

IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

JOY MM DELAWARE INC. and	)	
JOY TECHNOLOGIES INC.	)	
	)	
Plaintiffs,	)	
	)	
v.	)	Civil Action No. 09-1415
	)	
CINCINNATI MINE MACHINERY CO.,	)	
	)	
Defendant.	)	

MEMORANDUM

Gary L. Lancaster,  
Chief Judge

October 8, 2010

This is an action in patent infringement. Plaintiffs, Joy MM Delaware Inc. and Joy Technologies Inc. (collectively, "Joy"), allege that defendant, Cincinnati Mine Machinery Co. ("CMM"), has infringed one of their patents. CMM denies these allegations, and also brings a counterclaim seeking a declaratory judgment of non-infringement and invalidity as to this patent. Below we set forth our claim construction rulings pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996).

I. FACTUAL BACKGROUND

The technology in this case relates to mining equipment. In particular, United States Patent Number 6,662,932 (the "'932 Patent") discloses a novel chain with flights in which

the point of contact between the chain and the sprocket is moved from the center of the chain to both sides of the chain. This improvement results in less wear and tear, less noise, and less slippage. Joy accuses CMM of infringing claim 2 of the '932 Patent by manufacturing its DA-3502 line of chains. CMM denies that its chains infringe Joy's patent, and also alleges that the '932 Patent is invalid for various reasons.

The court held a claim construction hearing on September 25, 2010. Counsel for both parties appeared, presented argument, and answered questions from the court. The court is prepared to issue its claim construction.

## II. LEGAL BACKGROUND

Patent claim construction is a matter of law for the court. Markman, 52 F.3d at 979. According to the Court of Appeals for the Federal Circuit, "[i]t is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Therefore, we must begin our claim construction analysis with the words of the claim. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996).

The words of the claim are generally given their ordinary and customary meaning unless the patentee gave a novel meaning to the term, or expressly relinquished claim scope during prosecution. Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325-26 (Fed. Cir. 2002); Vitronics, 90 F.3d at 1582. The ordinary and customary meaning of a claim term "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." Merck & Co., Inc. v. Teva Pharm. USA, Inc., 395 F.3d 1364, 1370 (Fed. Cir. 2005); Phillips, 415 F.3d at 1313. The person of ordinary skill in the art views the claim term in light of the entire intrinsic record. Thus, the claims "must be read in view of the specification", of which they are a part, and in view of the prosecution history.<sup>1</sup> Markman, 52 F.3d at 979; Phillips, 415 F.3d at 1315; Vitronics, 90 F.3d at 1582.

Claims should be interpreted consistently with the specification, which is the single best guide to determining the meaning of a claim term, because the specification provides context for the proper construction of the claims and explains the nature of the patentee's invention. See Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998). "The construction that stays true to the claim language and most

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<sup>1</sup> We note that counsel represented to the court during the claim construction hearing that the file wrapper of the '932 Patent contained no substantive prosecution history.

naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Young Dental Mfg. Co., Inc. v. Q3 Special Products, Inc., 112 F.3d 1137, 1142 (Fed. Cir. 1997).

A claim cannot be construed to encompass subject matter that is not taught, or enabled, by the specification. Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc., 450 F.3d 1350, 1355 (Fed. Cir. 2006). However, the Court of Appeals for the Federal Circuit has cautioned against limiting the scope of a claim to a preferred embodiment or specific examples disclosed in the specification. See e.g., Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1303 (Fed. Cir. 1997); Intervet America, Inc. v. Kee-Vet Laboratories, Inc., 887 F.2d 1050, 1053 (Fed. Cir. 1989) ("[L]imitations appearing in the specification will not be read into claims, and . . . interpreting what is meant by a word in a claim 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.'" ) (citation omitted). While the specification may describe very specific embodiments of the invention, we cannot confine the claims to those embodiments. Phillips, 415 F.3d at 1323.

While resort to dictionaries and treatises may be helpful, we may not consult them before the specification and prosecution history in order to define claim terms. Phillips, 415

F.3d at 1318-21; C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 862 (Fed. Cir. 2004). Such extrinsic evidence is less reliable than intrinsic evidence and poses the risk that it will be used to "change the meaning of claims in derogation of the 'indisputable public records consisting of the claims, the specification and the prosecution history,' thereby undermining the public notice function of patents." Phillips, 415 F.3d at 1319 (quoting Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1578 (Fed. Cir. 1995)).

