IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Chief Judge Marcia S. Krieger

Civil Action No. 13-cv-00143-MSK-BNB

ANIMAL CARE SYSTEMS, INC.,

Plaintiff,

v.

HYDROPAC/LAB PRODUCTS, INC.,

Defendant/Third-Party Plaintiff,

v.

MICHAEL O'CONNOR,

Third-Party Defendant.

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and

Civil Action No. 13-cv-00415-MSK-BNB

HYDROPAC/LAB PRODUCTS, INC.,

Plaintiff,

v.

ANIMAL CARE SYSTEMS, INC.,

Defendant.

OPINION AND ORDER CONSTRUING CLAIMS

THIS MATTER comes before the Court for construction of certain disputed patent terms under *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

FACTS

As pertinent to the issues here, Hydropac is the holder of four United States Patents: (i) Patent No. 6,983,721 ("the '721 Patent"), which describes "a method for facilitating the delivery of water" to caged animals used in a laboratory setting; (ii) Patent No. 7,866,280 ("the '280 Patent"), describing a similar invention; (iii) Patent No. 8,291,865 ("the '865 Patent"), describing another variation on that invention; and (iv) Patent No. 6,941,893 ("the '893 Patent"), which describes a system "for delivering a fluid from a fluid bag to an animal caging system," specifically, "a fluid delivery valve assembly." Broadly stated, Hydropac's patents address a method for forming and filling disposable plastic bags with water and positioning them in or adjacent to the cages of laboratory animals, allowing the animals to obtain water by manipulating a valve attached to the bag. This method offers efficiency and hygiene improvements over systems wherein animals are watered using bottles that require collection, washing, and sterilizing.

ACS is a competitor of Hydopac, offering animal caging systems that include certain features that, Hydropac contends, infringe upon Hydropac's patents. In November 2012, Hydropac commenced suit against ACS in the U.S. District Court for the District of Delaware, primarily alleging patent infringement claims. Shortly thereafter, ACS commenced the instant suit (Docket # 13-cv-143) in this Court, seeking declaratory judgments of non-infringement and/or invalidity of Hydropac's patents. Thereafter, the parties agreed to have Hydropac's suit in Delaware transferred to this Court (Docket # 13-cv-415), and the Court consolidated **(# 55)** the cases into the instant action.

ACS and Hydropac identified the claims in the various patents that required construction under *Markman*. The parties submitted claim construction briefs **(# 64, 69)** and responses **(# 78,**

81). The Court conducted an evidentiary claim construction hearing on October 7, 2014 **(# 115)**, and although that hearing did not conclude, both parties subsequently waived the presentation of further evidence and argument beyond supplemental briefs **(# 116, 117).**

ANALYSIS

Pursuant to *Markman*, the parties request construction of 8 terms used in the four patents.

1. Claim construction generally

The fundamental purpose of a patent is to give notice to others of that in which the inventor claims exclusive rights. *Oakley Inc. v. Sunglass Hut International*, 316 F.3d 1331, 1340 (Fed. Cir. 2003). Thus, the focus of claim construction is ascertaining how a reasonable competitor would interpret the actual claim language, not what the inventor subjectively intended the language to claim. *Id.* at 1340-41. The words used in the patent are evaluated according to their "ordinary and customary meaning," as would be understood by a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*). In some circumstances, the specification may reveal that the inventor specifically – albeit idiosyncratically – defined a term in a way that might differ from the meaning it would otherwise possess. Where the intrinsic record clearly discloses that the inventor resorted to his or her own peculiar lexicography, the Court will give effect to the inventor's unique idiom; however, where the inventor used particular words without giving a clear indication of an intent to endow them with an unusual meaning, the Court will give those words their ordinary and customary meaning in the art, notwithstanding the inventor's subjective intent to invoke a different definition. *See e.g. Laryngeal Mask Co. v Ambu*, 618 F.3d 1367, 1372 (Fed. Cir. 2010).

In attempting to give meaning to the inventor's language, the Court "looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Phillips*, 415 F.3d at 1314. Among those sources are: (i) the words of the claims themselves; (ii) the remainder of the patent's specification; (iii) the prosecution history of the patent; (iv) extrinsic evidence concerning relevant scientific principles; (v) the common meanings of technical terms used; and (vi) the state of the art at the time of the invention. *Id.* Terms must be construed in light of the entirety of the patent, not just in the context of the particular claim(s) they appear in. *Id.* at 1313. In other words, claim language must be read in conjunction with the more general and descriptive specification portion of the patent; indeed, the specification is often "the single best guide to the meaning of a disputed term." *Id.* at 1315. Because the patent is examined as a whole, the Court assumes that claim terms will normally be used consistently throughout the patent, and thus, the meaning of a term used in one claim can illustrate the meaning of that same term used elsewhere in the patent. *Id.* at 1314.

