that a number of terms contained in the three utility patents at issue also do not require construction by the Court. The parties dispute, however, the meaning of the following terms contained in the utility patents: (1) “cleaning solution distribution means;” (2) “surrounding;” (3) “fluid separation means;” (4) “first tank” and “second tank;” (5) “latch operable to selectively hold said first tank on said handle;” (6) “liquid container;” and (7) “combination carrying handle and securement latch member pivotally attached to said top portion.”

The Court now supplies a construction for each of these disputed terms.

A. “Cleaning Solution Distribution Means”

Claims 1, 2, 15, and 20 of the 977 patent include the following claim language: “[a] carpet extractor comprising . . . a base frame, said base frame including vacuum producing means, cleaning solution distribution means for applying cleaning solution upon the surface being cleaned, and vacuum nozzle means for removing at least a portion of said cleaning solution from the surface being cleaned” (emphasis added). The drawings contained in the 977 patent show that the “cleaning solution distribution means” is located in a position analogous to where the rotating brush is

normally located on an upright vacuum cleaner – that is, the leading edge of the unit, just above the floor.³

Hoover contends that the term “cleaning solution distribution means” should be construed to mean “a spray nozzle.” Royal contends the term should be construed to mean “a structure which entrains droplets of cleaning solution in a turbulent air flow of exhaust air from the motor, and equivalent structures.” Given that the claim language does not recite any structure for performing the function of “cleaning solution distribution,” the language must be construed as limited to the specific structure described in the specification, pursuant to §112 ¶6.

The patent specification teaches:

As best illustrated in FIG. 11A, the cleaning solution distributor 650 is positioned within discharge nozzle 65, by any suitable means, such that lateral edge 660 is suspended equally between and upstream of upper lip 662 and lower lip 663 of nozzle 65 whereby exhaust air from fan 620, indicated by arrow 665, exiting through nozzle 65 is divided into two flows, an upper airflow, indicated by arrow 664 and flowing over top of fluid distributor 650, and lower airflow indicated by arrow 666 flowing below fluid distributor 650. As airstreams 664 and 666 approach the discharge nozzle lips 662 and 663, they are convergingly directed toward one another by sloped surfaces 668 and 670, respectively, thereby converging immediately downstream of the distributor’s lateral edge 660. Liquid cleaning solution flows, by gravity, from supply tank 40 to manifold 656, via hose 328 through ducts 658 and into the turbulent airflow created by the converging airflows 664 and 666 exiting discharge nozzle 65.

977 patent at col. 8, ln. 54 - col. 9, ln. 4 (emphasis added). The patent specification also states

Cleaning solution, upon the operator’s command, is discharged from the cleaning fluid supply tank 40, passing through discharge valve 350, supply line 328, and into the fluid distributor 650 positioned within air discharge nozzle 65 whereby the cleaning fluid is atomizingly distributed throughout the discharged air and conveyed thereby to the surface being cleaned.

³ Referring to the drawing on page 1 of this opinion, the “cleaning solution distribution means” is located near the “built-in scrub brush.”

977 patent at col. 12, lns. 19–26 (emphasis added).

Notably, the patent specification also refers to a hand-held attachment, normally used to clean carpeted stairs and upholstery, which also distributes cleaning solution. The specification for the hand-held attachment teaches “a typical hand operated upholstery/stair cleaning nozzle having typical spray means for dispensing cleaning solution upon the surface being cleaned.” 977 patent at col. 12, lns. 9-12.

Given that the disputed term must be construed as limited to the particular structure described in the specification, the Court must reject Hoover’s contention that the term “cleaning solution distribution means” should be construed simply to mean “a spray nozzle.” Importantly, Hoover did not use the term “spray nozzle” in its specification of the term “cleaning solution distribution means,” even though it could have; indeed, Hoover did use the term “cleaning nozzle having typical spray means” in its specification of the hand-held attachment. Furthermore, the term “spray nozzle” is generally understood to include (if not be limited to) a structure that performs the function of expulsion of a liquid stream or mist by expelling the liquid under pressure through a small hole (e.g., a garden hose or a spray bottle). But the patent specification in this case suggests a very different means of performing the function of distributing cleaning solution: discharging the “[l]iquid cleaning solution . . . into the turbulent airflow . . . exiting [the] discharge nozzle.” Rather than specifying the expulsion of liquid through a small hole, the patent explicitly specifies that the “cleaning solution distribution means” occurs using a structure that expels liquid into an existing air stream.

