United States District Court,
S.D. Texas, Houston Division.

Kermit AGUAYO and Khanh N. Tran,
Plaintiffs.
v.
UNIVERSAL INSTRUMENTS CORPORATION,
Defendant.

June 9, 2003.

Claudia Wilson Frost, Mayer Brown et al., David Lee Burgert, Eric D. Wade, Porter & Hedges, Houston, TX, Sean Petrie, Conley Rose, PC, Austin, TX, William Healey, Mayer Brown, Washington, DC, for Plaintiffs.

David E. Wang, Orrick Herrington et al., Irvine, CA, James C. Brooks, Orrick Herrington et al., Los Angeles, CA, Jeffrey A. Miller, Orick Herrington et al., Menlo Park, CA, Robert A. Cote, Rodger Andrew Sadler, Victor G. Hardy, Orrick Herrington et al., New York, NY, Thomas W. Paterson, Susman Godfrey, Houston, TX, for Defendant.

ORDER

LEE H. ROSENTHAL**, District Judge.**

Kermit Aguayo and Khanh Tran allege that Universal Instruments Corporation is infringing claims 4, 5, 7, and 13-28 of U.S. Patent No. 5,283,943 (the ""3 Patent"). The parties seek construction of several claim terms contained in the asserted claims. This court held a hearing on March 7, 2003, during which the parties presented evidence and argument in support of their proposed claim construction. This court now construes the claim terms as a matter of law under Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

I. Background

The "3 Patent is directed to an apparatus for automated assembly of certain products containing multiple components. The apparatus is designed to place components, or compartments containing components, into designated locations. Automated assemblers then retrieve the components and place them in designated locations on the product being assembled. The apparatus contains an "automated assembly machine," a "component identifier," a "location indicator," and, in one claimed version, an "information processor." Figure 1 of the ' 943 Patent, reproduced below, shows a block diagram of the automated assembly apparatus.

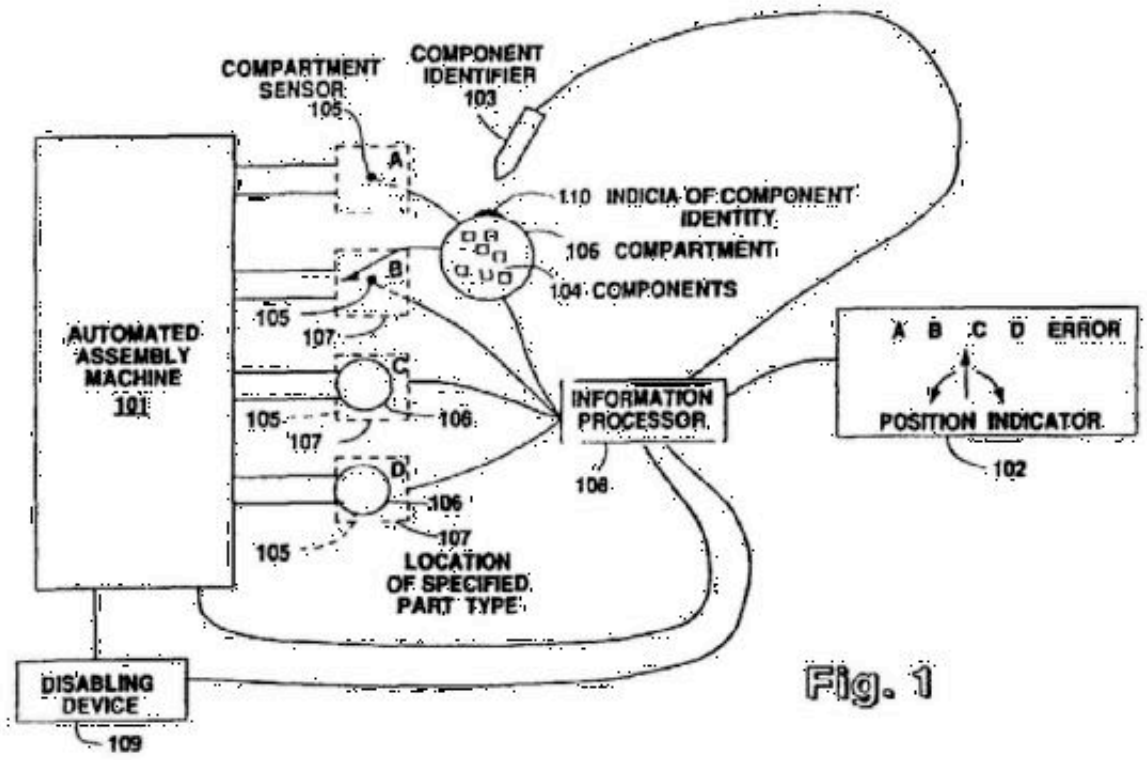

Fig. 1

Figure 1

The first set of allegedly infringed claims consists of claims 4, 5, and 7, which are dependent on independent claim 1 and claim 3, which depends on claim 1. Claims 1 and 3 read as follows:

1. A system for assembling multiple component products, comprising:

an assembly machine which assembles products using components retrieved from a plurality of compartments located at a corresponding plurality of locations, each compartment located according to a type of component stored within;

a component identifier that identifies the type of component stored in each compartment by analyzing indicia of the components or component compartments; and

at least one location indicator, responsive to the component identifier, for producing an indication signal of the corresponding location of each component compartment or component after the type of component has been identified.

3. The system of claim 1, further comprising, an error indicator that indicates if a compartment has not been placed in a corresponding location indicated by the location indicator.

(Docket Entry No. 41, Ex. A (""3 Patent"), col. 18, 1.39-1.54). Claims 4, 5, and 7 read as follows:

4. The system of claim 3, said error indicator indicating if a compartment has not been placed in said corresponding location indicated by the location indicator within a predetermined amount of time.

5. The system of claim 4, said predetermined amount of time been selected to correspond to a time required to load the compartment in said corresponding location.

7. The system of claim 1 further comprising, a disabling device that disables said assembly machine, after loading of said machine has been completed, if any compartment is removed from a location, and that enables said machine once all emptied locations have been filled with corresponding compartments.

(Id. at col. 18, 1.62-1.68; col. 19, 1.6-1.11).

The second set of allegedly infringed claims consists of claims 14-28, which are dependent on independent claim 13. Claim 13 reads as follows:

13. A system for assembling multiple component products, comprising:

a machine which assembles products using components retrieved from a plurality of compartments, each compartment being located in a corresponding one of a plurality of locations according to type of component stored within each compartment;

an information processor;

a component identifier, connected to the information processor, that identifies a type of component stored in a compartment, said information processor operating to determine a proper location of each identified compartment; and

a least one location indicator, connected to and controlled by the information processor, that indicates the proper location of each identified compartment.

(Id. at col. 19, 1.24-1.41).

Plaintiffs seek construction of the following terms of the "3 Patent: component product (claim 1); assembly machine (claim 1); component (claim 1); compartment (claim 1); component identifier (claim 1); indicia (claim 1); location indicator (claim 1); error indicator (claim 3); predetermined amount of time (claim 4); time required to load the compartment (claim 5); disabling device that disables ... after loading ... (claim 7); information processor (claim 13); sensor (claims 14 and 15); disabling device that disables ... at the beginning (claim 19); individual visual indicators (claim 24); light emitting diode (claim 25); digital I/O circuit; and relay circuit (claim 28). Universal contests plaintiffs' proposed construction of the following terms: component identifier; location indicator; error indicator; disabling device; information processor; and individual visual indicators. Universal contends that these terms are in means-plus-function format, because they describe nothing more than functions performed by undefined structures. 35 U.S.C. s. 112, para. 6. Universal contends that the remainder of the terms plaintiffs ask this court to construe have well-understood ordinary meanings and do not require further construction.

