

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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

Appeal No. 1999-0641
Application No. 08/536,654

ON BRIEF

Before CALVERT, NASE, and BAHR, Administrative Patent Judges.

BAHR, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 and 3, which are all of the claims pending in this application. An amendment (Paper No. 9) to claim 1 filed March 12, 1998, after the final rejection, has been entered.

BACKGROUND

The appellant's invention relates to a flexible joint for rotating members (specification, page 1). An understanding of the invention can be derived from a reading of exemplary claim 1, which appears in the appendix to the appellant's brief.

The prior art reference of record relied upon by the examiner in rejecting the appealed claims is:

Naitou¹

JP 60-65909

Apr. 15, 1985

The following rejection is before us for review.²

Claims 1 and 3 stand rejected under 35 U.S.C. § 103 as unpatentable over Naitou.

Reference is made to the brief (Paper No. 13) and the answer (Paper No. 14) for the respective positions of the appellant and the examiner with regard to the merits of this rejection.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims,³ to the applied prior art reference, and to the respective

¹ A translation of this reference, prepared by the Patent and Trademark Office, is appended to this decision.

² According to the examiner (advisory action, Paper No. 10), the rejection under 35 U.S.C. § 112, second paragraph, set forth in the final rejection was overcome by the amendment filed March 12, 1998.

³ We note that "said hub means" (emphasis added) in the last line of claim 3 lacks clear antecedent basis and probably should be "said hub," in light of the amendments to claim 1. Although this informality does not render the scope of the claim indefinite, it is deserving of correction in the event of further prosecution before the examiner.

positions articulated by the appellant and the examiner. For the reasons which follow, we cannot sustain the examiner's rejection.

Independent claim 1 requires, inter alia, a hub "rigidly" connected to a proximal end of a first rotating member at a first end of the hub and a proximal end of a second rotating member disposed in an opening defined in a second end of the hub, the second rotating member being moveable within the opening such that a distal end of the second rotating member may move both axially with respect to the first rotating member and radially away from a major axis of the first rotating member. Further, claim 1 requires a pin fixedly attached to and extending through the second rotating member and engaging slots axially defined in opposing sides of the hub, with the distal end of the second rotating member being rotatable in a first plane about the central axis of the pin and in a second plane.

Naitou discloses a detachable universal joint comprising a hub (joint body 1) having an opening (through hole 2) extending axially therethrough and a fixed pin (9) fastened to holes (4) in the walls of the hub which hooks to an open end through groove (8) on the end of a first rotating driven shaft (7). A second rotating driving shaft (5) having a pin (6) fastened therein is received in the other end of the opening in the hub, with the pin being received in a pair of grooves (3) in the walls of the hub. A global projection (R_1), which functions as a universal joint, is formed on the side of the hub opening (2) adjacent the driven shaft (7) and, in the same manner, a global projection (R_2), also performing the function of a universal joint, is pressed in

adjacent the driving shaft (5) (translation, page 5, lines 3-6, and the sentence bridging pages 5 and 6). Additionally, a spring (10) is disposed inside the hub to bias the hub, and hence the fixed pin (9) and driven shaft (7), to the right as shown in Figures 1 and 2, to apply a coupling force. In order to release the coupling of the driven shaft (7) to the hub (body 1), the hub is pushed toward the driving shaft (5) away from the driven shaft (7). It is clear from the Naitou title ("Simple Type Detachable Universal Joint") and disclosure that this detachable feature is one of the objectives of Naitou's invention (translation, page 3, lines 1-14, and page 6, lines 6-12).

The examiner implicitly concedes that Naitou lacks the hub (body 1) being "rigidly connected" to the first rotating member (driven shaft 7), but takes the position that

[r]igidly connecting the hub 1 to the rotating member 7 would prevent removal of the rotating member from the hub and thereby ensure that torque is transmitted through the coupling. It would have been obvious for one of ordinary skill at the time the invention was made to rigidly connect the rotating member to the hub of Naitou so [*sic*: as] to ensure that torque is transmitted through the coupling and prevent removal of the rotating member from the hub [answer, page 4].