On the other hand, the Court is unwilling to adopt the precise language suggested by Royal: “a structure which entrains droplets of cleaning solution in a turbulent air flow of exhaust air from

the motor, and equivalent structures.” This language, while more accurate, is not an exact reflection of the words used in the specification, itself. Rather the Court concludes that, given the language contained in the specification, the term ““cleaning solution distribution means” must be construed to mean “a structure that discharges liquid cleaning solution into an airflow exiting the discharge nozzle, and equivalents thereof.” This construction is in better accord with the invention as disclosed by Hoover’s own specification.

The Court notes that it has weighed, but rejected, Hoover’s claim differentiation argument and prosecution history argument. With regard to the former, Hoover asserts that Royal’s proposed construction, and possibly the Court’s chosen construction, renders claim 12 of the 977 patent so similar to claims 1 and 9 that claim 12 is rendered superfluous. The doctrine of claim limitation, however, “does not mean that every limitation must be distinguished from its counterpart in another claim, but only that at least one limitation must differ.” Kraft Foods., 203 F.3d at 1369 (emphasis added). Claim 12 specifically notes that the cleaning solution is injected into “the flow of air passing from the exhaust air passageway of the motor” – a limitation not included in claims 1 or 9. As such, the Court’s construction does not make any of the 977 patent claims superfluous. Furthermore, “[c]laim differentiation can not broaden claims beyond their correct scope.” Multiform

Dessicants, 133 F.3d at 1480.⁴

With regard to Hoover's prosecution history argument, Hoover asserts that, when the patent examiner originally rejected claim 1 of the 977 patent as obvious in light of two other patents (known as "Burgoon" and "Terry"), the examiner construed the term "cleaning solution distribution means" to mean "spray nozzle." The Court rejects this argument for two reasons. First, while this Court should "permit[] the PTO to give claims their broadest reasonable meaning when determining patentability," this approach is inapplicable "[d]uring litigation determining validity or infringement." Atlantic Thermoplastics Co., Inc. v. Faytex Corp., 970 F.2d 834, 846 (Fed. Cir. 1992). Thus, the patent examiner's broad reading of the prior claims contained in Burgoon and Terry is inapplicable in this litigation.

Second, Burgoon and Terry simply do not disclose distribution of cleaning solution through a spray nozzle; rather, Burgoon discloses distribution of cleaning solution by dripping the liquid onto rotating brushes. The patent examiner, when he disallowed claim 1 in light of Burgoon and Terry, was apparently focused on the combination of a tank and pivoting handle, not the presence of a spray nozzle. The patent examiner is doing an obviousness test, which is different from claim

⁴ Notably, the Court's construction finds support in The Hoover Co. v. Bissell, Inc., No. 5:98-CV-1089 (N.D. Ohio May 10, 1999) (Gwin, J.), a patent infringement case also involving Hoover's 977 patent. In that case, Judge Gwin conducted a Markman hearing and: (1) applied §112 ¶6 to construe the term "cleaning solution distribution means;" (2) concluded that the "structure described in the specification necessary to accomplish this function requires a discharge nozzle that discharges an airflow, including within it cleaning solution for application to the surface to be cleaned," id. at 13; and (3) noted this construction did not violate the doctrine of claim differentiation. The Court also notes that, given its conclusion, it need not reach Royal's argument that Royal's proposed construction is required in light of Hoover v. Bissell and the doctrine of collateral estoppel.

construction.⁵ The patent examiner only stated that Hoover’s invention was “obvious” to a person having ordinary skill in the art in light of past claims – not that the cleaning solution distribution means was a spray nozzle. In sum, the Court’s review of the prosecution history does not change the Court’s conclusion regarding the proper construction of the term “cleaning solution distribution means.”