As with the specification, evidence of the prosecution history of the patent can also be considered as intrinsic evidence of how the USPTO and the inventor understood the patent. *Id.* at 1317. The prosecution history reflects "an ongoing negotiation between the PTO and the applicant," and can sometimes demonstrate that the inventor limited or disclaimed some portion of a claim. *Id.* At the same time, because the prosecution history predates the final patent language, the prosecution history "often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.*

Extrinsic evidence of disputed terms – that is, "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises"

– can also shed light on the proper construction to be given to those terms, but extrinsic evidence "in general [is] less reliable than the patent and prosecution history in determining how to read claim terms." *Id.* at 1318. The court in *Phillips* articulated a variety of reasons why a court construing a patent should be wary of relying too heavily on extrinsic evidence, and cautions that, while admissible and potentially probative, courts "should keep in mind the flaws inherent in each time of [extrinsic] evidence and assess that evidence accordingly." *Id.* at 1318-19.

2. Particular claim terms

With these common principles (and others that the Court has not explicitly stated) in mind, the Court turns to the terms on which the parties seek construction.

a. *"laboratory facility site"/"laboratory facility"*

Numerous claims in the '721, '280, and '865 patents refer to use of the claimed method in a "laboratory facility" or "laboratory facility site." ACS proposes that the Court construe the term to mean "a facility containing one or more laboratory research rooms." It explains that it seeks a construction of the phrase "laboratory facility" or its variants because Hydropac's "infringement contentions appear to implicate [ACS'] manufacturing facility as a laboratory facility." Hydropac contends that no construction is required and that the term should be given its ordinary meaning. It does not meaningfully address the particular nature of the parties' dispute over the significance of the phrase.

The patents themselves do not appear to imbue the phrase "laboratory facility" (or its variants) with any particular meaning. The patents describe using the invention at "research laboratories, pharmaceutical companies, government agencies, universities, contract research companies, breeders and chemical companies, among others." '721 Patent at13:4-7. Because "research laboratories" are presumably distinct from the other examples listed in the quoted text,

it is apparent that a "laboratory facility" is intended to be describe something broader than simply a "research laboratory" or facility, as ACS' proposed construction is limited.[1] It is clear from the terms of that patents that a "laboratory facility" is a place in which "experimental research" or "animal study" is conducted on caged animals, *see e.g.* '721 Patent at 1:23-24, 17:7. It is also clear from the various claims that a "laboratory facility" necessarily must include a "washroom" of some kind and that said washroom is used for the cleaning of animal cages. *See e.g.* '721 Patent, Claim 1, Claim 14. Beyond that, the patents offer no particular guidance as to what they intend the term "laboratory facility" to encompass. Based on the limited explanation of the term in the patents, the Court will construe the term "laboratory facility" and its variants to mean "a facility in which experimental research or studies are conducted on caged animals and which contains a washroom used for the cleaning of animal cages and equipment."

b. *"clean side of a laboratory washroom" and its variants*

This phrase, in various forms and contexts, appears to be at the heart of the parties' dispute. ACS proposes that the phrase be construed to me "the clean side of a dedicated room for washing laboratory equipment, where the room includes a divided wall between a clean side and a dirty side of the washroom." Hydropac contends that no construction is required and that the term should be given its ordinary meaning.

The '721, '280, and '865 Patents all describe "a method for facilitating the delivery of water" to laboratory animals by "disposing a bag forming apparatus at a clean side of a laboratory washroom." *Id.*, Abstracts. In background discussions, the patents point out

[1] For this same reason, the Court rejects ACS' proposed construction as merely circular. It would define a "laboratory facility" as a building that has "laboratory . . . rooms," which provides no meaningful clarity. Adding in the omitted adjective, "laboratory research rooms" does not improve the situation, as the patents terms describe the use of the invention in locations other than "research laboratories."

that"[o]ne of the chief means through which pathogens can be introduced into an otherwise isolated animal caging environment is through the contaminated food or water sources provided to the animal(s)." '712 Patent, 2:27-30. They explain that "[p]resently, laboratories or other facilities provide fluid to their animals in bottles or other containers that must be removed from the cage, disassembled, cleaned, sterilized, reassembled, and placed back in the cage," leading to various costs and inefficiencies," *id.* at 2:41-44, or "automatic watering systems" that are costly or require additional maintenance. *Id.* at 2:60-63. The patents seek to address these obstacles by proposing "using sanitized fluid bags that may be disposable, . . . minimiz[ing] the need for the use of fluid bottles." *Id.*, 3:21-23. It is thus clear from the patents that a major purpose of the inventions is to ensure that the preparation, distribution, retrieval, and reuse/disposal of watering devices prevents the introduction of contaminants into the animal caging areas.