The appellant (brief, page 4) argues that the modification proposed by the examiner would destroy two important features of Naitou's invention, the detachable feature and the ability of the shaft (7) to move with respect to the body (1) as provided by the rounded corners (R₁). We agree with the appellant. As discussed above, the Naitou disclosure emphasizes repeatedly the importance of the shaft (7) being detachable from the body (1). Additionally, the

reference to the global projection (R_1) functioning as a universal joint makes it clear that angular freedom of movement is provided at the connection between the shaft (7) and the body (1). To provide a "rigid" connection of the shaft (7) to the body (1) as proposed by the examiner would destroy both of these important features of Naitou's invention, thereby making it unsatisfactory for its intended purpose. Accordingly, we are of the opinion that such a modification would not have been obvious from the applied prior art.⁴

For the above reasons, we cannot sustain the examiner's 35 U.S.C. § 103 rejection of claim 1, or claim 3 which depends therefrom, on the basis of the reasoning expressed by the examiner.

However, having carefully considered the appellant's disclosure, the disclosure of Naitou and the scope of claim 1, we have determined that Naitou anticipates claim 1. Therefore, pursuant to 37 CFR § 1.196(b), we enter the following new ground of rejection of claim 1.

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Naitou.

As discussed above, Naitou discloses a hub (body 1) having an opening (through hole 2) at the left end thereof, a "second" rotating member (driving shaft 5) disposed in the opening, a pin (6) fixed perpendicularly to the driving shaft (5) having ends extending into slots (grooves

⁴ Where the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, the proposed modification would not have been obvious. See Tec Air Inc. v. Denso Mfg. Michigan Inc., 192 F.3d 1353, 1360, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

3) in the wall of the body and a biasing means (spring 10) disposed between an internal face (global projection R_1) of the body and the near (right as seen in Figure 2) end face of the driving shaft (5) which biases the body to the right as seen in Figure 2. Although the shaft (7) is not rigidly connected to the hub, we note that the pin (9) is "fixed" or "fastened" at both ends thereof to the body (1) at holes (4) (translation, page 2, lines 12-13, the sentence bridging pages 3 and 4 and the sentence bridging pages 4 and 5). Further, we observe that the pin (9), in being fixed to the body (1), rotates therewith in response to rotation of the driving shaft (5) and, thus, is a "first rotating member" as recited in claim 1.⁵ The global projection (R_2) functions as a universal joint, thereby rendering the distal end of the driving shaft (5) movable both axially with respect to a major axis of the pin (9) and radially away from the major axis of the pin (9). Of course, the grooves (3) permit movement of the pin (6) and driving shaft (5) radially toward and away from the major axis of the pin (9), as well.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 and 3 under 35 U.S.C.

⁵ In proceedings before it, the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification. *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). In this case, we are informed by the appellant's specification (page 1, lines 3-7) that the appellant's invention relates to flexible joints "for rotating members generally and, more particularly, *but not by way of limitation*," (emphasis added) to a joint for coupling a drive motor shaft to a lead screw in a linear positioning device. The appellant's specification does not limit the term "rotating member" to any particular type of rotating element. Accordingly, we interpret "rotating member" as used in the claims as an element which rotates.

§ 103 is reversed. A new rejection of claim 1 is entered pursuant to the provisions of 37 CFR § 1.196(b).

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53131, 53197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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

REVERSED; 37 CFR § 1.196(b)

IAN A. CALVERT)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
JEFFREY V. NASE)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
JENNIFER D. BAHR)	
Administrative Patent Judge)	

Appeal No. 1999-0641
Application No. 08/536,654

Page 9

John H. Crozier
1934 Huntington Turnpike
Trumbull, CT 06611-5116

JDB/caw