

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT SCHAVAN
and
ROBERT FRIGG

Appeal No. 97-0935
Application 08/340,905¹

HEARD: June 8, 1999

Before ABRAMS, FRANKFORT and PATE, Administrative Patent
Judges.

¹ Application for patent filed November 15, 1994.

Appeal No. 97-0935
Application 08/340,905

PATE, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the examiner's refusal to allow claims 2 through 10 and 14 as amended after final rejection. These are the only claims remaining in the application.

The claimed invention is a plate and screw assembly for orthopedic repair and bone surgery. The screw portion of the assembly is characterized by a shaft having threads thereon. The forward portion of the shaft has a tip "shaped as a drill." A further understanding of the claimed subject matter can be had by reference to the appealed claims appended to the appellants' Brief.

The references of record relied upon as evidence of obviousness are:

Collison	2,494,229	Jan. 10, 1950
McHarrie et al. (McHarrie)	4,360,012	Nov. 23, 1982
Gustilo	4,463,753	Aug. 7, 1984
Stednitz	4,537,185	Aug. 27, 1985
Wagenknecht	4,978,350	Dec. 18, 1990
Borzzone	5,242,447	Sept. 7, 1993

Appeal No. 97-0935
Application 08/340,905

THE REJECTIONS

The Examiner's Answer is equivocal with respect to the rejections on appeal. While page 3 of the Examiner's Answer only includes the rejection of claims 2 through 5, 8, 9 and 14 under

35 U.S.C. § 102, the Examiner's Answer lists all references in paragraph 9 of the Answer that were relied upon in the Final Rejection. Furthermore, the examiner in the second paragraph on page 4 of the Answer discusses these references and responds to appellants' arguments with respect thereto. Since the Answer does not specifically state that the rejections made in the Final Rejection have been withdrawn, and the examiner includes the references in the Answer and discusses the same, for the sake of completeness, we will consider all rejections made in the Final Rejection as the appellants have done in the Brief. Our intention to do so was conveyed to the appellants' representative at Oral Hearing.

The examiner has withdrawn all standing 35 U.S.C.

Appeal No. 97-0935
Application 08/340,905

§ 112, second paragraph, rejections, save the rejection of claim 8. See the Advisory Action (Paper No. 6). With respect to claim 8, the examiner states that it is not clear what "the part" refers to in the claim.

The examiner has rejected claims 14, 2 through 5, 8 and 9 under 35 U.S.C. § 102(b) as anticipated by Collison.

The examiner has rejected claims 6 and 7 under 35 U.S.C. § 103 as unpatentable over Collison. According to the examiner, Collison discloses all of the elements of claims 6

and 7 but does not disclose the specific length of the drill part. According to the examiner, it would have been obvious to make the drill part 3 to 18 millimeters long or, more particularly, 4 to 12 millimeters long, as a matter of design choice, in order to provide screws for different size bones.

The examiner has rejected claim 10 under 35 U.S.C. § 103 as unpatentable over Collison in view of Gustilo. According to the examiner, Collison fails to disclose the indentation in the head being a hexagonal socket. Gustilo is

Appeal No. 97-0935
Application 08/340,905

cited to show a bone fixation device having a shaft with a head 11 and a tip 2. The head has a central indentation 8 which is a hexagonal socket for admitting an instrument or tool to screw the device into a bone. Therefore, the examiner is of the opinion that it would have been obvious to provide the screw of Collison with a hexagonal socket as taught by Gustilo.

OPINION

We have carefully reviewed the rejections on appeal in light of the arguments of the appellants and the examiner. As a result of this review, we have determined that the applied prior art provides evidence sufficient to establish the unpatentability of claims 14, 3, and 6 through 10. The prior art does not establish the unpatentability of claims 2, 4 and 5. Furthermore, with respect to the rejection of claim 8 under 35 U.S.C. § 112, we are in agreement with the appellants that the metes and bounds of the claim can readily be determined.

Appeal No. 97-0935
Application 08/340,905

Therefore, we will reverse the rejection of claim 8. Our reasons follow.

Turning first to the 35 U.S.C. § 112 rejection with respect to claim 8, we are in agreement with the appellants that the term "the part of the shaft adjacent the tip" in claim 8 can readily be seen as referring to "a part of the shaft adjacent the tip" in independent claim 14. As such, the meaning of claim 8 is clear in this regard, and one of ordinary skill would have no trouble determining the metes and bounds of dependent claim 8. Accordingly, the rejection of this claim under 35 U.S.C. § 112, second paragraph, is reversed.

Anticipation is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of the claimed invention (In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994)). It does not require either the inventive concept of the claimed subject matter or recognition of inherent properties that may be possessed by the reference (Verdegaal Bros. Inc. v.

Appeal No. 97-0935
Application 08/340,905

Union Oil Co., 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987)), or that the reference teach what the applicant is claiming, but only that the claim on appeal "reads on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference (Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984)).