### III. DISCUSSION

The parties have asked the court to construe the following disputed claim terms and phrases:

- (1) said conveyor chain and flight assembly
- (2) a first link assembly and a second link assembly
- (3) drive pins
- (4) spaced apart side plates
- (5) spaced apart openings
- (6) connected to
- (7) drive pin retaining means for retaining said drive pins in said side plates
- (8) said base

(9) swivel pin retaining means for retaining said swivel pin in said lug

(10) said two link assemblies

(11) a flight head

(12) two spaced apart indentations

(13) first flight securing means retaining said drive pin first ends in said first flight head so that said first flight head is spaced from its respective side plate

(14) second flight securing means retaining said drive pin second ends in said second flight head so that said second flight head is spaced from its respective side plate

(15) openings therein that form a bore

Although the parties have asked the court to construe 15 disputed claim phrases, their disputes fall into common categories that can be addressed in groups. Moreover, many of the disputes surrounding these 15 claim phrases can be resolved without extensive analysis. For instance, as to phrases 1, 8, and 10, CMM asserts that there is no antecedent basis, making the claim terms incapable of being construed. However, when read in context, the meaning of these phrases is readily ascertainable by those skilled in the art. Furthermore, the objections CMM makes under §112, ¶6 to phrases 7, 9, 13, and 14, have been largely resolved given the concessions that Joy has made regarding the proper construction of

these means-plus-function phrases. As to phrases 2, 6, and 11, there is either little discernable difference in the proposed constructions, or no need to construe those phrases.

While the remaining disputed phrases require more analysis, none are particularly difficult to construe in the context of this patent. Phrases 4, 5, 12, and 15 all relate to a common dispute involving the terms "spaced apart", "openings", "indentations", and "bore". Phrase 3, drive pins, simply raises a question regarding the breadth of the proper construction in relationship to other claim limitations.

A. Lack of Antecedent Basis

CMM contends that phrases 1, 8, and 10 lack an antecedent basis, making them indefinite. Thus, according to CMM, claim 2 is invalid. As to each phrase, we disagree with CMM, and will set forth the court's claim construction below.

The antecedent basis requirement is a rule of patent drafting. The requirement can be best demonstrated by example. For instance, where a claim refers to "the lever" but does not earlier recite the limitation of a lever, or refers to "said lever" but earlier recites two different levers, making it unclear which one is being referred to subsequently as "said" lever, there may be

indefiniteness. If a claim is indefinite then it could be deemed invalid.

However, according to The Manual of Patent Examining Procedure "...the failure to provide explicit antecedent basis for terms does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite." MPEP § 2173.05(e) (8th ed., Rev. 6, Sept. 2007). Claim definiteness is analyzed "not in a vacuum, but always in light of the teachings of the prior art." In re Moore, 439 F.2d 1232, 1235 (Fed. Cir. 1971). The analysis "focuses on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the rest of the specification." Union Pac. Res. Co. v. Chesapeake Energy Corp., 236 F.3d 684, 692 (Fed. Cir. 2001). An antecedent basis can be present by implication. Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1319 (Fed. Cir. 2005) (citing Slimfold Manufacturing Co. v. Kinkead Industries, Inc., 810 F.2d 1113, 1116 (Fed. Cir. 1987)).

We apply these rules and standards, and conclude that none of the below phrases are indefinite for failure to state an antecedent basis.



Phrase #1: said conveyor chain and flight assembly

Construction: a series of link assemblies, every other one of which is attached to flights.

Reasoning: CMM contends that the phrase "said conveyor chain and flight assembly" in the preamble of claim 2 lacks an antecedent basis, making claim 2 indefinite. According to CMM, the preamble of claim 2 previously refers only to "a chain and flight assembly" making the subsequent reference to "said conveyor chain and flight assembly" indefinite. We reject CMM's position and find that the scope of claim 2 is reasonably ascertainable to those skilled in the art.

Our analysis begins with a comparison of claim 1 and claim 2. Claim 1 claims a conveyor, which is comprised of three parts: (1) a pan; (2) a conveyor chain and flight assembly; and (3) a sprocket drive. After the preambles and following the word "including", the section of claim 1 that describes the second part of the conveyor (i.e., the "conveyor chain and flight assembly") is identical to the language of claim 2. The only difference prior to the word "including" is that claim 1 refers to an assembly "that travels over said pan" and claim 2 refers to an assembly that is "adapted to travel over a pan." It is a difference between actually conveying material (cl. 1) and being able to convey material (cl. 2). However, there is no difference in the structure

of the chain assemblies themselves. Rather, the '932 Patent describes only one chain and flight assembly. Therefore, the reference to "said conveyor chain and flight assembly" in the preamble of claim 2 does not make claim 2 indefinite.

