United States District Court,
C.D. Illinois.

THE GSI GROUP, INC,
Plaintiff.
v.
SUKUP MANUFACTURING CO,
Defendant.

Sept. 27, 2006.

Douglas D. Churovich, Jonathan P. Soifer, McPherson D. Moore, William B. Cunningham, Jr., Polster Lieder Woodruff & Lucchesi LC, St. Louis, MO, for Plaintiff.

Timothy J. Londrigan, Londrigan Potter & Randle PC, Springfield, IL, Timothy J. Zarley, Zarley Law Firm, Des Moines, IA, for Defendant.

OPINION

JEANNE E. SCOTT**, U.S. District Judge.**

This matter comes before the Court for construction of claims in patents held by the Plaintiff, The GSI Group, Inc. (GSI). The Court held a hearing on August 2, 2006, in which the parties presented their positions on the correct construction of disputed claims in Patents Nos. 5,135,271 (the "271 Patent") and 5,400,525 (the "525 Patent") held by GSI. The parties further filed supplemental memoranda. The Court has reviewed the pleadings, the filings by the parties and considered the evidence presented at the hearing and the arguments of counsel and construes the disputed claims as set forth below.

BACKGROUND

GSI alleges in its Amended Complaint (d/e 5) that Defendant Sukup Manufacturing Co. (Sukup) is infringing on several of its patents covering: (1) grain tower dryers (Patents Nos. 6,073,364; 6,073,367; 6,076,276, and 6,233,843 (the Grain Tower Dryer Patents); (2) a latching device for grain bin doors (the 271 Patent); and (3) a flame cone for grain bin dryer (the 525 Patent). The parties disagree on the construction of certain of the claims at issue in the 271 Patent and the 525 Patent. The parties have no disagreement on the construction of any claim at issue in the Grain Tower Dryer Patents, including the additional claims that GSI seeks to add in its Amended Complaint. *Joint Statement of Claim Construction (d/e 71) (Joint Statement), Tables A-U; Defendant's Response to Plaintiff's Motion for Leave to File Supplemental Statement of Claim Construction (d/e 91).*

LEGAL PRINCIPALS

A patent consists of written specifications that describe the invention, detailed drawings of the preferred

embodiment, and a list of the claims. 35 U.S.C. s.s. 111, 112. The claims set forth, "the subject matter which inventor regards as the invention." 35 U.S.C. s. 112 para. 2. The scope of the invention protected by a patent is defined by the claims in the patent. Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed.Cir.2005). In this case, the parties disagree on the construction of certain of the claims at issue in the 271 Patent and the 525 Patent. FN1 The construction of disputed patent claims is an issue of law for the Court to decide. Markman v. Westview Instruments, Inc., 52 F.3d 967, 979-81 (Fed.Cir.1995).

FN1. The parties agree on the construction of the claims at issue in the Grain Tower Dryer Patents, and so the Court will not construe those claims. *See* Vivid Technologies Inc. v. American Science & Engineering, Inc., 200 F.3d 795, 803 (Fed.Cir.1999).

In construing claims, the Court must first look to the language of the claim. The language of the claim is generally given its clear, ordinary and customary meaning that the language would have to a person of ordinary skill in the art in question at the time of the invention. Phillips, 415 F.3d at 1312. If the meaning of the language is not apparent, the Court should look at intrinsic evidence and extrinsic evidence to ascertain the meaning of ambiguous terms. Intrinsic evidence is the rest of the patent and the prosecution history before the U.S. Patent Office. Extrinsic evidence is expert testimony, dictionaries, treatises and other specialized writings on the subject matter. *See* Phillips, 415 F .3d at 1312-19 for a detailed discussion of the process of claims construction. Intrinsic evidence is generally more reliable than extrinsic evidence in construing disputed claims. Id. at 1317-19.