Claim 14 stands rejected as being anticipated by Collison. Collison discloses a bone plate assembly comprising a bone plate 3 having screw holes 4 therein. The bone fixation device or screw is used to connect the bone plate to the bone. The screw of Collison has a shaft with a head, the head having a cruciate profile for contact with a driving tool. The shaft of the screw has an upper portion with threads 13 thereon and a frustoconical portion that narrows down into a cylindrical pilot portion that extends from the threads 13 to the tip of the screw. This pilot portion has

very shallow threads (col. 4, line 6). The shaft also has a pointed tip and a conical portion that extends from the point back to the cylindrical pilot portion. Formed in the cylindrical pilot portion are two recesses or pockets 16 for the collection of bone chips. Giving claim 14 its

broadest reasonable interpretation,² we construe the term "shaped as a drill" as being broader than claim terminology that requires the structure to be a drill or to function as a drill. In our view, the terminology "shaped as a drill" should be construed to require structure that in shape has some characteristics similar to that of a drill. The pilot portion of Collison, which is somewhat long and cylindrical, has fine threads on the outside and has two chip collecting recesses or pockets 16, and, in our view, satisfies the claim limitation of being shaped as a drill. We must emphasize that the language of the claim does not state that this part of the

² In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Claims in prosecution before the Patent and Trademark Office are given their broadest reasonable interpretation.

Appeal No. 97-0935
Application 08/340,905

shaft adjacent the tip portion is a drill or functions like a drill but merely says that it is shaped as a drill or, as we interpret it, has some characteristics that a drill has.

We have carefully reviewed appellants' arguments in the Brief, but these arguments seem to be directed to the fact that the part of the shaft adjacent the tip does not perform a drilling function. In our view, however, the claim limitation is broader than requiring this part of the shaft to perform a drilling function. Appellants argue that this portion of the shaft in Collison performs as a tap. Even if this is true, the tap portion of the shaft of Collison resembles or has the appearance of a drill, i.e., with a cylindrical structure with chip cutouts and tapering on the front end via a conical section to a pointed tip. Therefore, the arguments in the Brief directed to the tap function of this part of the Collison screw are not convincing. With respect to claims 2, 4 and 5, these dependent claims are actually directed to drill structure or a structure that has some actual drill function. With respect to claim 4, Collison does not show a cutout or spiral flute as on a spiral drill. Nor does Collison show a

Appeal No. 97-0935
Application 08/340,905

structure that can be regarded as shaped as a double lipped drill. Finally, with respect to claim 2, Collison does not show a structure that is shaped as a drill that is both self-drilling and self-cutting. Therefore, the rejection of claims 2, 4 and 5 under 35 U.S.C. § 102 is not sustained.

With respect to claim 3, we are in agreement with the examiner that the slightly threaded pilot portion has a minor diameter which is of smaller diameter than the root portion of the screw threads 13 of Collison. Therefore, in this respect, it can be seen that Collison anticipates the claimed subject matter of dependent claim 3.

With respect to claims 6 and 7 rejected under 35 U.S.C. § 103, Collison clearly recognizes that screws of his invention will be made of various lengths. In column 4 starting at line 47, Collison discusses the need for longer screws to go through both cortices of the bone when surgically necessary. In view of this teaching of Collison, it is self-evident that the art has recognized that bone screws of various lengths are necessary and that the cortices of bones are of variable thicknesses necessitating the screw

Appeal No. 97-0935
Application 08/340,905

portion and the pilot portion of Collison's screws to be various lengths depending on their use. Therefore, we are in agreement with the examiner that Collison provides evidence of a recognition in the art that the exact length of the screw portion and pilot portion of the bone fixing screw would have been obvious as a design choice entirely dependent on the exact bone environment of use.

With respect to claim 8, we note that Collison discloses a ground relief on threads 13 so that they will enter the bone more easily. See column 4, line 28. This ground relief of Collison anticipates the limitation of claim 8.

Finally, with respect to claims 9 and 10, we are in agreement with the examiner that it would have been obvious to substitute the hexagonal socket of Gustilo for the cruciate driving surface found in the head of Collison. Both driving profiles are well known in the art and are well known substitutes one for the other.

Appeal No. 97-0935
Application 08/340,905

SUMMARY

The rejections of claims 14, 3 and 6 through 10 have been affirmed. The rejections of claims 2, 4 and 5 have been reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

	NEAL E. ABRAMS)	
	Administrative Patent Judge)	
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)	BOARD OF
PATENT)	
	CHARLES E. FRANKFORT)	APPEALS AND
	Administrative Patent Judge)	
INTERFERENCES)	
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	WILLIAM F. PATE, III)	
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WFP:psb

Appeal No. 97-0935
Application 08/340,905

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