Our consideration of the following evidence confirms this conclusion. The phrase "chain and flight assembly" appears in the '932 Patent 20 times. The phrase is preceded by the word "conveyor" 18 of those 20 times. The first time that the phrase "chain and flight assembly" is not modified by the word "conveyor", or any other word, it is followed by an explicit reference to item 18 of Figure 1, which item is otherwise identified consistently in the patent as the "conveyor chain and flight assembly." Col. 2, lns. 54-55. The second time that the phrase "chain and flight assembly" appears in the '932 Patent without being modified by the word "conveyor" is in the preamble of claim 2. This is the occurrence appearing immediately before "said conveyor chain and flight assembly," which CMM here contends lacks an antecedent basis.

However, we find that this occurrence does not create indefiniteness. One skilled in the art would understand that this "chain and flight assembly" refers to the only chain and flight assembly disclosed in the patent; that which is identified 19 out of 20 times, by word or figure, as the "conveyor chain and flight

assembly," and that which is followed six words later by the phrase "said conveyor chain and flight assembly". In context, there is no indefiniteness or uncertainty as to what the patentee is claiming by using the phrase "[a] chain and flight assembly adapted to travel over a pan, said conveyor chain and flight assembly including..." in the preamble of claim 2. An antecedent basis is present by implication by reference to the specification, figures, and claims.

Phrase #8: said base

Construction: The base of the female connecting lug

Reasoning: CMM contends that the phrase "said base", the second time it appears in claim 2 (col. 5, lns. 1-2), lacks an antecedent basis, making claim 2 indefinite. However, read in the context of claim 2's description of male lugs and female lugs, CMM's position is without support. We reproduce the relevant language of claim 2 below:

a male connecting lug having a base having a horizontal bore that receives one of said drive pins of said first link assembly, and a tongue connected to said base, and a female connecting lug having a base having a horizontal bore that receives one of said drive pins of said second link assembly, and a spaced apart upper lip and lower lip connected to said base

Cl. 2 at col. 4, lns. 61-67 and col. 5, lns. 1-2.

Claim 2 discloses, and distinguishes, two lugs: first, a male lug, which has a base with a tongue connected to it; and second, a female lug, which has a base with two lips connected to it. Looked at structurally, in the above quoted language the first occurrence of "said base" refers to the male lug, and the second occurrence of "said base" refers to the female lug. Moreover, the second occurrence of "said base" is immediately preceded by a reference to "a spaced apart upper lip and lower lip." The patent defines lips as parts of the female lug. Therefore, there is no indefiniteness to those skilled in the art.

Phrase #10: said two link assemblies

Construction: The first link assembly and the second link assembly.

Reasoning: CMM next contends that the phrase "said two link assemblies" (col. 4, ln. 59) lacks an antecedent basis, making claim 2 indefinite. Again, we reject CMM's objection and find no indefiniteness in the claim. According to CMM because claim 2 later refers to "said first and said second link assemblies" (col. 5, lns. 9-10 and col. 6, lns. 4-5), the earlier reference to "said two link assemblies" is inconsistent, making the entire claim indefinite. We agree with CMM on one

point; the usage described above is inconsistent. However, there is an explanation for the inconsistency. The explanation makes the claim clear, not indefinite.

When claim 2 refers to "said two link assemblies" it is describing how the swivel assembly connects each link assembly to the link assembly before it and after it: "[a] swivel assembly connecting said two link assemblies". Col. 4, ln. 59. Every first link assembly is attached to both of its neighboring second link assemblies by a swivel assembly. Every second link assembly is attached to both of its neighboring first link assemblies by a swivel assembly. In this context, there is no reason to differentiate between the first link assembly and the second link assembly; each and every link assembly is connected to each and every neighboring link assembly by way of swivel assembly.

