

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte PAUL THOMAS, PAUL ROBERTS and DON HOBDAY

Appeal No. 2004-0579
Application No. 09/647,126

ON BRIEF

Before COHEN, FRANKFORT 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 19-33, which are all of the claims pending in this application.¹

We REVERSE and REMAND.

¹ Claims 1-18 have been canceled (see Paper No. 7), but the cancellation of claim 18 has not been clerically entered.

BACKGROUND

The appellants' invention relates to a seal device for use in sealing between a threaded sleeve and a threaded shaft of a thrust assembly of a disc brake. Further understanding of the invention may be obtained from a reading of independent claims 19 and 26, which are reproduced, infra, in the opinion section of this decision.

The examiner relied upon the following prior art references in rejecting the appealed claims:

Baumgartner et al. (Baumgartner)	5,568,845	Oct. 29, 1996
Angerfors	6,269,914	Aug. 7, 2001

The following is the sole rejection before us for review.

Claims 19-33 stand rejected under 35 U.S.C. § 103 as being unpatentable over Baumgartner in view of Angerfors.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejection, we make reference to the final rejection and answer (Paper Nos. 11 and 19) for the examiner's complete reasoning in support of the rejection and to the brief and reply brief (Paper Nos. 17 and 20) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the

respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

Independent claims 19 and 26 read as follows:

19. A seal device for use in an adjustable tappet assembly for a disc brake for sealing between an internally threaded outer sleeve and an externally threaded internal shaft of the assembly, said device comprising a support element adapted to be carried by said sleeve, said support element carrying a seal for sealing between said sleeve and said shaft having a lip portion arranged to engage an unthreaded surface portion of said shaft in sealing relationship for providing sealing during axial movement of said shaft relative to said sleeve.

26. An adjustable tappet assembly for a disc brake comprising an internally threaded outer sleeve, an externally threaded internal shaft, and a seal device, said seal device having a support element carried by said sleeve, said support element carrying a seal for sealing between said sleeve and said shaft having a lip portion arranged to engage an unthreaded surface portion of said shaft in sealing relationship for providing sealing during axial movement of said shaft relative to said sleeve.

Baumgartner, the primary reference relied upon by the examiner, comprises an adjustable disc brake thrust assembly comprising an externally threaded spindle 70 and an internally threaded traverse member 7. The spindle 70 is rotated by an adjusting device (not shown) as discussed in column 5, line 48 et seq. and column 6, line 42 et seq. when excessive ventilating play exists during brake application, for example, after a change of the lining or with an increasing wear of the brake shoes, to thereby reduce the distance to the brake disc to compensate, for example, for the wear of the brake

shoes. Baumgartner provides a friction ring 80 made of rubber or similar elastomeric material fastened to the lower edge of the threaded bore of the traverse member 7 into which the threaded spindle is screwed. The inside diameter of the friction ring is slightly smaller than the outside diameter of the adjusting spindle 70 such that the friction ring exercises a frictional torque on the spindle which prevents rotation of the spindle automatically when stressed by shaking. As explained by Baumgartner in column 2, lines 52-53, the friction ring “acts upon the threaded surface of the concerned threaded spindle” to prevent rotation of the spindle up to a defined torque. When, on the other hand, an excessive ventilating play exists, for example, after a change of the lining or with increasing wear of the brake shoes, the spindle 70 is rotated by the adjusting device by a certain distance to bring the ventilating play to the desired value (column 6, lines 50-56).

The examiner (final rejection, page 2) has determined that Baumgartner differs from the subject matter of claims 19 and 26 in that Baumgartner lacks the seal engaging an unthreaded surface portion of the shaft (spindle). In rejecting the claims, the examiner’s position is that it would have been obvious to one of ordinary skill in the art at the time of appellants’ invention to have the seal (friction ring 80) of Baumgartner bear against an unthreaded portion of the shaft (spindle 70) as taught by Angerfors “because sealing against a smooth surface is easier and more effective than a threaded surface and furthermore the reduction in the amount of threads [needed on the spindle]

reduces machining costs” (final rejection, page 2). For the reasons which follow, we find no suggestion in the combined teachings of Baumgartner and Angerfors to make the modification proposed by the examiner.