B. “Surrounding”

Claims 1 and 20 of the 977 patent note that the invention includes two structures – a “vacuum producing means” and a “cleaning solution recovery tank” – and disclose a structural relationship between the two components: “said recovery tank surrounding at least a portion of said vacuum producing means.” Royal contends that the term “surrounding” should be construed to mean “enclosing on all sides.” Hoover contends the term should be given its ordinary and customary meaning – that is, Hoover contends the term needs no special construction – except to the extent that “surrounding” must be read in conjunction with phrase “at least a portion of,” which appears immediately thereafter in the claim language.

⁵ The patent examiner’s basis for rejections based on obviousness is 35 U.S.C. §103. This statute states:

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

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

The specification of the structural juxtaposition of the recovery tank and vacuum motor is as follows:

Recovery tank 50 is configured to include a generally concave bottom 512 whereby tank 50 sets down over and surrounds a portion of the motor cover 612 of base frame assembly 60 . . . It is preferred that recovery tank 50 set atop and surround a portion of the motor fan 610 thereby providing sound and insulation properties and assisting in noise reduction of the extractor.

977 patent at col. 3, lns. 4-11. A highly simplified analogy would be an angel-food cake pan (the recovery tank) fitting onto the top of a dowel rod (the vacuum motor), leaving the bottom half of the dowel rod exposed. The pan surrounds a portion of the dowel.

Notably, neither the language of the claim itself nor the language in the specification suggests the recovery tank must enclose the vacuum motor “on all sides.” The phrase “encloses on all sides” suggests the recovery tank must “encapsulate” the vacuum motor, so that the “vacuum producing means” is completely inside the recovery tank. Thus, Royal’s proposed construction is contrary to the plain language of the claim, the specifications, and the patent drawings.⁶

Rather, the Court agrees with Hoover that the phrase “surrounding at least a portion of” must be construed as a whole – the word “surrounding” cannot be construed separately – and that the phrase requires no special construction. “Claim language is given its ordinary and accustomed meaning except where a different meaning is clearly set forth in the specification or where the

⁶ The Court recognizes that the recovery tank has two small cut-outs, which allow air to circulate around the vacuum motor and which thus make slightly discontinuous the “surrounding” of the top portion of the vacuum motor by the recovery tank. These cut-outs, however, do not change the analysis. A person can be “surrounded” by friends, while still seeing the light of day between his friends’ shoulders. Had Hoover meant a completely continuous surrounding, it could have used another term – for example, “wrap around,” “encase,” or “enclose.” Ultimately, the Court concludes that the recovery tank shown in the patent drawings does “surround a portion of” the vacuum motor, as that term is commonly understood by one skilled in the art, even though the recovery tank has the two cut-outs.

accustomed meaning would deprive the claim of clarity.” Samsung Electronics, 215 F.3d. at 1287. The phrase “surrounding at least a portion of” is sufficiently clear, and congruent with the specification, such that the phrase needs no special legal construction by the Court.

The Court adds that it has considered but rejected Royal’s prosecution history argument. Royal notes that, when Hoover prosecuted related patent 763: (1) Hoover originally claimed a tank “configured to at least partially receive a portion of the motor/fan assembly;” (2) the patent examiner rejected this claim in light of Burgoon, in which “[t]he waste tank clearly has a step-up portion overlying the motor-fan housing;” and (3) Hoover then amended its claim to delete the challenged language. The phrase “surround at least a portion of,” however, carries a different meaning from “configured to at least partially receive a portion of,” and also a different meaning from an “overlying step-up portion.”⁷ The Court’s review of the prosecution history does not change the Court’s conclusion regarding the proper construction of the term “surrounding.”

C. “Fluid Separation Means”

Claims 1, 2, 15, and 20 of the 977 patent each contain language referring to structures that separate fluid out from the dirty fluid/air mixture that is sucked off of the carpet by the extractor. Specifically, claims 1, 2, and 20 contain the following language: “fluid separation means, associated with said recovery tank whereby liquid carried by said working air is separated from said working

⁷ The phrases “configured to at least partially receive a portion of,” and “overlying step-up portion” can both refer, for example, to a configuration where the tank merely conforms to a portion of the vacuum motor, without “surrounding” it. A highly simplified analogy would be a vertically-halved, upside down tin can (the recovery tank) fitting over a part of the top of a dowel rod (the vacuum motor), leaving half of the top and the entire bottom of the dowel rod exposed. This configuration is not what Hoover claimed.

