

**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(2) is not binding precedent of the Board.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. 44

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte HELMUT RUECKERT

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Appeal No. 1999-0221  
Application 08/766,847

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ON BRIEF

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Before ABRAMS, NASE, and GONZALES, Administrative Patent  
Judges.

ABRAMS, Administrative Patent Judge.

**DECISION ON APPEAL**

This is an appeal from the decision of the examiner  
finally rejecting claims 1-3, 9-13 and 22-35, which constitute  
all of the claims remaining of record in the application.

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The appellant's invention is directed to a brake shoe for disk brakes (claims 1-3 and 9-13) and to a method of manufacturing a brake shoe (claims 22-35). The subject matter before us on appeal is illustrated by reference to claim 1, which reads as follows:

1. A brake shoe for disc brakes, comprising a pad back plate provided with a friction pad and retaining spring of spring sheet which, on a side of the pad back plate facing away from the friction pad, is fixed to the pad back plate, and wherein a section of the retaining spring intended for abutment with the pad back plate includes an angular or oval opening, and a projection molded to the pad back plate and projecting from the plate plane and protruding through the opening is riveted to the retaining spring, characterized by the brake shoe being made by a process including: the projection of the pad back plate, prior to riveting, is of a substantially circular cross-section, the diameter of which is smaller than the smallest width of the opening, wherein the projection of the pad back plate does not initially occupy, in form-locking manner, the opening, and the cross-section of the projection, after riveting, substantially has the form of the opening and, due to the riveting, is so deformed as to occupy, in form-locking manner, the opening.

**THE REFERENCES**

The references relied upon by the examiner to support the final rejection are:

Feller	3,769,676	Nov. 6,
1973		
Gumkowski <i>et al.</i>	4,560,037	Dec. 24,
1985		
(Gumkowski)		

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Japanese Patent                      61-266838                      Nov. 26,  
1986  
Publication

**THE REJECTIONS**

Claims 1-3, 9-13, 22-25, 27-33 and 35 stand rejected under 35 U.S.C. § 103 as being unpatentable over Gumkowski in view of Feller.

Claims 26 and 34 stand rejected under 35 U.S.C. § 103 as being unpatentable over Gumkowski in view of Feller and the Japanese publication.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and the appellant regarding them, we make reference to the Examiner's Answer (Paper No. 41) and to the Appellant's Briefs (Paper Nos. 38 and 42).

**OPINION**

We note that the appellant has not argued the merits of any particular claim apart from the others in the Brief. Therefore, the claims will stand or fall with representative claim 1. See 37 CFR § 1.192(c)(7) and Section 1206 of the Manual of Patent Examining Procedure (MPEP).

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The appellant's invention is directed to the attachment of a retaining spring to a friction pad of a disc brake. The appellant characterized the state of the prior art to include attaching these two elements together by providing the friction pad with a projection having a D-shaped cross section, which was installed in a D-shaped opening in the spring plate, whereafter the elements were fixed together by riveting the projection. According to the appellant, this technique had a number of disadvantages, including requiring that a high level of force be applied to deform the projection during riveting and very close tolerances in the manufacture of the parts, while producing a poor anti-rotation connection between the two elements (see substitute specification, pages 3-5; Brief, pages 14-17).

All of the claims stand rejected under 35 U.S.C. § 103. The guidance provided by our reviewing court in evaluating the issue of the obviousness of the invention in view of the teachings of the applied prior art is as follows: The initial burden of establishing a basis for denying patentability to a claimed invention rests upon the examiner. See *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir.

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1984) The question under 35 U.S.C. § 103 is not merely what the references expressly teach but what they would have suggested to one of ordinary skill in the art at the time the invention was made. See **Merck & Co. v. Biocraft Labs., Inc.**, 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir.), **cert. denied**, 493 U.S. 975 (1989) and **In re Keller**, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). While there must be some suggestion or motivation for one of ordinary skill in the art to combine the teachings of references, it is not necessary that such be found within the four corners of the references themselves; a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. See **In re Bozek**, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). Further, in an obviousness assessment, skill is presumed on the part of the artisan, rather than the lack thereof. **In re Sovish**, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985). Insofar as the references themselves are concerned, we are bound to consider the disclosure of each for what it fairly teaches one of ordinary skill in the art, including not only the specific