Some patent claims are written in a format called "means-plus-function." These claims do not describe the object, structure, or action that make up the invention; rather, these claims describe the invention in terms of a means used to perform a particular function. *See e.g.,* Lockheed Martin Corp. v. Space Systems/Loral, Inc., 324 F.3d 1308, 1318-20 (Fed.Cir.2003). When the "means-plus-function" format is used, then the "claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. s. 112 para. 6. For purposes of s. 112 para. 6, the specification includes the abstract of the invention, summary of invention, detailed description of the preferred embodiment of the invention, and the detailed drawings of the preferred embodiment. Playtex Products, Inc. v. Procter & Gamble Co., 400 F.3d 901, 909 (Fed.Cir.2005); *see e.g.,* Kegel Co., Inc. v. AMF Bowling, Inc., 127 F.3d 1420, 1427 (Fed.Cir.1997). The Court must construe the claim to include enough of the structure described in the specifications to perform the function without adding additional structure that would limit the claim. Acromed Corp. v. Sofamor Danek Group, Inc., 253 F.3d 1371, 1382 (Fed.Cir.2001). The Court must construe the claim in light of the specifications, but may not import limitations into the claim from the specifications. Phillips, 415 F.3d at 1323. If the specifications include more than one structure to perform the function, the claim must be construed to include all of the structures described. Micro Chemical, Inc. v. Great Plains Chemical Co., 194 F.3d 1250, 1258 (Fed.Cir.1999). In light of these principles, the Court construes the disputed claims as follows.

A. *THE* 271 PATENT

The 271 Patent describes an improved latching mechanism for grain storage bin doors. Grain storage bins are circular structures made of corrugated metal designed to hold large amounts of grain. When the bins are full, the grain presses outward against the walls of the bin. This pressure is called "hoop stress." The bins have doors on the sides to allow access to the interior of the bins when the bins are empty. The problem is how to construct a door that can withstand the hoop stress when the bin is full and still open and close

easily when the bin is empty. *Joint Statement,* Exhibit 5, Patent No. 5,135,271, *Background of Invention*.

Prior designs used metal pins pointing inward toward the inside of the bin placed in rows on the vertical sides of the door frame. The door was hinged to swing into the bin to open. The door also had holes on either side that would fit over the pins when the door was shut. In this way, the pins would hold the door in place when the grain was placed into the bin and transfer the hoop stress from one side of the door to the other. Id.

The problem that arose from this prior design was that the hoop stress would cause the pins to press up against the side of the holes in the doors and stick. When the grain bins were then emptied, the doors would stick on the pins and be difficult to open. The 271 Patent describes a latching invention that solves this problem by using a latch that creates leverage to force the door off the pins.

The abstract to the 271 Patent states:

In order to help disengage the cover member [of the door] from the adjacent bin wall, the latching apparatus includes cam means for providing a mechanical advantage to force the cover member out of engagement with the pins and thereby permit the cover member to open with reduced effort.

Exhibit 5, 271 Patent, *Abstract*. The Abstract also states that the 271 Patent discloses an "improved pin structure." Id.

The detailed drawings of the preferred embodiment of the invention show a grain bin door divided into three horizontal panels, or cover members, one above the other. Each cover member is hinged to swing into the bin when open. Each cover member has a series of holes lined up vertically on each side of the cover to fit over the row of pins on each side of the door jamb. Each cover member has two latch bars on the outside of the cover member. The two latch bars run horizontally, one above the other, for the width of the cover member. At either end, the latch bar is connected to the cover member by an "L" shaped hook with the latch bar attached to the top of the capital "L" shape and the cover member attached to the base of the "L" shape by a bolt that acts as a pivot point. When the cover member is closed, the L shaped hook fits over a rod or bolt that sticks out from the exterior portion of the door frame that acts as a catch. The cover member is latched by forcing the L shaped hook over the catch so that the L shape is upside down and the catch is caught in the corner formed by the L shape.

The base of the L shape is flat on the bottom, but the top of the base of the L shape is curved. The curved shape runs next to the catch when the latch is opened and closed. The curve is designed so that the catch is closer to the pivot point on the cover member when the latch is closed and farther from the pivot point when the latch is open. The curve acts as a cam when the door is opened and closed. When the latch is closed, the catch runs along the curve of the cam and pulls the pivot point on the cover member closer to the catch. This forces the cover member closer to the catch on the exterior of the door frame. The effect of this is to force the cover member onto the pins and shut. When the latch is opened, the catch runs along the cam surface and forces the pivot point on the cover member farther away. This forces the cover member away from the catch on the door frame and into the empty bin. The effect is to push the cover member off the pins on the inside of the door frame and allow it to swing open into the empty bin.