By comparison, when the phrase "said first and said second link assemblies" appears later in claim 2 there is a need to differentiate between the first link assembly and the second link assembly. The phrase "said first and said second link assemblies" is preceded by the phrase "flight connected to." Thus, the entire phrase describes a flight being connected to a link assembly. Col. 5, lns. 9-10 and col. 6, lns. 4-5. We know from the specification of the '932 Patent, as well as its

claims, that only every other link assembly is connected to flights. Therefore, in this context, the patent is referring specifically to either all of the first link assemblies or all of the second link assemblies, but not both. As such, the first and the second link assemblies could not be referred to collectively as "said two link assemblies" because only one type of link assembly connects to flights. In contrast, in the earlier context, the first and second link assemblies could be referred to collectively because a swivel assembly connects all link assemblies to each other. Therefore, the inconsistency identified by CMM clarifies, rather than confuses, the meaning of the claim language.

#### B. Means-Plus-Function

Although the parties dispute the appropriate construction of phrases 7, 9, 13, and 14, they do not dispute that each of these phrases is drafted in means-plus-function form under 35 U.S.C. § 112, ¶ 6. At the claim construction hearing, the parties indicated that the only remaining disputes regarding these phrases involved disputed claim terms used within these phrases that would be otherwise construed by the court.

For purposes of clarity, we will set forth the apparently agreed upon claim constructions of these four phrases below. To the extent a construction appearing below does not reflect the parties' agreement, the court enters that construction as its independent claim construction ruling.

In construing a means-plus-function claim, we must first determine the claimed function and then identify the corresponding structure in the written description of the patent that performs that function. Applied Med. Res. Corp. v. U.S. Surgical Corp., 448 F.3d 1324, 1332 (Fed. Cir. 2006).

Phrase #7: drive pin retaining means for retaining said drive pins in said side plates

Construction:

Function: Retaining said drive pins in said side plates.

Structure: Welding and structures equivalent thereto.

Reasoning: The parties agree as to the function and structure of this claim phrase. The remaining dispute between the parties is as to the proper interpretation of the terms "drive pin" and "side plates". The court will construe those phrases below, which constructions will, by implication, be made a part of this phrase as well.

Phrase #9: swivel pin retaining means for retaining said swivel pin in said lug

Construction:

Function: Retaining said swivel pin in said lug.

Structure: A weld and structures equivalent thereto.

Reasoning: The parties now agree as to the function and structure of this claim phrase. There is no remaining dispute regarding this phrase.

Phrase #13: *first* flight securing means retaining said drive pin *first* ends in said *first* flight head so that said *first* flight head is spaced from its respective side plate

Phrase #14: *second* flight securing means retaining said drive pin *second* ends in said *second* flight head so that said *second* flight head is spaced from its respective side plate

Construction of Phrase #13:

Function: retaining said drive pin *first* ends in said *first* flight head so that said *first* flight head is not touching the side plate to which it is most closely attached via the drive pin.

Structure: press-fitted or welded, and structures equivalent thereto.



Construction of Phrase #14:

Function: retaining said drive pin second ends in said second flight head so that said second flight head is not touching the side plate to which it is most closely attached via the drive pin.

Structure: press-fitting or welding, and structures equivalent thereto.

Reasoning: We discuss these two phrases together because the only difference between phrases 13 and 14, as indicated by italicized text above, is the use of "first" in phrase 13 and "second" in phrase 14. Moreover, CMM raises several issues regarding the proper construction of these two phrases that are common to both.

First, CMM objects to Joy's proposed definition of the function and structure of these means-plus-function phrases. Specifically, as to the function, CMM objects to Joy's insertion of language that is not recited in the claim itself. On that point, Joy agrees that it is proper to use the language from the claim. All disputes regarding the proper meaning to assign to the structure of these phrases have been resolved. Therefore, there is no remaining dispute on this first point.

Second, CMM makes a lack of antecedent basis argument, as it did with respect to phrases 1, 8, and 10. Here,

CMM contends that the phrase "respective side plate" in both phrase 13 and phrase 14 is indefinite and unable to be construed. According to CMM, there is no way to determine what the word "respective" refers to. As we did above, we summarily reject CMM's position. The meaning of the word "respective" is clear when read in context.