II. The Law Governing Claim Construction

A. General Principles

A court begins claim construction analysis with the ordinary meaning of the disputed claim terms. Inverness Med. Switzerland v. Princeton Biomeditech Corp., 309 F.3d 1365, 1369 (Fed.Cir.2002). "The terms used in the claims bear a 'heavy presumption' that ... they have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art." Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202 (Fed.Cir.2002); *accord CCS Fitness,* 288 F.3d at 1366. A court must give a claim term the full range of its ordinary meaning as understood by persons skilled in the relevant art. Texas Digital Sys., Inc., 308 F.3d at 1202.

A court initially relies on intrinsic evidence-the claims, the written specification, and, if in evidence, the prosecution history-to learn the meaning of the terms. CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002). A court may refer to dictionaries to determine the proper definitions of claim terms including technical dictionaries, encyclopedias, and treatises that establish specialized meanings in particular fields of art. Inverness Med. Switzerland, 309 F.3d at 1369. If a claim term has multiple meanings, the court must interpret the term to encompass all consistent meanings, based on the intrinsic evidence. Texas Digital Sys., Inc., 308 F.3d at 1203 (citing Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed.Cir.1998)).

A court examines the intrinsic evidence to determine whether the presumption of ordinary and customary meaning is rebutted. Id. at 1204. The intrinsic evidence can limit the ordinary meaning of a claim term in at least four ways. A claim term will not be given its ordinary meaning if the patentee acted as his or her own lexicographer by clearly defining the term in the specification. CCS Fitness, 288 F.3d at 1366. The claim term will not be given its ordinary meaning if the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed a particular subject matter, or described a particular embodiment as important to the invention. Id. at 1366-67. The claim term will not receive its ordinary meaning if the term the patentee chose so deprives the claim of clarity as to require resort to other intrinsic evidence for a definite meaning. Id. at 1367. Finally, and most important to this case, a claim term will cover nothing more than the corresponding structure or step disclosed in the specification, as well as equivalents, if the patentee phrased the claim in means-plus-function format under 35 U.S.C. s. 112, para. 6. *Id*.

B. Means-Plus-Function

Section 112, para. 6 provides:

[a]n 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.

Section 112, para. 6 operates to restrict claim limitations drafted in means-plus-function format to those structures, materials, or acts disclosed in the specification that perform the claimed function, and their equivalents. Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 702 (Fed.Cir.1999).

Whether claim language invokes section 112, para. 6 is a question of law. *Id*. A claim limitation that uses

the word "means" raises a rebuttable presumption that section 112, para. 6 applies. Apex, Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 2003 WL 1725618, (Fed.Cir.) (citing CCS Fitness, 288 F.3d at 1369). This presumption can be rebutted if the claim "fails to recite sufficiently definite structure" or recites a "function without reciting sufficient structure for performing that function." *Id.;* Watts v. XL Systems, Inc., 232 F.3d 877, 880 (Fed.Cir.2001). To determine whether a claim limitation recites sufficient structure, a court examines whether the "term, as the name for structure, has a reasonably well-understood meaning in the art," even if the claim term "does not call to mind a single well-defined structure." *Id*. at (quoting Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed.Cir.1996). Even if a particular mechanism is defined in functional terms, that is not sufficient to convert a claim element containing those terms into a "means for performing a specified function" under section 112, para. 6. Greenberg, 91 F.3d at 1583. Universal has the burden of producing evidence to rebut the presumption; plaintiffs continue to bear the burden of proof "in the sense of the risk of nonpersuasion." *Apex, Inc*., 2003 WL at *6.

III. Analysis

Universal argues that the claim terms "location indicator," "information processor," "component identifier," "error indicator," "individual visual indicator," and "disabling device" are in means-plus-function format. Plaintiffs emphasize that the word "means" is not used with any of these claim terms, invoking the presumption that the claims, including these disputed terms, are not in means-plus-function format. Plaintiffs contend that Universal has failed to rebut this presumption because the terms recite sufficiently definite structure.

A. "Location Indicator"

1. Whether Section 112***, para. 6 Applies to the Term "Location Indicator"***

Universal argues that section 112, para. 6 covers the term "location indicator" in claims 1 and 13, because the term is nothing more than a functional description of structure purporting to cover any device that indicates location. FN1 Universal contends that "location indicator" fails to recite sufficiently definite structure, rebutting the presumption that "location indicator" is not in means-plus-function format raised by the absence of the word "means." Plaintiffs respond that the presumption remains because the term "location indicator" is not in means-plus-function format and the term "indicator" has a reasonably well-understood meaning in the art and recites sufficiently definite structure.

FN1. The "3 Patent alternately uses the terms "location indicator" and "position indicator." It is clear from the written description that these terms refer to the same element of plaintiffs' invention and are used interchangeably.

The word "means" is not used in claiming the location indicator. The presumption that the claim of the "location indicator" is not in means-plus-function form applies. To rebut this presumption, Universal must show that the term "location indicator" fails to recite sufficiently definite structure or recites a function without reciting sufficient structure for performing that function. *Apex,* 2003 WL at *5.

The term "indicator" is defined in several technical dictionaries. The NEW IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS (5th ed.1993) defines an "indicator" as a "device or variable that can be set to a prescribed state based on the results of a process or the occurrence of a specified condition. For example, a flag or semaphore." (Docket Entry No. 49, Ex. A, Ex. 2). The

ILLUSTRATED ENCYCLOPEDIC DICTIONARY OF ELECTRONICS (2d ed.1987) defines "indicator" as "any device, such as a gauge, dial, register, or pointer, that measures or records, and visibly indicates a value, condition, etc." (*Id*. at Ex. A, Ex. 4). The IBM DICTIONARY OF COMPUTING (10th ed.1993) defines "indicator" as "a device that gives a visual or other indication of a defined state." (*Id*. at Ex. A, Ex. 1). The ILLUSTRATED DICTIONARY OF ELECTRONICS (6th ed.1994) defines "indicator" as a "(1) Meter. (2) Monitor. (3) Annunciator. (4) In a computer, a device that can be set by a specific condition, e.g., by a negative result or error indicator." (*Id*. at Ex. A, Ex. 3).

These definitions lead to the conclusion that the term "indicator" has a well-known meaning to those skilled in the electrical arts. Personalized Media Communications, LLC, 161 F.3d at 704-05. "Indicator" is not a generic structural term, such as "means," "element," or "device." Nor is "indicator" a coined term lacking readily apparent meaning, such as "widget." Rather, the term "indicator" connotes structure, such as a gauge, dial, register, flag, meter, monitor, or annunciator. The fact that "indicator" does not define a particular structure does not invoke section 112, para. 6. The dictionary definitions of the term "indicator" convey a variety of structures known to those knowledgeable in the art. FN2

FN2. Universal cites the testimony of Thomas Rhyne, an expert in electrical engineering who testified for plaintiffs, as showing that the term "location indicator" does not define a type of structure. In light of the technical dictionaries' definitions of the term "indicator," reliance on such extrinsic evidence as Rhyne's testimony is unnecessary and inappropriate.