air and collected in said recovery tank” (emphasis added).⁸ Claim 15 contains the following language: “removable recovery tank means supported upon said base frame for separating liquid from said liquid-air mixture and collecting said liquid therein” (emphasis added). The terms “fluid separation means” and “means . . . for separating fluid from said fluid-air mixture” must be construed identically.⁹ See Signtech USA, Ltd. v. Vutek, Inc., 174 F.3d 1352, 1356 (Fed. Cir. 1999) (“the phrase ‘ink delivery means’ is equivalent to the phrase ‘means for ink delivery,’ because ‘ink delivery’ is purely functional language”).

Hoover contends that the term “fluid separation means” should be construed to mean “a baffle.” Royal contends the term should be construed to mean “a tank having a hollow lid baffle system and a vertical baffle system that each maximize dwell time of air in the tank, providing for more complete liquid precipitation, and equivalent structures.” Given that the claim language itself does not recite any structure for performing the function of “fluid separation,” the language must be construed as limited to the specific structure described in the specification, pursuant to § 112 ¶6.

The patent specification teaches:

The recovery tank lid assembly 55 incorporates therein an air/fluid separator comprising a hollowed lid 552 and bottom plate 554 sealingly welded together forming a plenum therebetween. The plenum is divided into two separate and distinct chambers, an inlet chamber 558 and exit chamber 560, by separator wall 562 integrally molded into lid 552 and extending between lid 552 and bottom plate 554.

* * *

⁸ The language in claim 20 is actually very slightly different from the language in claims 1 and 2. Claim 20 states: “fluid separating means whereby liquid carried by said working air is separated from said working air and collected in said recovery tank” (emphasis added). The parties agree the slight difference in the claim language is meaningless. Thus, the Court construes both “fluid separating means” and “fluid separation means” identically.

⁹ As did Judge Gwin in Hoover v. Bissell, the Court concludes that the term “removable recovery tank,” alone, does not need special construction.

Integrally molded into lid 552 so as to be positioned about the periphery of exit opening 566 in bottom plate 554 are two vortex impeding baffles 556 and 557. Baffle 556 attached to both the side wall 553 and top wall 555 extends outward over exit opening 566 on a radial line thereof and perpendicular to side wall 553. Baffle 557 attached to both the top wall 555 and separator wall 562 of lid 552 extends from separator wall 562 to the immediate edge of opening 566 positioned at an angle to separator wall 562 such that the extended plane of baffle 557 intersects side wall 553 at the intersection of baffle 556 and side wall 553 and at an angle of approximately 45° with respect to side wall 553.

977 patent at col. 4, lns. 23-31, 48-59. The patent specification also explains the reason behind this design:

In addition to their function as anti-slosh baffles, baffles 514 and 516 also serve to prevent the establishment of a “short-circuited” working airflow from exit opening 566 of inlet chamber 558 directly to inlet opening 568 of exit chamber 560. Baffles 514 and 516 act to disburse the incoming working air over that portion of the recovery tanks volume upstream of baffles 514 and 516 by forcing the working air to pass through openings 518, 520 and 522. Thus the velocity of the air as it passes through tank 510 is slowed to a minimum value and the time that the working air spends within tank 510 is at a maximum thereby providing for more complete precipitation.

977 patent at col. 3, ln.65 - col. 4, ln. 9.

Given that the disputed term must be construed as limited to the particular structure described in the specification, the Court must reject Hoover’s contention that the term “fluid separation means” should be construed to mean simply “a baffle.” The term “baffle” is commonly understood to mean a wall-like structure used to deflect, direct, or control the flow of a gas or fluid. When more than one wall-like structure is used to deflect or direct such flow, it is common to use the term “baffles,” or the phrase “series of baffles.” See, e.g., Cambridge Plating Co., Inc. v. Napco, Inc., 85 F.3d 752, 757 (1st Cir. 1996) (“[a] static mixer is a section of pipe containing a series of ‘baffles,’ small metal plates placed at an angle inside the pipe which create resistance and, consequently, turbulence”). In this case, Hoover’s specification describes far more than a single