In the '932 Patent, where a link assembly is connected to flights, a flight is attached to each side of the link by inserting the ends of the drive pin into the flight head. The patentee uses the words "first" and "second" to explain this structure: the first ends of the drive pin are inserted into the first flight head so that the first flight head is spaced from its respective side plate; and the second ends of the drive pin are inserted into the second flight head so that the second flight head is spaced from its respective side plate. If we replaced the patent term of art "first" with the more commonly used word "left" and the patent term of art "second" with the word "right" for purposes of demonstration, the structure would be described as: the left ends of the drive pin are inserted into the left flight head so that the left flight head is spaced from its respective side plate; the right ends of the drive pin are inserted into the right flight head so that the right flight head is spaced from its respective side

plate. In this later format, the meaning of the "respective side plate" is readily apparent. It is the plate found on the side of the link assembly which corresponds to either the left flight or the right flight to which it is being directly attached. The patentee's use of the patent terms of art "first" and "second" does not change the meaning. In context, there is no indefiniteness in the phrase "respective side plate".

Finally, the parties dispute the appropriate construction of the phrase "spaced from", which is found within the means-plus-function claim language of phrase 13 and phrase 14. A similar dispute arises in the context of disputed claim phrases 4, 5, and 12, which include the phrase "spaced apart", used in conjunction with either "side plates", "openings", or "indentations". We will discuss both "spaced apart" and "spaced from" together here, as there is no substantive difference between them.

We conclude that both phrases mean that the two relevant structures, areas, or surfaces cannot touch. Therefore, in the context of phrase 4, it means that the plates that form part of each link assembly cannot touch each other. In the context of phrase 5, it means that the openings in the side plates through which the drive pins pass cannot touch each other. In the context of phrase 12, it means that the

indentations in the flight head which receive the ends of the drive pin cannot touch each other. In the context of phrases 13 and 14, it means that the side plate cannot touch the corresponding flight head to which it is most closely attached via the drive pin.

There is no need to further define the phrases "spaced from" or "spaced apart" by importing additional structural or functional limitations from the patent claims into our claim construction. Without a doubt, the '932 Patent, explicitly and/or by implication, includes additional detail regarding the amount of space that is required in the context of any particular structure, area, or surface. However, whether the amount of space found in an accused device meets the limitations of the patent claims is a question to be answered during the second step of the patent infringement analysis. The phrases "spaced apart" and "spaced from" themselves do not require any additional clarification as a matter of claim construction at this time. They both indicate an area of separation.

C. Openings, Indentations and Bore

As an initial matter, to the extent any of the below phrases include the phrase "spaced apart", we direct the reader to our discussion immediately above. Here, we construe this group of claim phrases by focusing on the difference between openings and indentations. Specifically, the parties dispute whether openings and indentations can be used interchangeably. We find that they cannot be. Rather we find that in the '932 Patent, an opening is a hole through which something can pass, while an indentation is a recess or concave area into which something can be inserted, but not pass. It follows that a bore is an opening that has depth by virtue of either being cut through a thicker solid surface or several pieces of material with holes in them being aligned and stacked on top of one another. We reach our conclusion by reviewing the language of the '932 Patent itself.

Two specific openings are described in the patent: first, the two openings in the side plates which receive two different drive pins, col. 1, lns. 40-41, col. 2, lns. 57-60, cl. 1 at col. 4, lns. 6-7, and cl. 2 at col. 4, lns. 55-56; and second, the two openings in the female lug's lips and the one opening in the male lug's tongue that, when aligned, form a bore which receives the swivel pin, col. 1, lns. 53-57, col. 3, lns.

5-9, cl. 1 at col. 4, lns. 20-24, and cl. 2 at col. 5, lns. 2-6. In both contexts, the openings allow a pin to pass all the way through them in order to connect or anchor various structures to each other.

Only one indentation is described in the patent: the indentation in the flight heads that receives either the first ends or the second ends of the drive pins. Col. 1, lns. 60-62, Col. 1, ln. 67 to col. 2, ln. 2, col. 3, lns. 14-17 and 29-32, cl. 1 at col. 4, lns. 28-31 and 36-39, cl. 2 at col. 5, lns. 10-13 and col. 6, lns. 4-7. In this context, the indentations allow the ends of a pin to sit inside the flight head in order to connect the flight to the link assembly. If the drive pin were to pass all the way through the flight head, then the "ends" of the drive pin would no longer reside in the flight head, but outside of it.

As explained above, the term openings and the term indentation are used consistently throughout the '932 Patent. Based on these consistent usages, it is clear that an opening allows something to pass through it, while an indentation does not.