The patents explain that "these facilities generally have a central wash room complex where equipment such as cages and racks and other accessories are routinely sent to be cleaned, washed, and sanitized." *Id.*, 13:14-18. "Typically," the patents state, "these areas are organized and fed from building flow patterns referred to as the dirty side of the wash area and the clean side of the wash area," which "is done to prevent the transfer of dirty particles into clean corridors" or animal cages. *Id.* at 13:19-21. The "dirty side . . . typically contains rack washers, [other equipment], and disposal cans for dirty bedding and the like." *Id.* at 13:40-42. Washing machines and other equipment "are typically positioned flush with a washroom divider wall" such that "[e]quipment is placed in the washing machine at the dirty side, passes through an opening in the wall, and exits on the clean side of the washroom." *Id.* at 13:37-41. Figures 31 and 32 in the '721 patent depict a washroom that features a divider wall between the clean and dirty sides.

The main point of dispute between the parties is whether a physical "divider wall" is necessarily implicit in the limitation of a "clean side" of the washroom. As noted above, the intrinsic evidence in the patent's specification appears to contemplate the existence of a physical divider wall as a "typical" situation, but does not address whether the existence of a physical divider between the "clean" and "dirty" sides of the washroom is necessarily assumed by one skilled in the art to exist in all circumstances. The use of the word "typically" implicitly suggests that there are atypical exceptions to a stated rule – that is, there are situations in which washing equipment is not "positioned flush with a washroom divider wall." Thus, the intrinsic evidence in the patent does not resolve the question.

At the *Markman* hearing, Hydropac offered the testimony of Dr. Stephen Dixon, Director of Comparative Medicine at the University of Nebraska Medical Center. Dr. Dixon testified that there are be washrooms in accredited laboratory facilities that do not physically divide the clean and dirty sides of the washroom, and he offered a photograph of a washroom in an accredited facility in Omaha as an example. Dr. Dixon testified that it might be a "preferred practice" to have a divider wall between the clean and dirty sides of a washroom but it was "not essential" and "not required" by any certifying organizations.[2] Dr. Dixon testified that "many of the smaller accredited facilities will not have a divider wall in their cage wash area." Dr. Dixon stated that, in such undivided washrooms, the "clean side" of the room would be defined by

[2] This was echoed, to some extent, by ACS' expert, Dr. Scott Perkins, Director of Tufts University Medical Center. Dr. Perkins was asked "why would you put a barrier in a washroom as opposed to just designating an area in a washroom?" and responded "It's the preferred standard of facility design." (Emphasis added.) Later, Dr. Perkins was asked "Why is it important to have a physical separation between the clean side and the dirty side?" and he answered "It would be the preferred method to try to prevent contamination between those two sides. . . ." (Emphasis added.) By repeatedly referring toa physical separation as a "preferred" standard, Dr. Perkins appears to be implicitly conceding that some practitioners in the art might nevertheless opt for the non-preferred, non-physically divided method.

practice and protocol – that area that the facility operator treated as "clean" and maintained appropriate cleaning protocols would be considered the "clean side" of the room.

In response, ACS relied on both documents and on Dr. Perkins' testimony. It points to various guideline documents issued by certifying organizations and other texts. For example, it points to a document from the National Institutes of Health ("NIH") entitled "NIH Design Policy and Guidelines." That document describes itself as "establish[ing] policy, design standards, and technical criteria for use in . . . designing and constructing new buildings" for NIH use. Referring to cage wash areas, the document states:

> The cagewash area should be divided into a 'dirty' side and a 'clean' side. . . There should be no personnel access between the two sides. The sides may be divided by a glass partition with a telephone or paging system for communication.

The notion that "there should be no personnel access between the two sides" suggests that a full physical divider is contemplated. Similarly, ACS points to a publication from the American Association for Laboratory Animal Science ("AALAS"), an organization that accredits research laboratories. The document, entitled "50 Years of Animal Science," states as follows:

> Partitioning the cage sanitation area into soiled and clean sides was uncommon in the early 1950s, but became the standard by the 1960s. This required having double door pass through batch washers.

Although these publications are interesting, they do not shed any meaningful light on the question. They merely reflect the fact that physically-divided washrooms represent the preferred or best practice in the industry, a fact that Hyrdopac does not appear to dispute. But they do not grapple with the undisputed evidence that at least some laboratories – such as those operated by Dr. Dixon and those discussed below – are <u>not</u> physically-divided.

More interesting is Exhibit 29, an excerpt from a book entitled "Handbook of Facilities Planning" by Theodorus Ruys. Under the heading "Cage Wash Room Layout," that document diagrams and discusses a variety of washroom designs. Figure 6.2-7 depicts an undivided washroom, showing a flow of "soiled cages" placed along one wall of the room, to a "cage washer" in the corner of the room, and emerging as "clean cages waiting" placed on an adjacent wall. (The diagram is titled "Cage wash room with a single cage washer on the soil side only.") The text accompanying this illustration states that it "shows a cage wash room layout for a small animal facility for mice and rats only. . . Cages . . . are washed in the cage washer, and may be filled with clean bedding and feed in the cage wash room or in the animal room." By contrast, Figure 6.2-9 shows a washroom with a dividing wall and the title "Cage wash room with a single washer and with a soiled and clean side." Text accompanying this illustration states that "at least two persons are needed to operate this layout, one from the soiled side of the barrier, the other from the clean side."