baffle; rather, it specifies a series of baffles of varying configurations and dimensions.¹⁰ The combination of these baffles works to slow the rate of incoming air flow, thus maximizing the amount of time that the moist air sucked off of the carpet spends in the recovery tank, and the amount of precipitation of dirty fluid out of the air/fluid mixture. It is not accurate, as Hoover suggests, to construe the entirety of this structure simply to mean “a baffle.” Nor is Hoover accurate when it asserts that, when the patent examiner originally rejected claim 1 of the 977 patent in light of “Burgoon” and “Terry,” he implicitly construed the term “fluid separation means” to mean “a baffle.”

On the other hand, the Court is unwilling to adopt the precise language suggested by Royal: “a tank having a hollow lid baffle system and a vertical baffle system that each maximize dwell time of air in the tank, providing for more complete liquid precipitation, and equivalent structures.” It is true that the means described in the patent specification for obtaining the function of fluid separation includes a tank with a two-chambered hollow lid, two vertical baffles in the lid’s entrance chamber, and two vertical baffles in the tank, all meant to increase precipitation. But a careful reading of the specification language reveals that the precise configuration of the baffles is secondary to their function of increasing precipitation and preventing the formation of vortices. In other words, the precise number and placement of the baffles is immaterial. A means plus function limitation must incorporate only the disclosed structure necessary to perform the specified function. General Elec. Co., 572 F.2d at 776. On the other hand, the presence in the “fluid separation means”

¹⁰ The specification describes two large, curved, vertical baffles affixed to the floor of the recovery tank (514 and 516), and two small, straight, vertical baffles inside the hollow tank lid (556 and 557). The curved and angled vertical separator wall inside the hollow tank lid (562) also acts to redirect and slow air flow, as do the top and bottom horizontal plates of the tank lid (555 and 554). Precipitation is also enhanced by the float cage (534) and the mesh filter affixed thereto.

of a series of baffles, together with a hollow lid, is necessary to perform the specified function and material to the specification.

Accordingly, the Court concludes that the terms “fluid separation means,” “fluid separating means,” and “recovery tank means . . . for separating liquid from said liquid-air mixture” must each be construed to mean “a tank having a hollow lid and a system of baffles that increases precipitation, and equivalent structures.” This construction accurately describes the means disclosed by Hoover for separating fluid from the fluid/air mixture, without unnecessarily limiting the claim.¹¹

D. “First Tank” and “Second Tank”

Claim 13 of the 763 patent contains language referring to, among other things, the two tanks on the extractor, one of which is used to hold the cleaning solution and one to hold the recovered dirty fluid.¹² Specifically, the claim language reads as follows:

A carpet extractor, comprising: a base; a handle pivotally connected to said base; a motor/fan assembly carried by said base; and a first tank carried by and selectively removable from said handle, said first tank having a carrying handle and a latch, said latch operable to selectively hold said first tank on said handle; and a second tank removably carried by said base.

Hoover and Royal disagree over the meaning of the terms “first tank” and “second tank.” Royal insists that “first tank” must mean “supply tank” and “second tank” must mean “recovery tank,”

¹¹ Again, the Court rejects Hoover’s argument that, when the patent examiner originally rejected claim 1 of the 977 patent as obvious in light of Burgoon and Terry, the examiner construed the term “fluid separation means” to mean “baffle.” The patent examiner only stated that Hoover’s invention was “obvious” to a person having ordinary skill in the art in light of past claims. The patent examiner’s obviousness test is different from claim construction.

¹² Referring to the drawing on page 1 of this opinion, the two tanks are labeled “cleaning solution tank” and “recovery tank.”

while Hoover insists there should be no such limitation – either the first or second tank may be the supply tank, with the other the recovery tank. Hoover, therefore, asserts that the terms “first tank” and “second tank” need no special construction, and should be given their ordinary and customary meaning.

