

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

SYNTHES (U.S.A.),	:	
	:	
Plaintiff,	:	
	:	CIVIL ACTION
v.	:	
	:	NO. 98-2687
DEPUY ACE MEDICAL COMPANY	:	
COMPANY,	:	
Defendant.	:	

MEMORANDUM

BUCKWALTER, J.

November 29, 1999

Presently before the Court are the Defendant's Motion for Summary Judgment of Non-Infringement or Invalidity and the Plaintiff's Motion for Claim Construction and Summary Judgment of Infringement and Validity of Claims 4 and 14. For the reasons stated below, the Motions are denied.

I. FACTUAL BACKGROUND

Plaintiff Synthes (U.S.A.) ("Plaintiff" or "Synthes") is the sole owner of United States Patent No. 5,053,036, entitled "Point Contact Bone Compression Plate" ("the 36 Patent"), which was duly and legally issued by the United States Patent and Trademark Office ("USPTO") on October 1, 1991. Synthes accuses Defendant DePuy Ace Medical Company ("Defendant" or "DePuy") of infringing this patent in its manufacturing and selling of five different products. The 36 Patent is directed to bone compression plates used to stabilize and axially compress broken bones. Compression plates are usually constructed from biologically compatible materials such as titanium alloys, and are provided with screw holes to accept the bones screws

which attach the plate to the bone. The bone plate is positioned against the bone, spanning the fracture. Then, holes for the screws are pre-drilled into the bone. Finally, screws are inserted through the holes in the plate and are threaded into the bone, thereby coupling the plate to the bone.

Compression plates were known and used before the issue of the 36 Patent, but according to Synthes, these “prior art” bone plates suffered from certain problems. The main problem was that the plate remained in contact with the underlying bone over most, if not all, of the area of the lower surface of the plate. According to the 36 Patent’s inventors, this condition slowed the healing of bone and reduced the injured body’s ability to fight infection. These inventors determined that the problems of the prior art could be overcome by providing a reduced-contact compression plate having a lower surface shaped with cut-outs between the screw holes and a concave lower surface, so as to provide “studs” on its under surface. By providing the plate with studs to serve as bone contact elements, the amount of the bottom surface of the plate that comes into contact with the bone is reduced. This low-contact plate could also be provided with self-compressing screws which result in the bone fragments being axially moved or compressed together.

There are five different DePuy products that allegedly infringe the 36 Patent. The accused products (“Accused Products”) are:

- the 3.5 mm Active Compression Plate (“ACP”), also referred to as the Small Fragment ACP, part number 14660.
- the 4.5 mm Narrow ACP, also referred to as the Large Fragment System Narrow ACP, part number 14661.

- the 4.5 mm Broad ACP, also referred to as the Large Fragment System Broad ACP, part number 14662.
- the hip screw, also referred to as the Barrel Plate or TK2, a plate for use with a hip screw, part number(s) 8015 and/or 8115; and
- the Fibular Composite Plate (“FCP”), part number 8141-13.

In its current Motion , the Defendant asks the Court to grant summary judgment on the issue non-infringement or invalidity with regard to five claims of the 36 Patent. The Plaintiff opposes this Motion and requests summary judgment as to infringement on two of its claims under the 36 Patent.

II. LEGAL STANDARD

Summary judgment is appropriate only "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1575 (Fed. Cir. 1995) (*quoting* Fed.R.Civ.P. 56(c)). The evidence must be viewed in the light most favorable to the nonmoving party. *See SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1116 (Fed.Cir.1985) (in banc). Summary judgment may be granted in favor of a defendant on an ultimate issue of fact where the defendant carries its burden of "pointing out to the district court that there is an absence of evidence to support the nonmoving party's case." Celotex Corp. v. Catrett, 477 U.S. 317, 325 (1986).

The motion of an accused infringer for judgment on the ground of non-infringement of a patent may be granted where the patentee's proof is deficient in meeting an essential part of the legal standard for infringement. *See Johnston v. IVAC Corp.*, 885 F.2d

1574, 1577 (Fed. Cir. 1989). To establish infringement of a patent, every limitation set forth in a claim must be found in an accused product or process exactly or by a substantial equivalent. See Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1259 (Fed.Cir.1989); Julien v. Zeringue, 864 F.2d 1569, 1571, 9 USPQ2d, 1552, 1553 (Fed.Cir.1989). Therefore, if DePuy demonstrates to the Court's satisfaction that a reasonable jury could not find that the Accused Products contain every limitation set forth in the claims of the 36 Patent, summary judgment could be granted in its favor.