The finding that "location indicator" is not subject to means-plus-function analysis is consistent with the Federal Circuit's ruling in *Personalized Media, LLC*. The court in that case construed the term "digital detector." On appeal, plaintiffs sought to overturn the district court's finding that the term "digital detector" invoked section 112, para. 6. The Federal Circuit affirmed, finding that the term "digital detector" connoted sufficiently definite structure to avoid the application of section 112, para. 6. The Federal Circuit noted that the term "detector" had a well-known meaning, connotative of structure, based on the definitions of the term found in technical dictionaries. Those definitions included examples of "detectors," such as rectifiers and demodulators. Like the term "detector," the term "indicator" is defined in several technical dictionaries that use examples in the definitions. Like the term "detector," the term "indicator" connotes structure to one knowledgeable in the art. 161 F.3d at 704-05.

The Federal Circuit similarly and recently held in *Apex* that the claim term "circuit" was not a means-plus-function claim. Section 112, para. 6 presumptively did not apply because the claim using the term "circuit" did not include the word "means." The court found that the term "circuit" connoted structure based on a technical dictionary definition of the term. FN3 The definition did not give a specific or particular structure of a "circuit," but broadly defined a family of possible structures that could be formed by combining different numbers and types of electrical components to perform different functions. The term "indicator" similarly defines a variety of possible structures. That does not defeat the presumption against the application of section 112, para. 6.

FN3. "The term 'circuit' is defined as 'the combination of a number of electrical devices and conductors that, when interconnected to form a conduction path, fulfill some desired function.' " *Apex,* 2003 WL at *7.

In Greenberg, 91 F.3d 1580, 1583, the issue was whether the section 112, para. 6 applied to the claim term

"detent mechanism." The court acknowledged that the claim defined the words "detent mechanism" in functional terms. The court relied on dictionary definitions which "ma[de] clear that the noun 'detent' denotes a type of device with a generally understood meaning in the mechanical arts." 91 F.3d at 1583. Although the term "detent mechanism" did not define a single well-defined structure, the term connoted structure so as to avoid the application of section 112, para. 6.

The term "location" in claims 1 and 13 modifies the term "indicator." "An adjectival qualification placed on a term that otherwise sufficiently connotes structure does not reduce the sufficiency of the structure connotation for the purpose of section 112, para. 6." *Personalized Media,* 161 F.3d 705 (stating that the use of the term "digital" with the term "detector" placed a functional constraint on an adequately defined structure). The term "location" in claims 1 and 13 is an adjectival modifier of the term "indicator," placing a functional constraint on the various structures the term "indicator" suggests. Structures such as dials, gauges, meters, and others, called to mind by the term "indicator," indicate location.

Universal relies on Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1213-14 (Fed.Cir.1998), for the proposition that a claim "cannot be construed so broadly as to cover every conceivable way or means to perform [a] function ...." The disputed claim term in *Mas-Hamilton Group* was "lever moving element." The court stated that if section 112, para. 6 did not apply, the term "lever moving element" would cover any conceivable way to move the lever contained in the invention. *Id*. at 1214. The court concluded that the patent holder had not presented evidence that the term "lever moving element" had a well-known meaning in the art. *Id*. As the *Personalized Media* court noted, the term "element" is a generic term. "Lever moving element" did not have a particularized definition in the mechanical arts. In the present case, by contrast, the term "indicator" does have a particular meaning connoting structure to those of skill in the electrical arts, defined in several electronics dictionaries, and is not merely "generic."

Universal also relies on Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 934 (Fed.Cir.1987), for the proposition that section 112, para. 6 "rules out the possibility that any and every means which performs the function specified in the claim literally satisfies that limitation." The *Pennwalt* court construed the claim term "position indicating means," which Universal contends is nearly identical to the term "location indicator." This court disagrees. The term "position indicating means" used the word "means"; it was undisputed that section 112, para. 6 applied to the claim. By contrast, the disputed claim term "location indicator" is not in means-plus-function format.

Universal alternatively contends that the term "location indicator" is in means-plus-function format because the structures connoted by the term cannot fully perform the functions recited in claim 1, being "responsive to the component identifier" and "producing an indication signal of the corresponding location of each compartment or component after the type of component has been identified." Universal argues that a "location indicator" cannot produce the signal to indicate location without some information processing structure, such as a computer.

Plaintiffs have claimed two versions of their invention, a three-element version and a four-element version. The three-element version consists of an automated assembly machine, a component identifier, and a location identifier. The four-element version consists of these three elements and an information processor. The written specification for the four-element version states that the component identifier identifies the type of component loaded into the automated assembly machine and transfers this identification to the information processor. The information processor then determines the proper location for the identified components, based on preprogrammed information and the information the component identifier provides.

The information processor relays the location information to the location indicator, which indicates the position to place the identified components. ("3 Patent, col. 5, 1.48-1.63). In the three-element version, without the information processor, "the functions of the information processor [are] distribute[d] among the other elements." (Id. at col. 6, 1.8-1.10). The written specification suggests that some of the information processor functions could be included in the location indicator in the three-element version. The specification does not require the location indicator to include information processor functions. The specification states that "[f]or the purposes of a three-element system, th[e] comparison and determination [of the components involved and the location to place them] may take place either in the component identifier or in the position indicator." (Id. at col. 4, 1.58-1.61). The claims and the specification do not require the location indicator to contain a computer or other electronic logic to perform the recited function, as Universal claims. Universal has failed to rebut the presumption that section 112, para. 6 is inapplicable. The "3 Patent recites sufficient structure for the location indicator to avoid application of section 112, para. 6.

2. Claim Construction of "Location Indicator"

Because section 112, para. 6 does not apply to the claim term "location indicator," conventional claim construction is required. This court refers first to the intrinsic evidence: the claims, specification, and prosecution history. Plaintiffs argue for the following construction:

A device that indicates a proper or corresponding location of an identified compartment or component.

(Docket Entry No. 40, p. 20). Universal responds that a "location indicator" is:

A device that indicates a proper or corresponding location of an identified compartment before placement of the compartment in a location.

(Docket Entry No. 59, p. 3). Universal seeks to add the words "before placement of the compartment in a location" to plaintiffs' proposed claim construction.

A court may not read limitations from a specification into claims, but must read claims in light of the specification. Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186 (Fed.Cir.1998). The written description of the preferred embodiments guides a court's interpretation of claim language as the court seeks to ascertain the invention. Bell Atl. Network Servs., Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1270 (Fed.Cir.2001); Comark, 156 F.3d at 1186. Even if claim terms are clear on their face, a court must consult the specification to determine if the patentee redefined any of those terms. Watts, 232 F.3d at 883. The patentee may act as his own lexicographer, using the specification to define claim terms. The definition may be express or "by implication" arising from consistent use of the claim term in a particular way throughout the specification. Bell Atl. Network Servs., 262 F.3d at 1270. There is a fine line between reading a claim in light of a specification and reading a limitation into the claim from the specification.

Plaintiffs do not expressly define the term "location indicator" in the specification, but consistently describe "location indicator" throughout the specification as indicating to the machine operator where to place identified components or component compartments. *See, e.g.,* "3 Patent, col. 4, 1.30-1.32 (location indicator "inform[s] the machine operator of the correct location of identified components."); col. 5, 1.1-1.5 ("After the proper location has been determined, it is conveyed to the machine operator. The operator will then load

the first component type ..."); col. 5, 1.64-1.68 (same). The error indicator described is claim 3, which depends on claim 1, "indicates if a compartment has not been placed in a corresponding location indicated by the location indicator." (Id. at col. 18, 1.58-1.61). This claim language implies that the components or component compartments are placed after the location indicator provides the location placement information to the machine operator. Reading the claims with a view to ascertaining the invention, it is clear that the location indicator is intended to indicate to the machine operator where to place the components. By adding "before placement of the compartment or component in a location" to the plaintiffs' proposed construction of the claim term "location indicator," this court is not reading particular limitations or particular embodiments of "location indicators" from the specification to construe the disputed claim term. Rather, this court is construing the claim term based on the consistent use of the term in the specification and the overall invention covered by the "3 Patent. *See* Bell Atl. Network Servs., 262 F.3d at 1270-73 (finding that the term "mode" was defined "by implication" based on its consistent use throughout the specification to mean only the three operational "modes" in the specification).