The detailed drawings also show the improved pin. The pin is fastened to the door frame by a bolt. The portion of the pin that protrudes into the bin is tapered. The portion of the pin that is next to the wall of the

bin has a shoulder with a diameter slightly smaller than the rest of the pin. This shoulder fits into the hole in the wall of the bin so that the wall of the bin abuts the shoulder of the pin rather than the bolt that fastens the pin to the wall. This design keeps the wall from pressing directly against the bolt when the bin hoop stresses from a full bin are pushing against the wall. This design reduces the risk that the bolt will break or shear off from the pressure.

The disputed claims discuss the cover member, the cam, the latch, the catch, and the pins. The Court will construe the disputed claim language in order.

1. ***Claim 1, Part [5]***

The first disputed portion of the claims states:

said bulk storage structure including integrating means for engaging said cover means when said cover means is in a closed position to pass hoop stresses placed upon said storage structure through said cover means.

Joint Statement, Table V, at 58. The parties agree that this portion of the claim is written in the "means-plus-function" format. *The function described is to pass the hoop stress through the cover over the grain bin door opening*. The means described to accomplish this function is a cover member that is integrated into the side wall of the grain bin. The specifications state that this integration of the cover member with the side wall of the bin is accomplished by a set of pins (or protuberances) set in vertical rows on the inside of each side of the door frame and pointing inward. The cover members have a set of holes or bores that go over the pins to attach the cover to the side wall. Attaching the cover to the pins on either side of the door frame effectively integrates the cover member with the side wall so that the hoop stress is distributed evenly through the wall and the cover member, and neither the wall nor the cover member moves under the stress. *The Court, therefore, construes the disputed language to cover the following structure:*

A grain storage bin with protuberances or pins that are in vertical rows on both sides of the interior of the grain bin door frame which pins fit snugly into bores or holes on the cover member when the cover member is closed and hold the cover member in place, and equivalents of that structure.

GSI asks the Court to include the "and equivalents of that structure language" to the description. The Court agrees that this language should be included because s. 112 para. 6 states that the means plus function format includes equivalents of the structure disclosed in the specifications.

Sukup asks the Court to include the requirement of a snug fit. This is a close question. The Court is supposed to use only that portion of the structure described in the specifications that are necessary to perform the function described in the claim. Acromed, 253 F.3d at 1382. The Court, further, is not to import unnecessary limitations from the specification into the claim. Phillips, 415 F.3d at 1323. The function here is integrating the cover into the side of the wall so that the door effectively becomes part of the wall and the hoop stresses are distributed evenly across both the door cover and the wall. The Court believes the snug fit is necessary for effective integration of the cover. The Court, therefore, includes the "fit snugly" language in the construction of the claim.

2. ***Claim 1, Part [7]***

The second disputed claim language states:

said latching apparatus including means for forcing said cover means out of engagement with said integrating means as said latch means is pivoted from said locking position toward said unlocking position.

Joint Statement, Table V, at 62-63. The parties again agree that the reference to "means for forcing said cover means out of engagement" is a means plus function limitation in this claim. *The function described is forcing the cover member off the pins*. The structure described in the specifications is a latch attached to a pivot point on the cover member. The latch acts as a lever and a cam. FN2 As the lever portion of the latch is moved to the unlocked position, the cam portion pushes against the catch on the door frame to force the cover member off the pins (or protuberances) on the interior of the door frame. *The Court, therefore, construes the disputed language to cover the following structure:*

FN2. A latch is a device in which mating mechanical parts engage to fasten something. *Merriam Webster's Collegiate Dictionary* at 657 (10th ed.1997). A cam is a rotating or sliding piece of mechanical linkage used to transform rotary motion into linear motion or *vice-versa*. *Id*. at 163.

A fastener attached to a pivot point on the cover member, which fastener has: (1) a handle bar that acts as a lever, and (2) a rotating piece that pushes against the catch on the door frame to force the cover member off the pins or protuberances on the interior of the door frame as the lever handle bar is moved from the locked to the unlocked position, and equivalents of that structure.
Sukup asks for a much more specific description of the latch. The Court, however, is only to take enough of the structure from the specifications to perform the function. The structure included in the above description is all that is necessary to perform the function described in the claim. The additional detail proposed by Sukup would be an improper importation of a limitation from the specifications into the claim.

3. *Claim 9, Part [6]*

The third disputed claim language states:

integrating means on said bulk storage structure for releasably and retainably engaging said cover member to integrate said cover member with said storage structure when said cover member is in a closed position to thereby transmit forces exerted on said storage structure through said cover member.