A finding of patent infringement requires that the patent claim cover the alleged infringer's product or process, which in turn necessitates determination of what words in the claim mean. See Marksman v. Westview Instruments, Inc., 517 U.S. 370 (1996). Therefore, literal patent infringement analysis involves two steps: proper construction of the asserted claim and then a determination as to whether the accused method of product infringes the asserted claim as properly construed. See Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1581 (Fed. Cir. 1996). The construction of a patent, including terms of art within a claim, are exclusively within the province of the court. Marksman. 517 U.S. at 387. (emphasizing the need for uniform construction of terms within patent claims).

In determining the proper construction of a claim, the court has numerous sources that it may properly utilize for guidance, including both intrinsic evidence (e.g., the patent specification and file history) and extrinsic evidence (e.g., expert testimony). Vitronics, 90 F.3d at 1581-82. It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history. See Marksman v. Westview Instruments, Inc., 52 F.3d

967, 979 (Fed. Cir. 1995). Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.

The Court must first look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention. See Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 620 (Fed.Cir.1995). A technical term used in a patent document is interpreted as having the meaning that it would be given by persons experienced in the field of the invention, unless it is apparent from the patent and the prosecution history that the inventor used the term with a different meaning. Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1578 (Fed.Cir.1996). Second, it is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication. Marksman, 52 F.3d at 979. As the Federal Circuit has stated, "[c]laims must be read in view of the specification, of which they are a part". Id. The specification contains a written description of the invention which must be clear and complete enough to enable those of ordinary skill in the art to make and use it. Thus, the specification is always highly relevant to the claim construction analysis. Vitronics, 90 F.3d at 1582. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term. Id.

Third, the court may also consider the prosecution history of the patent. Marksman, 52 F.3d at 980; Graham v. John Deere, 383 U.S. 1, 33 (1966). This history contains the complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims. As such, the

record before the Patent and Trademark Office is often of critical significance in determining the meaning of the claims. See Marksman, 52 F.3d at 980.; Southwall Tech., 54 F.3d at 1576 ("The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution."). Included within an analysis of the file history may be an examination of the prior art cited therein. Autogiro Co. of America v. United States, 181 Ct.Cl. 55, 384 F.2d 391, 399, (1967).

III. DISCUSSION

Accordingly, the Court must properly construe the claims that Synthes asserts are infringed by DePuy's accused products. DePuy essentially argues that the accused products do not contain the type of "screw holes" or "studs" as taught by the 36 Patent. If this is the case, then its products would not contain every limitation of the 36 Patent, and summary judgment could be granted for DePuy. Therefore, the Court must determine what is meant by "screw holes" and "studs" and "self-compressing" screw hole in the 36 Patent. In both cases, Synthes argues in favor of a broad construction of the terms, whereas DePuy counters that the Court should narrowly construe the terms.

1. Term Construction

a. Definition of Screw Holes

DePuy argues that the "plurality of screw holes" limitation of the 36 Patent can only mean "those holes that are capable of fixing or locking the head of a corresponding screw into the bone plate". Therefore, a plurality of such screw holes must mean more than one of these screws.

In the actual claims of the 36 Patent, the screw holes are defined as being “conical and transverse said plate between said upper and lower surfaces such that the narrow end of the cone is towards the lower surface and said holes adapted to receive screws having conical heads of a predetermined cone angle, such that the plate will not slide down the heads of the screws.” (Claim 2). Claim 9 describes a plurality of bone screws for attaching the plate of Claim 7 to the bone, and screw holes capable of receiving such screws. Finally, Claim 13 adds a bone plate assembly according to #9 wherein said screws are of a length that permits engagement of the screw with only one side of the bone cortex. The Court can find no distinct meaning of the “plurality of screw holes” limitation from the language of the claims alone.