Reference to Mr. Ruys' book crystalizes ACS' position on this issue. ACS does not dispute that some lab facilities (such as Dr. Dixon's or the one shown in the Ruys book) do indeed have an undivided washroom. However, ACS contends that in circumstances where such an undivided washroom exists, there is no such thing as a "clean side" or "dirty side"; that such terms are only used when referring to divided washrooms. In other words, ACS' contention is that the field of laboratory design and operation has a specific, precise lexicography that persons skilled in that field observe – that the phrases "clean side" and "dirty side" are only used when referring to locations in physically-divided washrooms. ACS does not specify what terms are used by practitioners in the art to describe locations in undivided washrooms, but in responding to a hypothetical about a washroom divided simply by a piece of tape on the floor, Dr. Perkins

stated that "tape would be demarking which side was considered the clean area from the dirty area, but, again, it would not prevent transmission of contaminants." (Emphasis added.) Thus, it would appear that Dr. Perkins uses the term "clean area" and "dirty area"[3] to describe regions in a washroom that lacks a physical divider.

This Court is not convinced that the record sufficiently demonstrates that those with skill in the art observe such precisely-nuanced terminology. First, and perhaps most notably, ACS has not pointed to any authority that states the proposition so starkly. One would reasonably assume that if practitioners in the art so carefully choose their terminology based on the design of the washroom – *e.g.* that the phrases "clean side" and "clean area" of a washroom are understood to have distinctly different meanings, or that the term "side" is only ever used when referring to a divided washroom -- there would be published authority explicitly recognizing and commenting upon that distinction. Moreover, the record demonstrates that different publications each use slightly different terminology when referring to locations in divided and undivided washrooms. In the Ruys book, for example, figure 6.2-9 shows a divided washroom and uses the labels "clean cagewash" and "soiled cagewash" to denote the two halves of the illustration, foregoing the term "side" at all in the diagram.[4] (However, Mr. Ruys does give the figure a title of "cage wash room with . . .a soiled and clean side.") A diagram in the AALAS "50 Years of Animal Science" publication similarly labels the two halves of a diagram of a divided washroom as

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[3] The Court understands Dr. Perkins to dispute whether an undivided washroom can truly be said to have a "clean" anything, as the potential for contamination remains as the inherent result of the washroom's design. Nevertheless, it is undisputed that there are laboratories that operate in such a manner and are certified by accrediting organizations despite that design.

[4] Other pages from the Ruys book in the record include diagrams of various corridor layouts, showing washrooms that are either partially or completely physically-divided. Mr. Ruys repeatedly labels these locations simply "clean cagewash" and "soiled cagewash," never using the terms "side" or "area" in the diagrams. *See* Ex. 29 at 60-61.

"clean cage wash" and "dirty cage wash," rather than "clean side" or "dirty side."[5] More notable is that Mr. Ruys uses the term "side" when titling his figure of an undivided washroom, as figure 6.2-7 is entitled "cage wash room with a single cage washer on the soil side only."[6] (Emphasis added.) These examples suggest that there is no universally-recognized and observed lexicon in the field, and that the use of terms such as "side" or "area" to describe locations in a washroom are the result of individual preferences and not general agreement among those in the art.

Construing the phrase "clean side" to encompass washrooms that are divided by simple markings such as tape or paint, or even those that are divided solely by directive or custom, is consistent with dictionary definitions of the word "side." ACS' claim construction brief cites to various dictionaries defining the term "side" to mean "an area separated from another area by an intervening feature, such as a line or barrier" or "areas that are separated from each other by something such as a border or river." (Emphasis added.) There is nothing inherent in the common definition of the term "side" that presupposes a physical divider must exist between two regions; a symbolic or conceptual division also satisfies the dictionary definition of the term.

Thus, the Court finds that the proper construction of the term "clean side [of a location][7]," as that phrase is used in various contexts in the patents, is "that portion of [the

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[5] The diagram does label a device found in each half of the room as a "clean side robot" and "dirty side robot."

[6] In its claim construction brief, ACS argues that Mr. Ruys thus declares that an undivided washroom "is considered to have a 'soil side only'." This overstates the meaning of Mr. Ruys' label significantly. The Court finds that Mr. Ruys' reference is simply one of positioning: the cage washer shown in the diagram is adjacent to the wall where "waiting carts with soiled cages" are stored. Thus, the cage washer is on the "soil[ed] side" of the room. In the opposite corner from the cage washer, "clean cages waiting" are shown. ACS' interpretation that the entire room is treated as being "soil[ed]" fails to account for the "clean cages waiting" within the "soiled" room.