Universal also seeks to construe the term "responsive to the component identifier" in claim 1, as follows:

"Responsive to the component identifier" requires that the location indicator determine the corresponding location at which to place the component or compartment identified by the component identifier.

(Docket Entry No. 59, p. 5). No such limitation is found in claim 1 or in the written description. This interpretation of the term "responsive to the component identifier" would be inconsistent with the written specification. The section of claim 1 describing the location indicator does not require that the location indicator itself determine where components or component compartments are placed. The written description states that the software or logic circuitry determining the proper location for a component or compartment in the three-element system of claim 1 can be located entirely in the component identifier, entirely in the location indicator, or distributed between those two parts of the invention.

Based on this analysis, this court adopts the following construction of the claim term "location indicator":

A "location indicator" is a device that indicates a proper or corresponding location of an identified compartment or component before placement of the compartment or component in *that* location.

Universal also argues that the terms "proper location" and "corresponding location" are synonymous. The specification uses the terms "proper location," "correct location," and "corresponding location" alternately. The location indicator is alternately described as indicating the "proper," "correct," or "corresponding" location for components or component compartments. ("3 Patent, col. 2, 1.68-col. 3, 1.5 ("corresponding"); col. 4, 1.30-1.32 ("correct"); col. 5, 1.1-1.5("proper"); col. 5, 1.55-1.58 ("proper")). A "corresponding location" is the correct location in which to place the identified components or component compartments.

The term "location indicator" is described somewhat differently in claim 1 from the way that same term is described in claim 13. In claim 1, the location indicator is described as "responsive to the component identifier." In claim 13, the location indicator is described as "connected to and controlled by the information processor." Unless a patent otherwise provides, a claim term cannot be given a different meaning in the various claims of the same patent. Georgia-Pacific Corp. v. U.S. Gypsum Co., 195 F.3d 1322, 1331 (Fed.Cir.1999); Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570 (Fed.Cir.1995). This court must construe the term "location indicator" consistently throughout the claims of the "3 Patent unless the patent specifies otherwise.

Nothing in the specification or prosecution history of the "3 Patent defines the location indicator of claim 1 differently from the location indicator of claim 3. The fact that the location indicator of claim 1 responds to the component identifier and the location indicator of claim 13 is controlled by the information processor does not change the structure connoted by the term "location identifier." Rather, the fact that the location indicator of claim 1 responds to the component identifier while the location indicator of claim 13 is controlled by the information processor reflects different functional limitations on the structure defined by the term "location indicator." This court's construction of the claim term "location indicator" applies to that term as it is used in independent claims 1 and 13, as well as claims depending on those two claims.

3. Whether a Location Indicator Containing Structure to Determine the Proper Location to Load Components or Component Compartments Must Use the Algorithm Recited in the Specification

Universal alternatively contends that even if the term "location indicator" is not in means-plus-function format, the statement in the "3 Patent that "[r]eferring to FIGS. 8A, 8B, and 8C, presented is a flow chart displaying the method of operation of the present operation" limits the patent to the algorithm recited in the written description. (Docket Entry No. 59, p. 33 n. 5; "3 Patent, col. 12, 1.25-col. 18, 1.31). Universal cites several cases for the proposition that an unequivocal statement in the patent specification concerning the method of operation of the invention as a whole limits the claims.

In Scimed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337 (Fed.Cir.2001), the court had to decide whether the common description of three patents on balloon catheters limited the claims to catheters with coaxial lumens, or whether the patents covered both coaxial and dual lumen configurations. The district court limited the asserted claims to catheters with coaxial lumens. The Federal Circuit rejected the patentee's argument that the district court had impermissibly read limitations from the written description into the claims and upheld the district court's construction. The court emphasized the "most compelling portion" of the written description, which stated that "[t]he intermediate sleeve structure defined above [involving a coaxial lumen] is the basic sleeve structure for all embodiments of the present invention contemplated and disclosed herein...." 242 F.3d at 1343. The patent distinguished the prior art on the basis of its use of dual lumen catheters, in contrast to the coaxial lumens used in the patents. *Id*. The court found a "clear case of disclaimer of subject matter that, absent the disclaimer, could have been considered to fall within the scope of the claim language." *Id*. at 1344.

The written description of the "3 Patent, in contrast to the patent in *Scimed,* does not have broad, unequivocal language of manifest exclusion or restriction, representing a clear disavowal of claim scope. *See* Teleflex, Inc. v. Ficosia N. Am. Corp., 299 F.3d 1313, 1327 (Fed.Cir.2002) ("claim terms take on their ordinary and accustomed meanings unless the patentee demonstrated an intent to deviate from the ordinary and accustomed meaning of a claim term by redefining the term or by characterizing the invention in the intrinsic record using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope"). The written description of the "3 Patent does not disclaim other algorithms for the patented assembly apparatus. The written description of the "3 Patent does not contain language distinguishing the algorithm described from other possible algorithms. Rather, the description states that "although the present invention has been described with reference to particular preferred embodiments, it will be understood by those of skill in the art that additions, deletions or changes could be made to the disclosed embodiment without departing from the scope of the present invention." ("3 Patent, col. 18, 1.32-1.37).

Universal also cites Watts, 232 F.3d 877, to support its argument. *Watts* does not require this court to limit the "3 Patent to the algorithm disclosed in the written description. In *Watts,* the court construed the term "sealingly connected," a limitation in a claim addressing joints between pipes. The court held that the "sealingly connected" limitation applied only to structures with misaligned taper angles because the specification stated that "the present invention utilizes [the varying taper angle] feature." This language in *Watts* resembles the language in the ' 943 Patent stating that Figures 8A, 8B, and 8C presented a "flow chart displaying the method of operation of the present invention." ("3 Patent, col. 12, 1.25-1.27). However, in *Watts,* the court found that the "sealingly connected" limitation was not clear on its face. In this case, by contrast, the term "location indicator" is clear on its face, based on both its use in the written description and the dictionary definitions of the term "indicator." The specification makes it clear that the location indicator need not perform the processing to determine the proper location of an identified component, let alone follow a particular algorithm.

The prosecution history in *Watts* revealed that the patentee had distinguished prior art based on the invention's application to misaligned taper angles. In this case, by contrast, the prosecution history shows that plaintiffs originally sought to patent both the automated assembly apparatus and the method for its use. The patent examiner restricted the invention under 35 U.S.C. s. 121 and required plaintiffs to elect between the apparatus and method claims. FN4 (Docket Entry No. 41, Ex. B, Prosecution History of the ' 943 Patent, at AGU 00201). The examiner stated that the plaintiffs' apparatus and method claims were distinct because "the apparatus as claimed can be used in a materially different process of using that apparatus such as simply identifying components." Id. FN5 The prosecution history reveals that the apparatus claimed by plaintiffs can be operated using different algorithms and can perform different tasks.

FN4. 35 U.S.C. s. 121 provides: "If two or more independent and distinct inventions are claimed in one application, the Director may require the application to be restricted to one of the inventions."