Since the claims themselves do not give a complete answer to the term “plurality of screw holes”, the Court must now look to the written specifications of the 36 Patent. Synthes uses the terms “screw holes” in different ways throughout the specification. For example, it uses that term to describe prior art screw holes (Pl. Mem. in Opp., Ex. A, 36 Patent 3:40)¹. When discussing the proposed reduced contact plate, Synthes uses “screw holes” to define both locking screw holes and self compressing screw holes. See (Pl. Mem. in Opp., Ex. C, Burstein Dep. Tr. 124:12-20) (Def. expert stated that he did not know of and could not imagine a compressing screw hole that is also a locking screw hole.) The varied use of the term throughout the specification suggests a broad definition of screw hole consistent with a meaning that encompasses all types of openings through which screws can be passed to attach the plate to the bone. See Johnson v. Worldwide Assoc., Inc. v. Zebco Corp., 175 F.3d 985, 991 (Fed. Cir.

1. References to the patent specifications are listed in the format of column and then line number. For example, 3:40-45 means Column 3, lines 40-45 of the patent specifications. Within the patent specifications are included the “Claims” of the patent as well as the “embodiments” of the patented technology.

1999) (Varied use of a disputed term in the written description demonstrates the breadth of the term rather than providing a limited definition).

The Defendant argues that it is only through the use of locking screw holes that the Synthes can accomplish its goal of reducing contact between the plate and bone. Synthes does in fact describe a locking screw hole as one manner by which contact can be reduced because it allows the use of short screws that only reach the front cortex of the bone. (Pl. Mem., Ex. A, 3:5-35). However, this is not the only embodiment of the invention that Synthes claims will achieve reduced contact. Alternative methods include the use of a long screw with a spherical or conical insert, and the use of self-compressing screw holes. (Pl. Mem., Ex. A, 3:59-4:15).

The prosecution history of the patent also favors a broad definition of the plurality of screw holes limitation. Synthes points out that during prosecution of the 36 Patent, the examiners rejected several claims related to the plurality of screw holes limitation as being anticipated by earlier patents. Pl. Mem., Ex. D, page 2. (Treace and Kummer patents disclose plurality of screw holes). The Kummer patent discloses a plurality of ‘conventional metallic bone’ screws that secure the bone plate to the bone. Pl. Mem., Ex. E, 3:10-15. This Court agrees with Synthes’s position that examiner did not view the “plurality of bone screws” as referring only to the locking screw holes, an interpretation that DePuy encourages.

The Court concludes that a “plurality of screw holes” as disclosed in the 36 Patent is entitled to a broad interpretation, a meaning that encompasses all types of openings through which screws can be passed to attach a plate to the bone . In Claim 2, the screw holes are further defined as to be locking and conical. In Claim 4, at least one screw hole has the additional

limitation of being self-compressing. Therefore, the Court can not accept a definition of screws holes that refers only to locking screws.

b. Definition of “Studs”:

The Defendants request that the Court construe studs as “ a structure projecting from the undersurface of the plate at the side edge for contact between the plate and bone, such that the area of this contact is reduced to the minimum practicable, and in any case not more than 5% of the total area of the lower surface of the plate”. (Def. Mem. at 14). DePuy argues that there is no evidence establishing that any of its Accused Products contain such a limitation or a substantial equivalent thereof, so that it is entitled to summary judgment. Synthes, on the other hand, argues that “studs” means the portion of the lower surface of the plate which provide the reduced contact areas after the plate is screwed down. The term has no requirement that the stud be pointed or that it provide the minimal practicable area of contact with the bone.

Once again, the Court must first look to the claims of the 36 Patent. Studs are mentioned in Claim 1 as the open sections with the concave lower surface of the plate which provide for contact with the bone. The Plaintiff summarizes this description of studs as being downwardly-descending portions of the lower surface of the plate which provide the bone contact areas when in use. Claim 5, dependent on Claim 1, adds the additional limitation of the contact elements (studs) being less than 5% of the lower surface of the plates. A term from an independent claim can not be read differently than that term is read in a dependent claim, unless the dependent term also includes further limitations. In this instance, it would be illogical for Synthes to add this further limitation to the definition of studs in Claim 5 if the term already included a 5% or “minimum practicable” limitation (as defined in Claim 1).