[7] In most circumstances, the patents use the phrase "clean side" in conjunction with the term "washroom." However, certain claims in the '280 and '865 Patents also refer to "a clean

location] that is considered and treated by the facility as being free of contaminants, regardless of whether it is physically separated from other areas of the [location]."

c. "*a top surface at a distal end thereof*"

This phrase is used in the '893 Patent, which describes a "fluid delivery valve assembly" to be used with filled bags of water. Specifically, the contested claims in the patent concern a "valve assembly" comprising: (i) "a hollow member defining a fluid channel," essentially a tube that punctures the bag on one end and conducts the flow of water to the other end; (ii) "a stem member" located within the fluid channel, with "said stem member having a top surface at a distal end thereof" and a "proximal end at or about the proximal end of the hollow member" (discussed in more detail below); (iii) a spring element within the fluid channel, such that the spring "appl[ies] a biasing force to said stem member"; and (iv) "a sealing member" in the fluid channel abutting the "top surface of said stem member," such that the fluid channel remains sealed until an animal applies force to the proximal end of the stem member.

Turning first to the description of the stem member as having a "top surface at a distal end thereof," ACS proposes that the term be construed to mean "the top-most surface of the stem member, which is labeled as item 243 in figure 20." Hydropac contends that the term requires no construction and should be given its ordinary meaning.

The operation of the device as depicted in the specification can be explained fairly simply. The valve consists of three primary components –a stem, a sealing member, and a spring -- situated within the "fluid channel." By analogy, imagine that the stem is similar to a carpenter's nail or a long screw, and the sealing member is akin to a washer, both of which are

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side of the laboratory facility" or variants, suggesting that it is not only washrooms that have clean and dirty "sides," but facilities themselves. Nothing in the record appears to warrant construing the phrase "clean side" differently simply because it is modifying the term "facility" instead of the term "washroom."

situated relative to round hole in a piece of wood. The patent describes two different arrangement of these parts. The first, shown in figure 6 and sometimes described as a "trigger mechanism," arranges the sealing member (*i.e.* the washer) in the fluid channel (*i.e.* the hole in the wood), then places the shaft of the stem (*i.e.* the nail or screw) through the hole in the center of the seal. The spring is positioned above the stem, and designed to assert force downward, pressing the head of the stem (the "distal end") snugly against the seal. This effectively covers the hole in the seal, preventing water from flowing through it. The animal actuates the device by pressing upwards on the lower portion of the stem's shaft (*i.e.* the point of the nail or screw). This counteracts the force of the spring and pushes the head of the stem up and away from the sealing member, allowing water to flow through the hole in the center of the sealing member. When the animal releases the bottom of the stem, the spring presses the head of the stem back into contact with the sealing member, again shutting off the flow of water.

The patent critiques this design, stating that it "was found to have some deficiencies" in certain types of configurations. Because of the arrangement of parts, the "pivot point" where the spring interacts with the top of the stem's head "tends not to be either predictable or consistent." As a result, the stem may "shift position in relation to [the] spring," thus preventing the spring from pushing the stem back into a fully closed position. Thus the patent explains that the embodiment of the valve shown in figure 18 "overcomes the above-discussed deficiency" by rearranging the components. In figure 18, the positions of the spring and sealing member are effectively reversed. In the normal position, the shaft of the stem passes through a spring. The spring's action pushes up on the underside of the stem's head, forcing the upper surface of the head into contact with the lower surface of the sealing member, sealing off the flow of water. (In other words, in this configuration, the washer is situated on the underside of the hole in the

wood, and the nail closes off the flow through the washer by having the spring push the head of the nail up against the washer.) An animal actuates the valve by manipulating the lower end of the stem's shaft in any direction, causing the entire stem assembly to tilt slightly away from the vertical. This tilt causes some portion of the stem's head out of contact with the sealing member, allowing water to flow through the center of the sealing member. When the animal stops manipulating the stem, the spring forces the top surface of the head of the stem back into contact with the sealing member, closing off the flow of liquid.

ACS contends that the term "a top surface at a distal end thereof" should be construed to describe only the circular, flat-headed portion of the stem member pictured in figure 20 of the patent (that is, the portion of the head that presses against the sealing member) in the second version of the valve. Hydropac, by contract, appears to contend that the underside of that stem's head also falls within the claimed term. In this sense, the parties' dispute appears to center around the words "top surface" in the contested phrase. ACS argues that the "surface" is that portion of the head of the stem that makes contact with the component above it in the assembly, whereas Hydropac appears to argue that the "top surface" constitutes the entire head of the stem assembly. (To refine the point even further, Hydropac's definition would state that a "top surface" of a nail driven into a piece of wood is both the portion of the nail's head that the hammer strikes and the portion that is pressed against the wood itself; ACS' definition would deem "top surface" to mean only the portion that the hammer strikes.)