Joint Statement, Table V, at 65-66. This provision essentially describes that same function as Claim 1, Part [5] above. Both parties advocate the same interpretation of these two claims. The Court agrees. The Court, therefore, construes this claim in the same manner as Claim 1, Part [5], quoted above.

4. *Claim 9, Part [8]*

The fourth disputed claim language states:

catch means on said storage structure adjacent said access opening for engaging said latch means and locking said cover member in a closed position; and

Joint Statement, Table V, at 67. The parties disagree on whether the "catch means" language uses the means plus function format. The use of the word "means" creates a presumption that the means plus function provisions of s. 112 para. 6 applies. Sage Products, Inc. v. Devon Industries, Inc., 126 F.3d1420, 1427 (Fed.Cir.1997). That presumption can be overcome if: (1) the claim language does not describe a function,

or (2) if the claim language describes an object, structure, or action that entirely performs the stated function. *Id. In this case, the language describes the function of engaging the latch to secure the cover members in the closed position.* The language mentions the structure of a catch adjacent to the access opening, but does not describe how the structure performs the latching function. Given that the word "means" is used, the Court determines that the presumption is not rebutted, and the means plus function provisions of s. 112 para. 6 applies.

The specifications describe a catch mounted on the portion of the door frame that is on the exterior side of the grain bin when the cover member is closed and which extends into the opening in order to engage the latch so as to lock the cover member shut when the cover member is closed and the latch is moved to the locked position.

The Court, therefore, construes the disputed language to cover the following structure:

A metal object mounted on the portion of the door frame that is on the exterior side of the grain storage bin when the cover member is closed and which extends into the opening in order to engage the latch so as to hold the cover member closed when the latch is moved to the locked position, and equivalents of that structure.

Sukup again asks for a more specific description of the latch, but the Court again determines that the structure included in the above description is all that is necessary to perform the function described in the claim. The additional detail proposed by Sukup would be an improper importation of a limitation from the specifications into the claim.

5. *Claim 9, Part [9]*

The fifth disputed claim language states:

said latch means including cam means for abutting a portion of said storage structure after said latch means is pivoted out of locking engagement with said catch means to force said cover member to release from said integrating means on said storage structure, to thereby permit said cover member to move toward an open position and allow said access opening to be fully opened.

Joint Statement, Table V, at 69-70. The parties disagree on whether this language invokes the means plus function provisions of s. 112 para. 6. The phrases "integrating means" and "catch means" invoke s. 112 para. 6 and have the construction set forth in Claims 1, Part [5] and 9, Part [8], respectively. The terms "latch means" and "cam means," however, do not invoke the means plus function provisions of the statute. The term "means" is used, but the language describes objects, a latch and a cam. A person of ordinary skill in the art would understand these two words to describe two specific mechanical devices. Further, the language describes specifically how these devices interact; the cam abuts a portion of the storage structure and, as the latch is pivoted from the locked to the unlocked position, the cam forces the cover member to release from the integrating means. Finally, the parties agreed in Claim 9, Part [7] that the phrase "latch means" did not invoke the means plus function provisions of the statute. *Joint Statement, Table V,* at 66-67. Therefore, the Court determines that the presumption is rebutted in this case, and the means plus function provisions of s. 112 para. 6 do not apply.

The Court, further, determines that the disputed language is not ambiguous (with the construction of the

terms "integrating means" and "catch means" as set forth above) and so no construction is otherwise required.

6. *Claim 14, Part [2]*

The sixth disputed claim language states:

said cover member being removably integratable into said storage structure to improve the structural integrity of the storage structure.

Joint Statement, Table X, at 72-73. The language is clear and does not need construction. The language describes a cover member that can be integrated into the grain bin structure. Sukup argues that the phrase must be interpreted under the means plus function method. The Court disagrees. The word "means" is not used so there is no presumption. The language also describes an object, a cover member. The means plus function analysis therefore does not apply.

7. *Claim 14, Part [3]*

The seventh disputed claim language states:

said latching apparatus comprising pin engaging bores formed on an abutting surface of said cover member;

Joint Statement, Table X, at 74. The language is clear and does not need construction. The language describes a latching apparatus that includes the bores that engage the pins to secure the cover member. Sukup argues that the phrase must be interpreted under the means plus function method. The Court disagrees. The word "means" is not used so there is no presumption. The language also describes a specific structure, the holes or bores on the cover member. The means plus function analysis therefore does not apply.