The prosecution history also supports Synthes' interpretation of Studs. The patent examiner rejected earlier versions of Synthes' claims based on the Kummer patent. The examiner considered what Kummer calls 'washers and spacers' to be resorbable studs. These "studs" have large, flat areas of contact with the bone, and certainly not the "minimum practicable" area of contact. It seems probable, then, that the examiner understood studs to be a broader term than does DePuy. Therefore, because the claims of the 36 Patent and its prosecution history favor an interpretation more consistent with that offered by Synthes, studs will be construed as meaning projections that do not mandatorily have the minimum practicable or less than 5% limitation.

c. Definition of Self-Compressing Screw Hole:

Only Claim 4 of the 36 Patent includes a self-compressing screw hole. Defendant argues that this limitation includes only the type of self-compressing screw hole found in U.S. Patent No. Re. 31,628 (Def. Mem., Ex. 4, Re. 31,628 patent) (the "628 Patent"). This type of screw is defined in the 31,628 patent as a screw hole "formed with a slot which is elongated in the direction of the longitudinal axis of the plate so that the plate will be shifted relatively along this axis when the threaded securing screw is inserted there through and into the bone part". (Def. Mem., Ex. 4, 628 Patent, 1:59-68). Since Claim 4 merely refers to a self-compressing screw hole without further elaboration, the specification must be examined. In the specification of the 36 Patent, Synthes refers to the self-compressing screw hole as the type found in the 628 Patent. During the prosecution of the 36 Patent, the examiner at first rejected the self-compressing screw as "indefinite". (Def. Mem., Ex. 6, Examiner's Response at 2). In response, Synthes transversed the objection by mentioning that the screw refers to the type disclosed in the

disclosure of the 628 Patent. Synthes states clearly that the claim should be read in light of that specification. In other words, Synthes specifically defined a term within one of its claims by adopting a definition found in the 628 Patent's specification. Since a patentee may not proffer an interpretation for the purposes of litigation that would alter the public record, the Court construes self-compressing hole in the manner encouraged by DePuy. See Southwall Techs, 54 F.3d at 1578.

On the other hand, it is not clear that Claim 4 must include "one and only one" self compressing hole. Since the claim is unclear, the Court looks to the specification of the 36 Patent. That specification contemplates the use of one or more self compressing screw holes of the type described in Patent No. 31,628. (36 Patent, 4:13-15). This same specification helps to define the term "self compressing screw hole" and can also be used to determine the number of holes claimed. Reading this specification, the Court concludes that Claim 4 is not limited to just one self compressing screw hole.

2. **Comparison to the Accused Products:**

In order to grant summary judgment for the Defendant DePuy, the Court must find that no reasonable jury could find that the Accused Products infringe upon Synthes' 36 patent in light of the definition of terms described above. Therefore, we now look to see whether it is beyond dispute that DePuy's products do not infringe on Synthes' 36 Patent.

DePuy argues that it does not infringe any of the asserted claims of the 36 Patent because 1) the features of the undersurface of the accused plates which make reduced, interrupted line contact with the bone, are not the claimed "studs" and 2) the accused plates do not have the

screw holes required by the claims. DePuy also argues that Claim 4 is not infringed because the accused plates do not have the self-compressing hole recited in that claim.

a. Studs: Since this term is not limited to projections having “minimum practicable” contact with the bone, a jury could believe that the cut outs between the screw holes in the accused DePuy products are literally, or the substantial equivalent of, the “studs” found in the 36 Patent. Dr. Burstein, DePuy’s expert, admits that the Accused Products make interrupted line contact and that the cut outs between screw holes result in reduced bone contact. The question of infringement here is one for the jury.

b. Screw Holes: Under the broad definition of this term that the Court has accepted, the Court can not conclude beyond doubt that DePuy’s Accused Products do not contain this limitation. In fact, DePuy’s technical expert admits that under a broad definition of screw hole, DePuy’s products would meet the “plurality of screw hole limitation” (although he consistently refers to the openings as ‘slots’ instead of ‘screws’) (Pl. Mem., Ex. C, page 161).

c. Self-Compressing Screw Hole: The Court has adopted the narrower definition of the term that DePuy urged. However, even when accepting this definition, Synthes presents significant evidence of infringement under both the literal test and the doctrine of equivalents. Summary determination in DePuy’s favor is therefore inappropriate.