On this point, ACS has the somewhat better argument. The Court begins with the ordinary meaning of the term "surface," being "the outmost part of a solid object" or "the outermost boundary" of a thing. *Oxford English Dictionary*, Third Ed. An object can have many "surfaces," but in a given configuration, only one surface can be said to be its "top surface," as

"top" generally means the singular "highest point or part of a thing." *Id.* In a vertical orientation, the "top surface" of a thing is thus the surface that is located highest. In the trigger mechanism shown in figure 6, then, the "top surface" is the peak of the stem's cone-shaped head upon which the spring pushes; in figure 18, the "top surface" is the flat top of the stem's head that is pressed against the seal. (On a carpenter's nail, the "top surface" is the part that the hammer strikes.)

Hydropac's contention that "top surface" can include the underside of the stem's head is misplaced. It seeks to replace the singular concept of the "top" with the pluralistic concept of "upper." A building may have many "upper floors," but it can only have one "top floor." Likewise, although the stem may have several "upper surfaces" – that is, surfaces that are located on the upper portion (the head) of the stem, it can only have one "top surface." In such a circumstance, the underside of the head could be considered an "upper surface" of the stem, but it cannot be the stem's "top surface." Notably, the pertinent claims in the patent initially use the indefinite article "a top surface at a distal end," but they quickly turn to the definite article in the more specific phrase describing the sealing member "in abutment with the top surface of the stem member," making clear that the stem member can only have one "top surface." '893 Patent at 12:12, 19-20 (emphasis added). Indeed, the inventor's own language rebuts Hydropac's contention. In Claim 22, the inventor describes "a stem member . . . having a top portion having a lower surface." (Emphasis added.) This makes clear that inventor understood that the "top surface" mentioned in Claims 1 and 17 is not the same thing as the "lower surface" of the "top portion" of the stem; otherwise, Claim 22 would have used the same "top surface" phrase to convey the same idea.

Construing "top surface" in this way does have notable effects, however. The disputed claims of the '893 Patent describes a valve configuration in which the sealing member is "in abutment with the top surface of" the stem member. Such language can only refer to the valve depicted in figure 18, and necessarily excludes the valve shown in figure 6, as the latter abuts the sealing member with the underside – that is, a surface other than the "top surface" -- of the stem's head. Although the Court is reluctant to construe claim terms to exclude embodiments discussed in the specification, where there is a clear inconsistency between the ordinary meaning of a claim's terms and the description of an embodiment in the specification, and there is no evidence that the inventor was acting as his own lexicographer, the claim language must be interpreted to claim less than all of the embodiments. *See Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008). Here, there is no indication that the inventor was ascribing an idiosyncratic meaning to the term "top surface." When describing the trigger mechanism in figure 6, the inventor never uses the term "top surface" to describe the portion of the stem in contact with the sealing member; rather, the inventor states that "the base of the conical portion of the upper end [of the stem] rests on it." '893 Patent at 5:34-35. The term "top surface" is used in the specification only to describe the operation of the embodiment shown in figure 18. Moreover, language such Claim 22's "top portion having a lower surface" makes clear that the inventor did not routinely use the term "top surface" to mean "the underside of the stem's head." Thus, the Court must conclude that the claims do not include the embodiment shown in figure 6.

However, the Court is not prepared to adopt ACS' proposed construction that defines the term "top surface" by reference to a particular illustration. The Court agrees with Hydropac that doing so would inappropriately incorporate the descriptive and illustrative aspects of the

specifications into the claim itself. The specification of a patent describes possible embodiments of a patent, but the Court must be wary of importing limitations from the specification into the claims themselves. Here, it is conceivable that the claim of a "stem member" possessing a "top surface" could be embodied in ways different from that depicted in figure 20. Such a variant embodiment might, for example, be a surface that is square instead of round, convex or concave instead of flat, or textured instead of smooth. Such embodiments might deviate from the image in figure 20 in any number of ways, yet still depict a "top surface" of the stem member that is consistent with the claim language.

Accordingly, the Court finds that the term "top surface" in the '893 Patent is properly construed to mean "the singular surface that is located at the highest point at which the stem member engages another component."

d. *"a sealing member . . . in abutment with the top surface of said stem member . . ."*

This language, also found in Claims 1 and 17 of the '893 Patent is simply the reverse portion of the claim of a stem member above. A similar, but distinct, variant of this language is also found in Claim 22, which describes "a sealing member . . . having . . . a bottom surface [that creates a seal] when said sealing member bottom surface abuts a top surface of said stem member." ACS proposes that both variations of the claim language be construed to mean "a sealing member in the fluid channel, where the bottom surface of the sealing member is in contact with the top-most surface of the stem member, as shown in figure 18."

For the reasons discussed above, it is evident that, once the term "top surface of said stem member" is properly interpreted, the claim language regarding a sealing member in Claims 1 and 17 requires no further construction. Any person skilled in the art would readily understand the

meaning of the additional term "in abutment," and thus identify that portion of the invention that the top surface of the stem member abuts.