8. *Claim 14, Part [4]*

The eighth disputed claim language states:

pins attached to said storage structure for releasably engaging said bores,

Joint Statement, Table X, at 74-75. The language is clear and does not need construction. The language describes pins that engage the bores to secure the cover member. Sukup argues that the phrase must be interpreted under the means plus function method. The Court disagrees. The word "means" is not used so there is no presumption. The language also describes objects, pins that are part of a latching apparatus. The means plus function analysis therefore does not apply.

9. *Claim 14, Part [7]*

The ninth disputed claim language states:

said latch bar means being operationally attached to said pivot receptacle means for providing a mechanical advantage in closing said cover member over said access opening;

Joint Statement, Table X, at 76-78. At the hearing, GSI agreed that this term uses the means plus function format that invokes s. 112 para. 6. The means and function described are somewhat similar to the means and function described in Claim 1, Part [7] above, except that the language: (1) describes the *function of closing the cover member* instead of opening it, (2) specifically refers to the mechanical advantage created by the combination of the lever handle bar and the cam, and (3) does not include a reference to integrating means. The Court, therefore, will interpret this language in a manner similar to that part. *The Court, therefore, construes the disputed language to cover the following structure:*

A bar with a fastener attached to a pivot point on the cover member, which fastener has: (1) a handle bar that acts as a lever, and (2) a rotating piece that creates a mechanical advantage as it moves along the catch on the door frame to pull the cover member closed as the lever handle bar is moved from the unlocked to the locked position, and equivalents of that structure.

The Court rejects Sukup's argument for a more detailed description of the structure for the reasons set forth in the discussion of Claim 1, Part [7] above.

10. ***Claim 14, Part [8]***

The tenth disputed claim language states:

and latch protuberant means mounted on edge of said access opening for engaging said latch bar means when closing said cover member over said access opening and for retaining said cover member thereover;

Joint Statement, Table X, at 78-79. Although this is a close question, the Court applies the means plus function method of construction to this phrase. The word "means" is used and so creates a presumption that the means plus function method of construction applies. *The phrase describes the function of engaging the latch.* Accordingly, the Court concludes that the presumption is not overcome in this instance.

11-14. ***Claim 14, Parts [10]-[13]***

The eleventh through fourteenth disputed claim language sections are all consecutive parts of the same sentence. The Court addresses them all together. The language states:

said pins are each comprised of a threaded bolt passing through a hole in said storage structure and a pin member positioned around said bolt such that said pin member is tightly engaged with a portion of the inside surface of said storage structure; said pin member having a generally cylindrical body portion and an inwardly extending tapered nose portion; the diameter of said cylindrical body portion being only slightly less than the diameter of a respective one of said bores to provide a snug fit between said body portion and said respective one of said bores; and the diameter of said bolt being less than the diameter of said hole in said storage structure to help relieve said bolt from shear forces exerted between said storage structure and said cover member.

Joint Statement, Table X, at 80-83. The language is clear and does not need construction. The language describes how the pins or protuberances are attached to the storage structure, and the fact that they are only slightly smaller in diameter than the bores on the cover members to provide a snug fit. Sukup argues that the phrase must be interpreted under the means plus function method. The Court disagrees. The word "means" is not used so there is no presumption. The language also describes objects, pins. The means plus function analysis therefore does not apply.

B. *THE* 525 PATENT

The 525 Patent describes an improvement on a gas burner used to heat and dry grain. The improvement is a cone that diverts the flame and causes more efficient consumption of the fuel. The parties only dispute one term in the claims in this Patent. The disputed term states:

said diverter having a plurality of spaced openings therein for permitting of air moved by said blower to pass therethrough,

Joint Statement, Table Y, at 87. The language is clear and does not need construction. Sukup argues that the language should be construed to require triangular openings between the slots. Sukup argues that the openings in the drawings are triangular. This proposal would improperly import a limitation from the specifications into the claim. Furthermore, the openings in the detailed drawings are not triangular. They are closer to the shape of a trapezoid.

THEREFORE, the Court construes the disputed portions of the Claims in the Patents at issue in this action in the manner set forth above in this Opinion.

IT IS THEREFORE SO ORDERED.

C.D.Ill.,2006.
The GSI Group, Inc. v. Sukup Mfg. Co.