Angerfors discloses a sealing ring 41 which seals against a cylindrically shaped (unthreaded) part 42 of the extension 25 of an adjusting tappet assembly of a disc brake assembly. Angerfors points out (column 3, line 60 et seq.) that

[t]he external thread 24 has an extension in the axial direction which is limited to a portion of the total length of the extension 25. Its length and placement are chosen so that, more exactly, the external thread 24 does not come in contact with the sealing ring 41, but instead so that the area around the groove 43 forms a stop for the extension 25 in its outer position. In this way it is possible to shape the area 42, which cooperates with the sealing ring 41, for maximum sealing interaction with the sealing ring 41.

Angerfors, however, expresses no concern whatsoever about using the sealing ring 41 to prevent any rotation of the extension 25 relative to the first tappet section 16 up to a specified torque to prevent adjustment of the tappet when subjected to excessive shaking stress. Baumgartner, on the other hand, provides the friction ring 80 for the express purpose of preventing any rotation of the adjusting spindle up to a defined torque and specifically discloses that the elastic element (friction ring) acts upon the threaded surface of the threaded spindle. Angerfors and Baumgartner provide two different types of devices in two different places on the tappet assembly to address two different concerns. We thus find no suggestion in the teaching of Angerfors to position

the friction ring 80 of Baumgartner on an unthreaded portion of the adjusting spindle 70 in the face of the specific teaching of Baumgartner to have the friction ring act on the threaded portion of the spindle. While the interference fit of the friction ring with the spindle 70 described by Baumgartner might be sufficient to provide the necessary torque even when acting on an unthreaded portion of the spindle, the applied prior art provides no incentive or motivation for such a modification. The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification. See In re Mills, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Inasmuch as the examiner's rejection of claims 19 and 26 as being unpatentable over Baumgartner in view of Angerfors rests in part on the examiner's determination that the above-mentioned modification of Baumgartner would have been obvious in view of the teachings of Angerfors, we cannot sustain the rejection. It follows that we also cannot sustain the like rejection of claims 20-25 and 27-33 depending from claims 19 and 26.

REMAND TO THE EXAMINER

Pursuant to our authority under 37 CFR § 1.196(a), we remand this application to the examiner to consider the following.

While independent claim 26 is directed to an adjustable tappet assembly comprising an internally threaded outer sleeve, an externally threaded internal shaft and a seal device, claim 19 recites simply a seal device “for use in an adjustable tappet assembly,” the device comprising a support element adapted to be carried by said sleeve and carrying a seal for sealing between said sleeve and said shaft having a lip portion arranged to engage an unthreaded surface portion of said shaft. We infer from the examiner’s statement of the rejection of claims 19-33 that the examiner interpreted claim 19 as requiring the seal to be positioned on the threaded spindle so as to engage an unthreaded portion thereof. In other words, the examiner seems to have considered claim 19 to be directed to the seal device in combination with the threaded shaft and sleeve (i.e., to the tappet assembly).

Upon remand, the examiner should reconsider the scope of claim 19 to determine whether (1) it is directed to the seal device only, (2) it is directed to the tappet assembly or (3) the scope of claim 19 is unclear. If the examiner determines that claim 19 is directed to the tappet assembly, the examiner should then query whether there is in fact any difference in scope between claim 19 and claim 26.² If the examiner determines that claim 19 is directed to the seal device only and thus does not require

² 37 CFR § 1.75(b) provides that “[m]ore than one claim may be presented provided they differ substantially from each other and are not unduly multiplied.”

the shaft or sleeve of the tappet assembly, the examiner should re-evaluate whether claim 19 is anticipated by Baumgartner, in light of the fact that the only difference noted by the examiner between the claimed subject matter and Baumgartner was the positioning of the seal on an unthreaded portion of the shaft. Finally, if the examiner determines that the scope of claim 19 is unclear, the examiner should consider rejecting claim 19, as well as the claims depending therefrom, under the second paragraph of 35 U.S.C. § 112 as being indefinite.

CONCLUSION

To summarize, the decision of the examiner to reject claims 19-33 under 35 U.S.C. § 103 is reversed and the application is remanded to the examiner for the reasons discussed above.

REVERSED and REMANDED

IRWIN CHARLES COHEN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CHARLES E. FRANKFORT)	APPEALS
Administrative Patent Judge)	AND
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