The Court agrees with Hoover. Royal points to the specification language and drawings, which show that the cleaning solution supply tank is mounted on the extractor’s handle, and the dirty fluid recovery tank is mounted on the extractor’s base. But there is nothing in the claim language itself that requires this configuration, and no reason to look to the specification for clarification. When means-plus-function language is not used, as here, “limitations appearing in the specification will not be read into claims, and . . . interpreting what is *meant* by a word *in* a claim ‘is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.’” Intervet American, 887 F.2d at 1053. While the 977 patent specification discloses a preferred embodiment where the first tank is the supply tank and the second tank is the recovery tank, the patent does not claim this specific configuration. Accordingly, the Court declines to adopt Royal’s requested construction, which forces limitations on the claimed invention unnecessarily. The terms “first tank” and “second tank,” as used in the 763 patent, are sufficiently clear such that they need no special construction by the Court.

E. “Latch Operable to Selectively Hold Said First Tank on Said Handle”

As noted above, claim 13 of the 763 patent contains language referring to a “first tank having a carrying handle and a latch, said latch operable to selectively hold said first tank on said handle.” Royal asserts that the phrase “latch operable to selectively hold said first tank on said handle” should

be construed to mean “a movable member mounted on the supply tank to assist in securing the supply tank to the handle which is pivotally connected to the base.” Hoover contends that the phrase needs no special construction, and should be construed according to its ordinary and customary meaning. More particularly, Hoover contends there is nothing in the claim language requiring that the latch be configured such that a “movable member” be mounted on the tank – it could instead be that the movable member is mounted on the handle.

It is commonly understood that a “latch” is made up of two mating components, one fixed and one movable, used to fasten things together. A common example of such a mechanism is found on a porch door, where a pivoting bar attached to the door (the movable component) falls into a notch mounted to the door frame (the fixed component). Unfortunately, it is also common to refer to the movable component as “the latch” and the fixed component as “the catch.” Thus, the term “latch” can refer to either the two components as a unit, or the movable component alone. To confuse things further, the movable component is usually male and the fixed component female (e.g., the porch door latch), so that it is common to understand that a “latch” is a male, movable component and the “catch” is a female, fixed component. But there also exist latch mechanisms where the female component is the movable one.¹³

In this case, the patent specification and drawings of the tank latch show a male, movable

¹³ Specifically, cabinet doors sometimes fasten closed through use of a two-pronged female catch mounted on the (movable) door, which clasps around a single-pronged male latch mounted inside the (fixed) cabinet. It is worth noting here that the Court disagrees with Royal’s reading of Webster’s New Collegiate Dictionary’s definition of “latch.” Royal states: “[the dictionary] defines ‘latch’ to include ‘a fastener (as for a door) consisting essentially of a pivoted bar that falls into a notch,’ making explicit that the latch is the securement portion that moves.” Royal’s Markman brief at 21 n.8. In fact, however, the definition defines the term “latch” as being the entire “fastener” mechanism, which consists of both a fixed component (the notch) and a movable component (the pivoted bar). The quoted definition does not define “latch” to mean just the movable component.

component mounted on the tank, which engages a female, fixed component found on the handle. Essentially, Royal insists the claim should be construed to limit the tank latch to this configuration – that is, the claim should not be construed to include a latch, for example, where a male, movable component is mounted on the handle to engage a female, fixed component on the tank.

The Court must reject Royal’s position, however, because, although claims should be read in view of their specifications, the Court must not limit the scope of the claim to the preferred embodiment or specific examples disclosed in the specification. Ekchian, 104 F.3d at 1303; Intervet, 887 F.2d at 1053. The claim itself does not make any distinction between a latch and a catch, a moveable and a fixed component, or a male and a female component. Rather, the claim simply refers to the invention of a tank with a latch used to fasten the tank to the handle. Ultimately, the term “first tank having a . . . latch operable to selectively hold said first tank on said handle” does not mandate a certain latch configuration, nor does it require any special construction. Whether the latch component attached to the tank is the moveable or fixed component, and whether it is the male or female component, is not specifically stated in the claim, and is not necessary for an understanding of the invention. To construe the claim language as requested by Royal would be to limit the scope of the claim unnecessarily and in contrast to the plain meaning of the words used.

In sum, the term “latch operable to selectively hold said first tank on said handle” is sufficiently clear such that it needs no special legal construction by the Court. The Court will instruct the jury to give this term its ordinary and customary meaning.