FN5. The examiner required plaintiffs to elect whether to pursue their apparatus or method claims in 1993, before the Federal Circuit's decision in In re Donaldson, 16 F.3d 1189 (Fed.Cir.1994). Before *In re Donaldson,* the Patent and Trademark Office did not apply section 112, para. 6 during examinations of patents. 16 F.3d at 1194. In *Donaldson,* the Federal Circuit held that PTO examiners must look to the specification and interpret the claims in light of the structure, material, or acts described therein, or equivalents thereof. The claim in *Donaldson* was undisputedly a meansplus-function claim, in contrast to the location indicator claim. This court has found that section 112, para. 6 does not apply to the location indicator claim. The fact that the PTO did not apply section 112, para. 6 in interpreting the claims in the "3 Patent and requiring plaintiffs to elect between the apparatus and method claims in the original version of the patent is not relevant here. The fact that the PTO did not apply section 112, para. 6 in interpreting the "3 Patent does not diminish the significance of the examiner's decision to require plaintiffs t o elect between their apparatus and method claims.

The written description of the "3 Patent does state that the algorithm flow chart presented is "the method of operation of the present invention." The written description, however, lacks words or expressions of manifest exclusion or restriction representing a clear disavowal of claim scope. The prosecution history shows that the apparatus of the "3 Patent can be used in ways that do not follow the algorithm of the written description. This court concludes that the "3 Patent is not limited to the operating algorithm presented in the written description.

B. "Error Indicator"

Plaintiffs propose the following construction of "error indicator":

An "error indicator" is a device that indicates if a compartment has not been placed in a location, or if the compartment has not been placed in a location within a predetermined amount of time.

(Docket Entry No. 40, p. 21). Universal also contends that the claim term "error indicator" is in means-plus-function format because it lacks sufficient structure and impermissibly covers each and every device for indicating error.

Like the disputed claim term "location indicator," the term "indicator" has a well-known meaning connotative of structure to those of skill in the art. Plaintiffs' construction of the term "error indicator" is consistent with the term's use in the specification. The ordinary meaning of the term "error" is undisputed. In this invention, an "error" occurs when a compartment is placed in an incorrect location. The term "error" is an adjectival qualification placing an additional functional constraint on the term "indicator," which connotes structure. The addition of this functional constraint does not reduce the definiteness of the structure connoted by the term "indicator," such that section 112, para. 6 applies. *See* Personalized Media, 161 F.3d at 705; *Apex,* 2003 WL at *7. In the context of the invention covered by the ' 943 Patent, the possible errors include placing components or component compartments in an incorrect location, or failing to load compartments within a certain time. ("3 Patent, col. 6, 1.58-col. 7, 1.2). This court adopts plaintiffs' construction of the term "error indicator."

C. "Individual Visual Indicator"

Universal contends that the claim term "individual visual indicator" in claim 24, which is dependent on claim 13, is in means-plus-function format. Universal argues that the term is a functional description of the claimed element and fails to recite sufficient structure for performing its function. Plaintiffs propose the following construction of the term "individual location indicator":

An "individual visual indicator" is a device that provides a visual indication corresponding to each location.

(Docket Entry No. 40, p. 27). This court has found that the term "indicator" recites sufficient structure to avoid section 112, para. 6. The parties do not challenge the ordinary meaning of the terms "individual" and "visual." Both are adjectival qualifications placed on the structure connoted by the term "indicator," that narrow the scope of that structure. These functional limitations do not make the structure connoted by the term "indicator" any less definite, such that section 112, para. 6 applies. Rather, the limitations make the structure more definite by restricting the "indicator" to visual embodiments such as a light, dial, or flag. *See* Personalized Media, 161 F.3d at 705; *Apex,* 2003 WL at *7.

Universal seeks to limit the term "individual visual indicator" to "a light at each location on the assembly machine for a compartment." This definition impermissibly limits the term "individual visual indicator" to one possible embodiment, ignoring the various types of visual indicators suggested by the technical dictionary definitions of "indicator." This court adopts plaintiffs' construction of the term "individual visual indicator."

D. "Information Processor"

Plaintiffs seek the following construction of the term "information processor":

An "information processor" is a computing system that processes information to determine a proper location of each identified compartment.

(Docket Entry No. 40, p. 24). Universal contends that the term "information processor" in claim 13 is in means-plus-function format because it lacks sufficiently definite structure to perform the claimed function. Universal argues that claim 13 calls for an information processor that performs the function of "determin[ing] the proper location of the identified components using preprogrammed information" and controlling the location indicator. (Docket Entry No. 46, p. 43; "3 Patent, col. 5, 1.55-1.61).

Claim 13 does not use the word "means" in claiming the information processor; this court must presume that section 112, para. 6 does not apply. Technical dictionaries provide definitions of the term "information processor" that connote sufficient structure to avoid application of section 112, para. 6. The NEW IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS (5th ed.1993) defines "processor" as "a system or mechanism that accepts a program as input, prepares it for execution, and executes the process so defined with data to produce results." (Docket Entry No. 49, Ex. A., Ex. 2). The IBM DICTIONARY OF COMPUTING (10th ed.1993) defines "information processor" as "in a conceptual schema language, the mechanism that, in response to a command, executes an action on the conceptual schema, or on the information base." (*Id*. at Ex. A, Ex. 1). The term "processor" has a well-known meaning to those of skill in the electrical and computer arts. Although the term does not connote a precise physical structure, it does connote sufficient structure to avoid the application of section 112, para. 6. *See* Personalized Media, 161 F.3d at 704-705 (term "detector" connoted sufficient structure even though it did not connote a precise structure and was defined in terms of its function); *Apex*, 2003 WL at *7. The identifying adjective "information" provides additional structural meaning to one of ordinary skill in the art.

Universal contends that the information processor described in claim 13 does not recite sufficient structure to carry out its function in the invention. Universal cites WMS Gaming, Inc. v. Int'l Game Tech., 184 F.3d 1339 (Fed.Cir.1999) for the proposition that reference to a general purpose computer recites insufficient structure to perform the functions of the computer in the particular invention and that without a recitation of the programming structure or algorithm used by the computer, the claim is in means-plus-function format.

WMS Gaming is distinguishable from the facts of this case. The disputed claims in *WMS Gaming* were undisputedly written in means-plus-function format and properly analyzed under section 112, para. 6. The issue in *WMS Gaming* was whether the district court's construction of the disputed terms was consistent with the structure recited in the written specification. The appellate court held that "in a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." 184 F.3d at 1349 (citing In re Alappat, 33 F.3d 1526, 1545 (Fed.Cir.1994)). The court stated that "the instructions of the software program that carry out the algorithm electrically change the general purpose computer by creating electrical paths within the device. These electrical paths create a special purpose machine for carrying out the particular algorithm." *Id*.

In *WMS Gaming,* the court had to confine its construction of the means-plus-function claims to the structure described in the specification and its equivalents. Kahn v. Gen. Motors Corp., 135 F.3d 1472, 1476 (Fed.Cir.1998). In the present case, by contrast, the claims are not written in means-plus-function format. In

contrast to the structure disclosed in *WMS Gaming,* which was a computer programed solely to carry out the algorithm, the structure disclosed in the "3 Patent is not limited to the disclosed algorithm. Claims that are not in means-plus-function format are not required to be limited to the preferred embodiments described in the specification. The algorithm described in the specification of the "3 Patent creates one particular set of electrical connections-one particular structure-for using the invention. ("3 Patent, col. 12, 1.25-col. 18, 1.31). That algorithm represents only a preferred embodiment of the invention, not the only possible embodiment. This court does not limit the term "information processor" to the single algorithm described.