There is, however, the aberrant usage of the term "hole" twice in the patent. The term "hole" does not appear in either claim of the patent. However, it does appear twice in

the specification; both times in conjunction with the term "indentation". And both times the phrase describes how the drive pins connect to the flights: "...the [drive] pins are extended still further, to fit into the indentations or holes in the flights." Abstract, 4<sup>th</sup> sent., and col. 3, ln. 53.

When questioned at the claim construction hearing about this anomaly, Joy argued that the appearance of the phrase "indentations or holes" reflected that the terms "indentation" and "opening" were used interchangeably in the '932 Patent. Accordingly, Joy contended that the phrase "indentations or holes" further supported its proposed construction that would define indentation to include areas through which something could pass. Not surprisingly, CMM argued that the phrase "indentations or holes" indicated that indentations and holes were two different things; one indicating recessed areas and the other indicating areas through which something could pass.

Based on our review of the entire patent, including especially the claims, we agree with CMM. The term "indentation" is not interchangeable with the term "hole" in the '932 Patent. As summarized above, the term "indentation" is consistently used to indicate a recess, while the term "opening" is consistently used to refer to an area through which something can, and does, pass. As such, it is a more consistent reading

of the patent that in the phrase "indentations or holes" the term "holes" was used as a substitute, perhaps inadvertently, for the term opening, not as a synonym for the word indentation.

In summary, we find that "opening" indicates a hole through which something can pass, while "indentation" indicates a recessed or concaved area. We apply those definitions in the below claim constructions.

Phrase #5: spaced apart openings

Construction: holes, that do not touch, through which something can pass.

Reasoning: See discussion immediately above as to openings. See discussion at pages 19-20 as to "spaced apart".

Phrase #12: two spaced apart indentations

Construction: two recessed or concaved areas, that do not touch, into which something can be inserted, but through which it cannot pass.

Reasoning: See discussion immediately above as to indentations. See discussion at pages 19-20 as to "spaced apart".



Phrase #15: openings therein that form a bore

Construction: more than one aligned hole through which something can pass.

Reasoning: In this patent, the two openings in the female lug and the one opening in the male lug are aligned one on top of the other to create a hole that has depth. We reject CMM's suggestion that the bore must be cylindrical. However by virtue of the stacking of more than one hole, we find that the bore must have depth, whatever its shape.

D. Lack of Dispute or of Need to Construe

Phrase #2: a first link assembly and a second link assembly

Construction: a first assembled division or section of a chain and a second assembled division or section of a chain.

Reasoning: It is clear from the specification and claims of the '932 Patent, that the link assemblies are specific parts of the chain and flight assembly described in the patent. Each link assembly is comprised of at least the following parts: two drive pins, two side plates, and two swivel assemblies.

CMM's proposed construction is overly broad and vague by referring to the link assemblies as nothing more than "connecting structures". In the context of the '932 Patent, the

link assemblies are described more specifically. As such, Joy's proposed construction is more appropriate.

Phrase #4: spaced apart side plates

Construction: structures that form part of each link assembly that do not touch

Reasoning: CMM is correct that the '932 Patent does not indicate that the side plates "provide bearing and anchorage", as proposed by Joy. However, Joy is correct that the side plates are more than surfaces, but are instead specifically placed structural elements of the link assembly. As such, a construction that combines both parties' proposals is correct.

Phrase #6: connected to

Construction: attached to or connected to

Reasoning: There is little need to construe this term further.

Phrase #11: a flight head

Construction: The end of a flight

Reasoning: The dispute between the parties is whether the flight head must be defined as a projection at the end of a flight or simply the end of a flight. Although we can discern

little difference in the proposed constructions, and neither party has indicated the importance of any differences, we find no indication in the '932 Patent that the flight head must project from the flight. Rather, it is simply the section or area found at the end of the flight. We construe the term accordingly.

E. Other Phrases

Phrase #3: drive pins

Construction: A pin that is structured and positioned for driving purposes.

Reasoning: The dispute between the parties is whether to include in the construction of this claim term the requirement that the drive pins actually engage the sprockets. While this requirement may be included in other claim limitations, there is no indication in the patent itself that drive pins must actually engage the sprocket or lose their identity as drive pins. Instead, the adjective "drive" is used to distinguish these pins from swivel pins, which are structured and positioned to perform a different function.

IV. CONCLUSION

For the foregoing reasons, we adopt the preceding as our claim construction in this matter.

BY THE COURT,

 C.J.