F. “Liquid Container”

Claim 7 of the 673 patent contains language referring to the design and configuration of one of the tanks on the extractor. Specifically, the claim contains the following language:

A liquid container adapted to be removably mounted upon an ambulatory machine, said container comprising a hollow body having a top portion, a combination carrying handle and securement latch member pivotally attached to said top portion wherein said combination handle and latch member is adapted to coast with cooperating catch means on said ambulatory machine to releasably mount said liquid container upon said machine.

Royal asserts that the term “liquid container” must be construed to mean “liquid supply tank,” while Hoover asserts that the term needs no special construction and should be construed according to its ordinary and customary meaning.

Royal points out that, in Hoover’s patent specifications, drawings, and even the abstract,¹⁴ it is clear that the “liquid container” to which Hoover is referring in the patent claims is the cleaning solution supply tank – not the dirty fluid recovery tank. For example, the patent abstract states that the “disclosed invention relates to an improved liquid supply tank” (emphasis added), and the claim specifications refer to the improved tank as the “supply tank.” Royal concludes that the claim language must therefore be construed so that “liquid container” means only the supply tank, and not the recovery tank or any other tank.

The Court rejects Royal’s position because it is the claim language itself that defines the scope of the claim, and “a construing court does not accord the specification, prosecution history, and other relevant evidence the same weight as the claims themselves.” Eastman Kodak, 114 F.3d at 1552. It is true that a construing court should “consult[] these sources to give the necessary context to the claim language,” but only when the claim language needs construction because the

¹⁴ It is permissible to “look[] to the abstract to determine the scope of the invention.” Hill-Rom Co. v. Kinetic Concepts, Inc., 209 F.3d 1337, 1341 n.* (Fed. Cir. 2000).

customary and ordinary meaning of that language is not clear. “Claim language is given its ordinary and accustomed meaning except where a different meaning is clearly set forth in the specification or where the accustomed meaning would deprive the claim of clarity.” Northern Telecom, 215 F.3d. at 1287.

In this case, the claim language is sufficiently clear, and the claim language has not been given a clear, different meaning in the specification. To construe the claim language as requested by Royal would be to limit the scope of the claim unnecessarily and in contrast to the plain meaning of the words used. The claim language refers simply to a “liquid container,” and the ordinary and customary meaning of this phrase is clear; the term does not need translation or explanation, and the term is not limited to mean “supply tank.” Accordingly, the Court will instruct the jury to give this term its ordinary and customary meaning.

The Court adds that it has considered and rejected Royal’s judicial estoppel argument. Royal notes that, in a Markman brief submitted by Hoover in The Hoover Co. v. White Consolidated Inds., Inc., No. 1:96-CV-600 (N.D. Ohio Nov. 30, 1998) (Oliver, J.), Hoover stated that the 673 patent “is generally directed to a liquid supply tank having a carrying handle and securement latch” (emphasis added). Simply, this isolated, generally accurate statement is insufficient to preclude Hoover from now asserting the arguments it makes in this case.

G. “Combination Carrying Handle and Securement Latch Member Pivotally Attached”

As noted above, claim 7 of the 673 patent contains language referring to the design and configuration of one of the tanks on the extractor, and specifically refers to a device used both to attach the tank to the extractor and also to hold the tank by hand when removed: “a liquid container

. . . having a top portion, a combination carrying handle and securement latch member pivotally attached to said top portion wherein said combination handle and latch member is adapted to coact with cooperating catch means on said ambulatory machine.” Royal contends that the phrase “combination carrying handle and securement latch member” should be construed to mean “a single member that functions as both a handle and a securement latch.” Royal further contends that the phrase “member pivotally attached to said top portion” should be construed to mean “movable member mounted on the supply tank which assists in securing the supply tank to the ambulatory machine.” Hoover contends these two phrases need no special construction and should be construed according to their ordinary and customary meaning.