The same logic does not necessarily yield an immediate construction of the language in Claim 22, however, because that claim introduces a new term, "bottom surface" (of the sealing member) that is not present in prior claims. Nevertheless, the foregoing discussion makes clear that, just as the "top surface" of a member is that portion located highest in the assembly being described, the "bottom surface" of the sealing member is necessarily that surface that sits lowest in the assembly – here, the bottom side of the sealing member ring, against which the top surface of the stem presses.

Once again, the Court rejects ACS' contentions that the terms should be construed in conformance with diagrams in the specification. The plain language of the claims themselves, when properly construed, sufficiently apprises persons of skill in the art.

e. *"spring element"/"spring member"*

The parties seek construction of the term "spring element" or "spring member" that is used in numerous locations in the '893 Patent. For example, Claim 1 refers to "a spring element . . . wherein a portion of said spring element interacts with said stem member to apply a biasing force to said stem member." ACS proposes that the term be construed to mean "a structure capable of applying a biasing force." It contends that, by referring to a "spring element" or "spring member," Hydropac intended the patent to encompass something more than simply "a spring." Thus, it contends that the term should be understood to encompass "any device that stores potential energy" and applies a biasing force. Hydropac contends that no construction beyond the terms' plain language is necessary.

The Court is not convinced that there is a qualitative difference between the use of the phrase "a spring element" or "a spring member" and the simple phrase "a spring," such that use of the former implies something distinctly different from the latter. ACS argues that the Court should avoid a construction that renders terms in a claim superfluous. *E.g. Merck & Co., Inc. v. Teva Pharma. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (construction of "about [x]" to mean "exactly [x]" should be avoided because it would render term "on an alendronic acid active basis" superfluous). However, this proposition appears to apply to terms of substantive significance in the patent, not a general rule that every single word in the claims, no matter how seemingly inconsequential, must be deemed to have significance. ACS cites no case in which a court has deemed the term "element" or "member" to be a term of substantive significance, such that a construction distinguishing between the terms "x element" or "x member" and simply "x" was compelled.

Accordingly, the Court declines to read "spring member" or "spring element" as requiring any particular construction that would distinguish them from the simple phrase "a spring.: The plain language of the patent adequately describes the configuration and operation of this component of the valve to a person of ordinary skill in the art. Thus, no additional construction is required.

f. "designed and configured . . ."/ "constructed and arranged . . ."

Finally, ACS argues that two phrases in two claims render the claimed limitation invalid for indefiniteness.[8] Specifically, Claim 36 of the '721 patent claims "a system for facilitating the deliver of water . . ., the system comprising a bag forming apparatus designed and configured for

[8] Although this argument is more in the nature of a dispositive motion, ACS notes that "indefiniteness is a matter of claim construction." *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008). Both parties have thoroughly briefed the issue of indefiniteness, and thus, the Court addresses it at this time.

placement at a clean side of a laboratory washroom. . . ." Claim 17 of the '280 Patent claims a similar system, "comprising a bag filling apparatus constructed and arranged to provide filled bags of water at a clean side of a laboratory facility . . . ." ACS argues that these limitations are invalid as indefinite because that patents do not "explain[ ] what it means to be 'designed and configured for placement' . . . or how one of skill in the art could distinguish the claimed invention from an off-the-shelf water bagging machine." It also argues that the claim language impermissibly claims both a system and a method or using that system. *Citing IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1387 (Fed. Cir. 2005).

35 U.S.C. § 112 requires that an inventor set forth the claimed invention in "one or more claims particularly pointing out and distinctly claiming the subject matter of . . . [the] invention." A claim is invalidated for indefiniteness if it is not sufficiently "precise enough to afford clear notice of what is claimed." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120, 2129 (2014). The claim must be such that, when viewed in light of the specification and prosecution history, it informs those skilled in the art about the scope of the invention with reasonable certainty. *Id.* at 2129.

This Court finds that the limitations at issue here are insufficiently specific. For example, neither the claims nor the specifications of the '721 Patent describe any particular indicia that would demonstrate that a given bag-forming machine was "designed and configured for placement" in a particular location.[9] Hydropac argues that the following language from the '721 Patent's specification defines that term:

> the bag filling and forming apparatus can be advantageously located at the clean side of the wash room. In certain

[9] Hydropac does not argue that the terms "designed" and "configured" have any atypical meaning for purposes of the '721 Patent, and thus, the Court understands them to carry their ordinary meaning.

> embodiments, the bag filling and forming apparatus requires about sixteen square feet of floor space, although alternatively, the apparatus may be configured to require more or less floor space. In certain embodiments, the bag filling and forming apparatus can include industrial grade casters and can be rolled into place. The bag filling and forming apparatus can comprise built-in floor jacks that allow leveling and semi-permanent location, once placed. It certain embodiments, the bag forming and filling apparatus is pre-wired and fitted to accept a 110/220 VAC, 20 amp, 50/60 Hz supply dedicated power line near the machine. Of course, other power supplies could be used. . . .