3. Anticipation by the Sherman Patent

In order to demonstrate anticipation of the claims that have allegedly been infringed, the alleged infringer must show, by clear and convincing evidence, that each and every element of a patent claim is disclosed within a single prior art reference. See Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc., 34 F.3d 1048, 1052 (Fed. Cir. 1994). DePuy argues that since

the Court has adopted the broader definitions of studs and screws that Synthes encouraged, the claims of the 36 Patent that DePuy has allegedly infringed were previously anticipated by U.S. Patent No. 1,105,105 (the “Sherman Patent”). Synthes concedes that there are elements of the 36 Patent that are taught by the Sherman Patent. However, it argues that the following claim limitations are not taught by the Sherman Patent.

- 1) Studs,
- 2) open sections/arcuate cut out sections,
- 3) that the open/arcuate cut out sections be between the screw holes,
- 4) the requirement that the “intersection of surfaces formed by said cut out sections and the concave lower surfaced of the plate form the studs, and .
- 5) contact elements less than 5% of the total area of the lower surface of the plate.

(Pl. Mem. at 28). Numbers 1-3 above apply to all asserted claims. If the Court concludes that one of these limitation is not clearly disclosed by the Sherman Patent, then summary judgment in Defendant’s favor based on anticipation would be inappropriate. While DePuy offers some evidence of Synthes’ claim limitations being anticipated by the Sherman Patent, this evidence does not qualify as “clear and convincing”. Accordingly, summary judgment for DePuy is denied.

4. Summary Judgment for Synthes:

Synthes moves for summary judgment of infringement and validity of Claims 4 and 14 of the 36 Patent. Claim 4 of the 36 Patent is dependent on independent Claim 1. This means that Claim 4 encompasses all the limitations of Claim 1, but also adds a new limitation, specifically the “self-compressing screw hole”. The Court has interpreted this limitation from

Claim 4 as the “type of screw hole found in the 31,628 Patent”. Synthes argument for literal infringement depends on a broader interpretation of the “self compressing screw hole”. Synthes infringement claim now depends on the doctrine of equivalents. Since there are definitely factual disputes concerning infringement of this claim, summary judgment will be denied.

Claim 14 involves two new disputed claim limitations; arcuate-cut out sections and the intersection of surfaces formed by said cut out sections and the concave lower surface of the plate. Synthes interprets “arcuate cut out sections” as features on the lower surface of the plate “resulting from arched concavities shaped into that lower surface and that the surfaces must cross or pass through one another”. Assuming the Court were to adopt these requested constructions, summary judgment could not be granted. DePuy presents evidence that Synthes claims have been anticipated and/or were obvious in light of the prior art. To determine anticipation and obviousness are fact-intensive inquiries that are currently subject to dispute. Therefore, the Court denies summary judgment to Synthes.

IV. CONCLUSION

To summarize, the Court denies summary judgment to both parties. It has accepted broad definitions of “studs” and “screw holes” and a narrow definition of self-compressing screw hole in its denial of summary judgment to Defendant DePuy. However, there are factual disputes as to the question of infringement by DePuy and summary judgment is likewise denied to Synthes.

An appropriate order follows.

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

SYNTHESES (U.S.A.),	:	
	:	
Plaintiff,	:	
	:	CIVIL ACTION
v.	:	
	:	NO. 98-2687
DEPUY ACE MEDICAL COMPANY	:	
COMPANY,	:	
Defendant.	:	

ORDER

AND NOW, this 29th day of November, 1999, upon consideration of Defendant's Motion for Summary Judgment as to Non-infringement and Invalidity (Docket No. 18), Plaintiffs' Response thereto (Docket No. 24), as well as Plaintiffs' Motion for Summary Judgment as to Infringement and Validity of Claims 4 and 14 (Docket No. 20) and Defendant's Response thereto (Docket No. 25); it is hereby **ORDERED** that both Motions are **DENIED**.

BY THE COURT:

RONALD L. BUCKWALTER, J.