Other factors also weigh against limiting the term "information processor" to the operational algorithm presented in the written description. The written description does not contain words or expressions of manifest exclusion or restriction that would clearly disavow other possible algorithms that could be used with the invention. The prosecution history reveals that the apparatus can be operated with algorithms other than the one described. This court adopts plaintiffs' proposed construction of the term "information processor," which states that an "information processor" is a computing system that process information to determine a proper location of each identified component.

E. "Component Identifier"

Plaintiffs seek the following claim construction for the term "component identifier":

A "component identifier" is a device that identifies, recognizes, or selects, the type of component stored in a compartment with or without analyzing indicia of the component or compartment.

(Docket Entry No. 40, p. 19). Universal argues that the term "component identifier" is in means-plus-function format and covers every possible means for identifying components. Universal seeks construction of this term under section 112, para. 6. Plaintiffs respond that the term "component identifier" has a generally well-understood meaning in the art, a similar argument to that made for the terms "location indicator," "error indicator," "individual visual indicator," and "information processor."

Because the two claims involving the term "component identifier," claims 1 and 13, do not use the term "means," this court presumes that section 112, para. 6 does not apply. Universal can rebut this presumption by showing that "component identifier" fails to recite sufficiently definite structure or recites a function without reciting sufficiently definite structure to carry it out. *Apex,* 2003 WL at *5. "[T]his presumption can collapse when a limitation lacking the term 'means' nonetheless relies on functional terms rather than structure or material to describe performance of a claimed function." *Id.* (citing Micro Chem. Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1257 (Fed.Cir.1999)).

Unlike "location indicator," the term "component identifier" is not defined in technical dictionaries. Plaintiffs cite the use of the term "component identifier" in a publication by the Institute for Printed Circuits entitled "Sectional Requirements for Shop-Floor Equipment Communication Messages (CAMX) for Printed Circuit Board Assembly" as showing that the term "component identifier" has a well-understood meaning in the art. (Docket Entry No. 49, Ex. A, Ex. 10, pp. 37-38). In that reference, the term "componentId" is defined as the "unique component identifier" in the section of the document entitled "Dictionary of Attributes." The "componentId" is defined as a "string." The manual describes a "unique component identifier," or "componentld," as a string of characters in a computer program that identifies a particular component. Different types of components are identified by different "componentId's" within the computer program. This is consistent with the definition of the term "identifier" in the IBM DICTIONARY OF

COMPUTING (10th ed.1993) as "(1) one or more characters used to identify or name a data element and possibly to indicate certain properties of that data element; (2) in programming languages, a token that names a data object such as a variable, an array, a record, a subprogram, or a function." Unlike the definition of "detector" found in the technical dictionaries, this definition of "identifier" is not connotative of physical structure. Nor did this court find the term "identifier" in the MCGRAW-HILL ELECTRONICS DICTIONARY (6th ed.1997). Plaintiffs' proposed construction of "component identifier" is in functional terms. Plaintiffs' expert witness, Thomas Rhyne, was unaware of any structures that bear the name "component identifier." (Docket Entry No. 49, Ex. A, Ex. 6, Deposition of Thomas Rhyne, at p. 164, 1.11-1.12).

"[T]he fact that a particular mechanism ... is defined in functional terms is not sufficient to convert a claim element containing that term into a 'means for performing a specified function' within the meaning of section 112(6).' " Greenberg, 91 F.3d at 1583. The present case is distinguishable from *Greenberg*. The 35 *Greenberg* court determined that the term "detent mechanism" was not a means-plus-function claim, even though it was defined in functional terms. The court stated that the term "detent" "denote[d] a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms." *Id*. Dictionaries defined "detent" as "a mechanism that temporarily keeps one part in a certain part relative to that of another, and can be released by applying force to one of the parts." The court found that so defined, "detent," "as a term for structure, ha[d] a reasonably well-understood meaning in the art." *Id*. (citing RANDOM HOUSE UNABRIDGED DICTIONARY 541 (2d ed.1993)). The term "component identifier," in contrast to the term "detent," does not "denote a type of device." WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY (1983) defines "identifier" as simply "one that identifies." This definition does not connote structural meaning, as did the dictionary definitions of "detent." The technical definitions of the terms "identifier" and "component identifier" do not imply a structure or mechanism, but rather a variable in a computer program.

The construction of "component identifier" is also distinguishable from the construction of the term "digital detector" in Personalized Media, 161 F.3d at 705. In that case, the term "detector" did not evoke a particular structure. The term did convey to one knowledgeable in the relevant art a variety of structures known as "detectors," based on technical definitions of the term. By contrast, the technical definitions of "identifier" and "component identifier" do not connote a particular structure or a variety of structures. Rather, the term "component identifier" could be any device that identifies a component. *See* Mas-Hamilton, 156 F.3d at 1214 (finding that a claim for a "lever moving element" was a means-plus-function claim). The term "component identifier" cannot be construed as covering every conceivable way of identifying components. *Id*.

As to the term "component identifier," Universal has rebutted the presumption that means-plus-function analysis is inapplicable. Plaintiffs define "component identifier" in functional terms and the term itself is not connotative of structure. The term recites a function without reciting sufficient structure for performing that function. Section 112, para. 6 applies to the term "component identifier."

Claims subject to means-plus-function analysis are interpreted to cover the structure set forth in the specification and its equivalents. 35 U.S.C. s. 112, para. 6; Kahn, 135 F.3d at 1476. A court must identify the claimed function and the structure in the written description necessary to perform the claimed function. Micro Chemical, 194 F.3d at 1258. A court must not incorporate structure from the written description beyond that necessary to perform the claimed function and must not adopt a function different from that explicitly recited in the claim. *Id*.

The written description of the "3 Patent states that the component identifier serves two primary functions: it "acquires information concerning the type of component held in a compartment," and it "passes the information along to the position indicator." ("3 Patent, col. 4, 1.20-1.23). The written description states that "in one embodiment, [the] component identifier is a device that identifies components by optically or magnetically reading indicia accompanying the components or indicia of the components themselves." (Id. at col. 4, 1.23-1.27). The function of determining the proper location of a component or a component compartment after it is identified by the component identifier is distributed between the component identifier and the location indicator in the three-element embodiment and is located in the information processor in the four-element embodiment. (Id. at col. 4, 1.58-1.61; col. 5, 1.55-1.59).

To carry out the functions of acquiring information about the type of component held in a compartment and to pass that information to the location indicator, the component identifier must contain an optical or magnetic reader, as well as software or electronic logic. In claim 1, the component identifier analyzes indicia of the components or component compartments to determine the type of component to be positioned. However, claim 13 does not state that the component identifier operates by analyzing indicia of the components or component compartments to determine the type of component being positioned. Claim 1 contains a limitation that claim 13 does not.

Unless a patent provides otherwise, a claim term cannot be given a different meaning in the various claims of the same patent. Georgia-Pacific Corp. v. U.S. Gypsum Co., 195 F.3d 1322, 1331 (Fed.Cir.1999); Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570 (Fed.Cir.1995). Claim 1 requires the component identifier to analyze indicia of the component or component compartment in question; claim 13 does not expressly contain this limit. However, because the "component identifier" means-plus-function claim in claims 1 and 13 covers only the structure recited in the written description, the component identifier of both claims 1 and 13 is limited to optical and magnetic readers.