Regarding the phrase “combination carrying handle and securement latch member,” Hoover “concede[s] that the combination carrying handle and securement latch member might be construed as a single member that functions as both a handle and a securement latch.” Hoover’s brief on claim construction at 20 (emphasis added). This “concession” is curious, because Hoover thereby suggests that the phrase “might” be construed otherwise. In fact, there can be no other construction – the plain language of the claim, the drawings, the specification, and even the abstract (stating “[a] unique combination carrying handle and securement latch is taught”) all make clear that the patent claims a single member with two functions. Indeed, the common understanding of the word “combination” leaves no room for any other interpretation. The Court concludes, accordingly, that the phrase “combination carrying handle and securement latch member” means “a single member

that functions as both a handle and a securement latch.”¹⁵

Special construction is also required of the phrase “member pivotally attached to said top portion.” As noted above, a “latch” is made up of two mating components, one fixed and one movable, used to fasten things together; however, the term “latch” can refer to either the two components as a unit, or the movable component alone. Here, Hoover contends the claim language allows the movable component of the latch mechanism to be attached to either the tank or the extractor. Royal insists the claim language must be construed such that the movable component is mounted only on the tank – the claim language cannot be understood to disclose an invention where the movable component is mounted on the extractor.

Unlike Hoover’s use of the term “latch” in claim 13 of the 763 patent, the term “latch” must be construed as Hoover uses it in claim 7 of the 673 patent. In its analysis of the language used in claim 13 of the 763 patent, the Court noted that Hoover made no distinction between a latch and a catch, a moveable and a fixed component, or a male and a female component. In claim 7 of the 673 patent, however, Hoover explicitly discloses “a combination carrying handle and securement latch member pivotally attached to said top portion wherein said combination handle and latch member is adapted to coact with cooperating catch means on said ambulatory machine” (emphasis added). In other words, the claim language clearly refers to the “combination handle and latch member” as

¹⁵ This conclusion is not inconsistent with the one reached in The Hoover Co. v. White Consolidated Inds., Inc., No. 1:96-CV-600 (N.D. Ohio Nov. 30, 1998) (Oliver, J.), a patent infringement case also involving Hoover’s 673 patent. In that case, Judge Oliver did not explicitly construe the disputed language, but did conclude that the “combination handle and latch member” is “one piece, one unit,” id. at 4. While this Court could adopt the same approach as did Judge Oliver, the continuing debate between the parties as to the meaning of this term counsels for an especially explicit, clear construction. The Court also notes that, given its conclusion, it need not reach Royal’s argument that Royal’s proposed construction is required in light of Hoover v. White and the doctrine of collateral estoppel.

the male, moveable component of a latch mechanism – it is “pivotally attached” and it “coacts” with a “catch.”

Given the language of the claim, it would be inappropriate to allow any construction of the phrase “securement latch member pivotally attached to said top portion” to include a meaning where: (1) the securement latch member attached to the tank is not the moveable, male component of the latching mechanism; or (2) the securement latch member attached to the tank is not also the carrying handle. Accordingly, the Court holds that the phrase “member pivotally attached to said top portion” must be construed to mean “a movable member mounted on the tank to assist in carrying the tank and securing the tank to the ambulatory machine.”

H. Addendum.

The Court closes its Markman analysis with these observations. During oral argument, Royal argued that, if the Court were to accept Hoover’s positions, the patent claim language would be so vague that the patent would be invalid.¹⁶ Royal also argued that, during Hoover’s prosecution of its patents, Hoover had agreed to forego certain meanings of certain claims, so that Hoover would later be estopped from showing infringement based on those foregone meanings. While Royal may be correct, these are questions that must be answered during a subsequent stage of the litigation –

¹⁶ Royal made this argument, for example, with reference to the disputed term “liquid container.”

some of them by a jury, some by the Court.¹⁷ But the Court's construction of the disputed claims, above, is independent of the questions of patent infringement and validity.

IT IS SO ORDERED.

KATHLEEN McDONALD O'MALLEY
UNITED STATES DISTRICT JUDGE

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¹⁷ “The various legal limitations on the application of the doctrine of equivalents are to be determined by the court [I]f prosecution history estoppel would apply or if a theory of equivalence would entirely vitiate a particular claim element, partial or complete summary judgment should be rendered by the court, as there would be no further material issue for the jury to resolve.” Orlaford Ltd. v. BBC Intern., Ltd., 1999 WL 342224 at *4 (Fed. Cir. May 20, 1999) (citations omitted).