Hydropac's argument is thus that a person skilled in the art could examine a particular bag-forming machine and determine whether it was "designed and configured for placement" on the clean side of a laboratory washroom because it: (i) requires 16 square feet of floor space, or perhaps more, or perhaps less; (ii) it has casters and can be rolled; (iii) it has floor jacks and can be placed semi-permanently; and/or (iv) it is fitted to accept a dedicated power supply line or can be powered by other means. Of these criteria, the first is meaningless. The second is antithetical to the notion that a machine was "designed" to be located in a certain place if it is fitted with wheels specifically to allow it to be easily moved from place to place. The third arguably constitutes indicia that the machine's creator designed it to be "semi-permanent[ly]" located in a particular spot, but the existence of floor jacks would not appear to inform a person of ordinary skill in the art that the specifically-intended location of that semi-permanent installation was the clean side of a laboratory washroom (as opposed to, say, a separate equipment room or a hallway or some other location). Similarly, the fact that the machine is designed to accept a dedicated power line might arguably suggest that the machine was intended to be permanently-placed in one location, but nothing would suggest to a person of ordinary skill that such dedicated lines would only be found in a washroom.

Another passage from the specification, cited by Hydropac, suffers from the same problem. The specification notes that "because the bag forming apparatus is provided at the clean side of the laboratory washroom, the laboratory facility may take advantage of the features of the washroom, such as the presence of a main water feed and dedicated power circuits." This passage identifies certain benefits that might result if the facility's owner elects to place the bag-forming machine in the washroom – *e.g.* it can use existing water and power lines – but once again, it does not describe any particular aspects of the machine's "design" or "configuration," other than perhaps the unremarkable fact that the machine requires a supply of water and power. Because the '721 Patent provides no meaningful explanation of what would inform a person of skill in the art as to whether a particular bag-forming machine was "designed and configured" to be placed on the clean side of a laboratory washroom, as opposed to some other location, the Court finds that this limitation invalid as indefinite.

The analysis is somewhat different for Claim 17 of the '280 Patent. There, the inventor claims a "bag-forming apparatus constructed and arranged to provide filled bags of water at a clean side of a laboratory facility." This claim uses different verbs than the '721 patent above – "constructed and arranged," rather than "designed and configured" – and supplies different objects for those verbs – "to provide bags of water." This claim limitation is more definite than its predecessor. A person of ordinary skill in the art could readily ascertain whether a bag-forming machine was "constructed . . . to provide filled bags of water," simply by examining the machine. The object of the verb "arranged" is somewhat more difficult to parse. That limitation might be satisfied if the machine itself is "arranged . . . at a clean side" of the facility, or it may be that the limitation is that the thing being "arranged" is the machine's output – that is, that the machine delivers the filled bags of water "at a clean side" of the facility. But in either instance, a

person of skill in the art could readily determine whether the machine's "arrangement" yielded the expected result. Thus, the Court cannot say that this limitation is indefinite.

Thus, the Court turns to ACS' remaining argument: that Claim 17 of the '280 Patent is invalid as a "mixed" claim – that is, one that simultaneously claims both a device and a method for using that device. In *IPXL,* the Federal Circuit announced a rule that "reciting both an apparatus and a method of using that apparatus renders a claim indefinite." 430 F.3d at 1384. There, the inventor claimed a system consisting of an "input means" having particular characteristics "and the user uses the input means to" undertake a particular act. *Id.* As the Federal Circuit explained, "it is unclear whether infringement of claim 25 occurs when one creates a system that allows the user to [undertake the act] or whether infringement occurs when the user actually [undertakes that act]." *Id.* Thus, the court concluded that the claim recited both a system and the method for using that system, making the claim invalid for indefiniteness.

This Court disagrees with ACS that Claim 17 of the '280 Patent falls within *IPXL*. Claim 17 is exclusively a "method" claim. It claims "a system" consisting of the use of a bag-filling apparatus in a certain way, coupled with the use bags and valves having certain characteristics. The claim does not purport to claim "a bag-filling apparatus" itself; indeed, although the term "bag forming apparatus" is used several ties in the patent, the nature and design of the apparatus itself is never described with any particular specificity. At best, it is referenced only as a component part of an illustration -- "bag material is moved over bag forming portion **330** such that the generally flat shape of bag material is formed into a tube" – and even in that illustration (figure 26), its precise shape or design is obscured. Thus, Claim 17 refers only to the method by which such an apparatus is used and thus, does not constitute an impermissibly "mixed" claim. *See e.g. Microprocessor Enhancement Corp. v. Texas Instruments, Inc.*, 520 F.3d 1367, 1274

(Fed. Cir. 2008) ("Method claim preambles often recite the physical structures of a system in which the claimed method is practiced").

CONCLUSION

For the foregoing reasons, the Court construes the claims of the patents as set forth above.

Dated this 9th day of February, 2015.

BY THE COURT:

Marcia S. Krieger
Chief United States District Judge