Universal contends that under the written description, the component identifier of claim 1 must contain a computer that determines whether a particular component is valid for the product assembly. FN6 Universal cites the language describing the proposed algorithm for the use of the invention. The written description states that "[i]n a preferred embodiment, [the] component identifier ... is a bar code reader (connected to the computer's serial port or keyboard) reading a bar code from a reel of electronic components." (' 943 Patent, col. 14,1.48-1.51). That information is sent to the computer, which "compare[s] [the part] against a list of parts for the current product of manufacture." (Id. at col 14, 1.53-1.54). The computer then determines whether the part belongs in the product being assembled and proceeds accordingly. (Id. at col. 14, 1.54-1.59).

FN6. Universal contends that this function is carried out by the information processor in the four-element version of the invention.

The claims do not, however, require the component identifier of claim 1 to perform the function of determining whether the component is a valid component for assembling the product, or that the invention use the particular algorithm presented in the written description. The written description in the claims clearly states that the component identifier's two primary functions are to "acquire information concerning the type of component held in a compartment" and to "pass the information along to [the] position indicator" or the information processor. (Id. at col. 4, 1.19-1.23, col. 5, 1.50-1.52). These two functions are

met by construing the component identifier as an optical or magnetic reader or equivalent, which identifies, recognizes, or selects the component or component compartment to be placed in a specific location in the assembly process. It is not necessary to have a computer running the algorithm described in the written description for the component identifier to carry out its two primary functions. Requiring a computer as part of the component identifier would adopt a function different from that explicitly recited in the claims. Plaintiffs' proposed construction gives a consistent meaning to the claim term "component identifier" throughout the "3 Patent.

F. Disabling Device

Plaintiffs claim a "disabling device that disables ... after loading" in claims 7 and 20. Those claims read as follows:

7. The system of claim 1 further comprising, a disabling device that disables said assembly machine, after loading of said machine is completed, if any compartment is removed from a location, and that enables said machine once all emptied locations have been filled with corresponding compartments.

20. The system of claim 13 further comprising a disabling device that disables said assembly machine, after proper loading of said machine is complete, if any compartment is removed from a location, and that enables said assembly machine once all emptied locations have been filled with corresponding components.

Plaintiffs claim a "disabling device that disables ... at the beginning of a loading operation" in claims 6 and 19, which read as follows:

6. The system of claim 1, further comprising, a disabling device which disables said assembly machine at the beginning of a machine loading time period, and which enables said assembly machine after all compartments are placed in corresponding locations.

19. The system of claim 13, further comprising a disabling device that disables said assembly machine at the beginning of a loading operation, and that enables said assembly machine after all compartments are placed in corresponding locations.

Plaintiffs propose the following construction of the term "disabling device that disables ... after loading" found in claims 7 and 20:

A "disabling device that disables ... after loading" is a device that disables the assembly machine, after loading of the machine has been completed, if any compartment is removed from a location, and that enables said machine once all emptied locations have been filled with corresponding components.

(Docket Entry No. 40, p. 23). Plaintiffs propose the following construction of the term "disabling device that disables ... at the beginning of a loading operation" found in claim 19:

A "disabling device that disables ... at the beginning ..." is a device that disables the assembly machine at the beginning of a loading operation, and that enables said assembly machine after all compartments are placed in corresponding locations.

(Docket Entry No. 40, p. 26). Universal contends that the claim terms for "disabling devices" are in means-

plus-function format; plaintiffs dispute that section 112, para. 6 applies.

The word "means" does not appear in the "disabling device" claims, giving rise to the presumption that those claims are not in means-plus function format. Universal can rebut this presumption by showing that "disabling device" fails to recite sufficiently definite structure or recites a function without reciting sufficiently definite structure to perform the function. *Apex,* 2003 WL at *5. "[T]his presumption can collapse when a limitation lacking the term 'means' nonetheless relies on functional terms rather than structure or material to describe performance of a claimed function." *Id*. (citing Micro Chemical, 194 F.3d at 1257).

Unlike the term "indicator," which is defined in technical dictionaries, the term "disabling device" is not defined in standard or technical dictionaries in a way that connotes sufficient structure to avoid the application of section 112, para. 6. This court has found no definition of the term "disabling device" after searching technical dictionaries of the electronic and mechanical arts. Standard dictionaries define the term "device" as "a piece of equipment or a mechanism designed to serve a special purpose or perform a special function." WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY (1983). This definition reveals that the term "device" is generic and does not connote structure to one skilled in the relevant art. *See* Personalized Media, 161 F.3d at 704 (stating that the term "detector" is "not a generic structural term such as ... 'device' ").

The Federal Circuit has held that similar generic terms lack sufficient structure to avoid means-plus-function status. *See* Mas-Hamilton, 156 F.3d at 1214 (stating that the term "lever moving element" was a generic term that could apply to any device that caused a lever to move, if section 112, para. 6 was not applied). The Federal Circuit has found such seemingly generic terms as "reciprocating member" and "detent mechanism" sufficiently connotative of structure to avoid application of section 112, para. 6. In such cases, the court found that the dictionary definitions of the terms and the surrounding claim language connoted sufficient structure. *See* CCS Fitness, 288 F.3d at 1369-70 (construing the claim term "reciprocating member," the court found that the definition of the term "member" as "a structural unit such as a ... beam or tie, or a combination of these" and as a "distinct part of a whole" and the presence of additional structural language in the claim avoided the ambit of section 112, para. 6); Greenberg, 91 F.3d at 1583 (finding that an English dictionary definition of "detent" as "a mechanism that temporarily keeps one part in a certain position relative to that of another, and can be released by applying force to one of the parts" and a technical dictionary definition of "detent" as a "a catch or checking device, the removal of which allows machinery to work such as the detent which regulates the striking of a clock" provided sufficient structure to avoid application of section 112, para. 6 to the term "detent"). There are no such dictionary definitions connoting structure for the term "device" or "disabling device." Claims 7 and 20 do not contain additional structure, necessary to avoid application of section 112, para. 6. If section 112, para. 6 does not apply, the claimed "disabling devices" would cover any device that disables.

Claims 6, 7, 19, and 20 do not recite structure that would prevent the application of section 112, para. 6. *Id*. This court finds that section 112, para. 6 applies to the claim terms "disabling device that disables ... after loading" and "disabling device that disables ... at the beginning of a loading operation," limiting those terms to the structures disclosed in the specification and their equivalents.

Under section 112, para. 6, this court must identify the claimed function of the "disabling devices" and the structure that is described to perform the claimed functions. Micro Chemical, 194 F.3d at 1258. The written description clearly identifies the claimed function for the disabling device: it "operates to prevent the

operation of the assembly machine until all components or compartments have been loaded in their proper location. The device acts to disable the assembly machine prior to loading, and to enable the machine after it is determined that all compartments have been loaded into their proper locations." ("3 Patent, claim 6, claim 19, col. 6, 1.26-1.34). The disabling device also disables the assembly machine if a compartment is removed from its proper location and enables the assembly machine once all compartments are returned to their proper location. (Id. at claim 7, claim 20, col. 8, 1.54-1.64).

After identifying the function of the means-plus-function element, a court looks to the written description to identify the structure corresponding to that function. *Micro Chemical,* 194 F.3d 1258. A means-plus-function claim encompasses all structure in the specification corresponding to that element and equivalent structures. *Id*. A court must not incorporate structure from the written description beyond that necessary to perform the claimed function and must not adopt a function different from that explicitly recited in the claim. *Id*.

The written description states that "in one embodiment, the disabling device comprises a relay." ("3 Patent, col. 6, 1.35-1.36). The written description also states that "[i]n the three element embodiment, the relay is responsive to each applicable element ... individually.... In the four element embodiment, the relay is responsive to the information processor. Since the information processor is responsive to all elements, the relay can respond to any applicable situation in the process." (Id. at col. 6, 1.35-1.42).

Universal contends that the claimed disabling device of claim 19 must include a computer programmed to disable the assembly machine at the beginning of the compartment loading by turning off this relay and turning the relay back on after all the components are loaded. FN7 Universal also contends that the disabling devices of claims 7 and 20 must include a computer programmed to: (1) disable the assembly machine after loading if a compartment is removed from a location; and (2) enable the assembly machine after all the locations are filled with corresponding compartments by turning on the relay. (Docket Entry No. 46, p. 58). Universal points to the fact that the written description of the ' 943 Patent links the relay and a computer programmed to enable and disable the assembly machine in accordance with the algorithm presented in Figures 8B and 8C. The written description states that "[i]f at block 832 [of the algorithm in Figure 8B], it is determined that all necessary compartments are present then control moves forward to 'turn on the relay sensor' block 833 [of the algorithm in Figure 8C]. Here, the computer [element 202 in Fig. 2] sends a signal through I/O card 204, to a relay which enables the assembly machine." (' 943 Patent, col. 16, 1.39-1.44). If a necessary compartment is missing, "the computer 202 [in Fig. 2] prompts the relay to disable the assembly machine 101 [in Figure 2]." (Id. at col. 17, 1.19-1.21).

FN7. Universal has not challenged the use of the term "disabling device" in claim 6, and plaintiffs have not alleged that defendants infringed claim 6. Claim 6 and claim 19 are virtually identical, except that claim 6 depends on claim 1, the three-element embodiment of the invention, and claim 19 depends on claim 13, the four-element embodiment of the invention. The disabling devices of both claims 6 and 19 disable the assembly machine until all compartments are in their corresponding locations, at which point the same devices enable the assembly machine. This court must construe the term "disabling device" consistently throughout the claims. That requires consideration of the use of the term "disabling device" in claim 6, even though that claim is not at issue in this case.

The fact that the relay is controlled by the computer in the embodiment recited in the written description does not, however, mean that the disabling device of claims 6, 7, 19, and 20 must contain a computer. The

written description shows that the computer is an embodiment of the information processor of the four-element version of the invention, separate from the relay. The block diagram of the invention in Figure 2 is a preferred embodiment of the invention. ("3 Patent, col. 7, 1.34-1.36). The computer, element 202 in Figure 2, is an embodiment of the information processor of the four-element embodiment. ("3 Patent, col. 5, 1.19-1.25). As analyzed earlier in this Memorandum and Opinion, the claimed information processor is not limited to a computer. The relay is connected to the computer through the I/O card (element 204 in Figure 2). The computer-the information processor of the preferred embodiment-sends an enabling signal through the I/O card to the relay after all the compartments are loaded. (Id. at col. 8, 1.48-1.50). Importantly, the information processor, which in the preferred embodiment is the computer and not the relay, determines whether the compartments are properly loaded. (Id. at col. 8, 1.22-1.33). The information processor, in this case the computer, and not the relay, determines if a compartment is missing. (Id. at col. 8, 1.55-1.64).

Based on the written description, the relay of the four-element embodiment does not contain a computer or other information processing structure. Rather, the relay responds to commands from the information processor, which determines whether all components are properly loaded and the assembly machine should be enabled. In the three-element embodiment, the functions of the information processor are distributed between the compartment identifier and the location indicator. The relay comprising the disabling device is responsive to the "applicable elements." Which elements are "applicable" depends on the distribution of the function of the information processor between the location indicator and component identifier. ("3 Patent, col. 6, 1.8-1.10; col. 6, 1.36-1.38). This court construes the claim term "disabling device" in claims 19 and 20 (which depend on claim 13, the four-element version of the invention) as a relay, or equivalent structure, connected to the information processor and the assembly machine, which disables or enables the assembly machine in response to commands from the information processor. This court construes the term "disabling device" in claims 6 and 7 (which depends on claim 1, the three-element version of the invention) as a relay, or equivalent structure, connected to the location indicator, the component identifier, and the assembly machine, which disables or enables the assembly machine in response to commands from either or both the location indicator and component identifier, depending upon the distribution of the functions of the information processor between the location indicator and the component identifier.

G. The Remaining Claims

Plaintiffs seek construction of the following claim terms:

component product;

assembly machine;

component;

compartment;

component identifier;

indicia;

predetermined amount of time;

time required to load a compartment;

sensor;

light emitting diode;

digital I/O circuit; and

relay circuit.

(Docket Entry No. 40, pp. 14-15). Universal objects to plaintiffs' proposed construction of these terms, arguing that the ordinary meaning of these terms is well understood, making further construction unnecessary. Plaintiffs' proposed construction of these terms is primarily based on definitions of these terms found in dictionaries, tailored to how the terms' apply to the invention of the "3 Patent. Universal does not specifically object to the specific wording of any of the plaintiffs' proposed constructions. Rather, Universal generally contends that construction of these terms is unnecessary. Reviewing plaintiffs' construction of these terms in light of the claims and the specification, this court finds plaintiffs' proposed construction of the terms consistent with the claim language and the written description of the "3 Patent. They are adopted. Texas Digital Sys., Inc., 308 F.3d at 1203.

IV. Conclusion

The disputed terms of the "3 Patent are construed as follows:

CONSTRUCTION OF CLAIMS

U.S. PATENT 5,283,943

A "**component product**" is a product assembled from component parts.

An "**assembly machine**" is an apparatus that assembles products by gathering components.

A "**component**" is a part stored in a compartment and used in the assembled product.

A "**component identifier**" is an optical or magnetic reader, or an equivalent thereof, which identifies, recognizes, or selects the component or component compartment being placed in a location during the assembly process.

"**Indicia**" is a marking.

A "**location indicator**" is a device that indicates a proper or corresponding location of an identified compartment or component before placement of the compartment or component in a location.

An "**error indicator**" is an indicator that indicates if a compartment has not been placed in a location within a predetermined amount of time.

A "**predetermined amount of time**" is the amount of time determined before placement of a compartment in a location.

A "**time required to load a compartment**" is the time it takes to load a compartment in a corresponding location.

A "**disabling device**" in claims 6 and 7 (which depend on claim 1, the three-element version of the invention) is a relay, or equivalent structures, connected to the location indicator, the component identifier, and the assembly machine, which disables or enables the assembly machine in response to commands from either or both the location indicator and component identifier, depending upon the distribution of the functions of the information processor between the location indicator and the component identifier.

A "**disabling device**" in claims 19 and 20 (which depend on claim 13, the fourelement version of the invention) is a relay, or equivalent structures, connected to the information processor and the assembly machine, which disables or enables the assembly machine in response to commands from the information processor.

An "**information processor**" is a computing system that process information to determine a proper location of each identified component.

A "**sensor**" is a device that senses the presence of a compartment.

An "**individual visual indicator**" is a device that provides a visual indication corresponding to each location.

A "**light emitting diode**" is a semiconductor device that emits optical radiation when biased in the forward direction.

A "**digital I/O circuit**" is a digital input/output circuit.

A "**relay circuit**" is an electric device connected to and controlled by a computer or other information processor to cause contact operation in associated electric control circuits.

S.D.Tex.,2003.
Aguayo v. Universal Instruments Corp.