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teachings, but also the inferences which one of ordinary skill in the art would reasonably have been expected to draw therefrom. See *In re Boe*, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966) and *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

It is the examiner's view that all of the subject matter recited in independent claim 1 is disclosed by Gumkowski, except for the specific cross-sections of the opening in the retaining spring and the projection of the pad back plate, which are shown by Feller, and that it would have been obvious to modify Gumkowski to meet the terms of the independent claims in view of the teachings of Feller. In the arguments placed before us in the Brief, the appellant has not disputed this conclusion by the examiner, but has chosen only to argue that the decision that the claim is obvious is overcome by evidence of unexpected results. From our perspective, therefore, the appellant has acknowledged that the references properly are combinable and that their combined teachings establish a *prima facie* case of obviousness with regard to the subject matter of the claims to which this rejection has been applied.

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The appellant has offered evidence in rebuttal to the examiner's decision in the form of two declarations from the inventor, one of which was filed on March 20, 1996 (in a parent application) and the other on February 10, 1997 (in the present application). In view of the presentation of such evidence, we must reweigh the entire merits of the matter of obviousness and hence consider all of the evidence of record anew (*In re Piasecki, supra*). We also are mindful that evidence of non-obviousness in any given case may be entitled to more or less weight, depending upon its nature and its relationship with the merits of the invention. ***Stratoflex Inc. v. Aeroquip Corp.***, 713 F.2d 1530, 1539, 218 USPQ 871, 879 (Fed. Cir. 1983).

The first issue raised by the appellant with regard to the declarations is that the examiner erroneously has taken the position that the evidence of unexpected results must be compared to Feller, the secondary reference, rather than to Gumkowski, the primary reference (Answer, page 6). On this issue, we find ourselves in agreement with the appellant, for the reasons presented on pages 8-14 of the Brief. To summarize for purposes of this decision, we agree that the

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closest prior art is the disc brake of Gumkowski and not the method of attaching applique to a dial, which is disclosed by Feller.

Notwithstanding the above, rather than remand the application to the examiner to apply the evidence to Gumkowski, in the interest of judicial economy and in the light of the fact that the appellant has presented extensive arguments concerning the evidence as it might so apply, we have considered this issue on the basis of the record before us. To insure that the appellant is given the opportunity to comment upon the positions we have set forth below, we designate our affirmance of the standing rejections as new grounds of rejection under 37 CFR § 1.196(b).

Our understanding of the appellant's position with regard to the evidence supplied in the two declarations is that it purports to establish that the invention provides unexpected results when compared to the brake shoe attachment means of Gumkowski (Brief, page 14, line 7; page 19, line 6). It is the examiner's contention that the evidence cannot be accorded sufficient weight to overcome the *prima facie* case of

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obviousness establish by the combined teachings of the two references. While we agree with the examiner's conclusion, we focus upon Gumkowski as being the closest prior art.

Although there are two declarations of record, the evidence provided in both is described in the latter one. The words of the declarant on page 2 of the second declaration summarize the tests and the results:

This first test [reported initially in the earlier declaration] compared the wobble<sup>1</sup> force, wobble angle, and wobble time required to achieve an anti-rotation connection between: (a) an initially round pin and a retaining spring having a square hole (representative of the claimed invention); and (b) an initially D-shaped pin and a retaining spring having a D-shaped opening (representative of the '037 patent). As discussed again below, the brake shoe representative of the '037 patent required a greater wobble force, at a greater wobble angle, for a longer wobble time to attain the same level of torsion resistance as that of the brake shoe representative of the claimed invention. The second test, newly disclosed below, compares the torsion strength required to rotate a retaining spring relative to a pad back for both: (a) an initially round pin and a retaining spring having a square hole (representative of the claimed invention); and (b) an initially D-shaped pin and a retaining spring having a D-shaped opening (representative of the '037 patent). The second test revealed that a significantly higher torsion force was required to rotate the retaining spring of the claimed invention than that of the '037 patent, even though

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<sup>1</sup>Riveting.

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substantially the same wobble force, wobble time,  
and wobble angle was applied to the two specimens.

At this point, we must direct attention to the fact that claim 1 recites "an angular or oval opening" in the back plate and a pin of "substantially circular cross-section" whereas, in the words of the appellant, the tests are directed to a pin having a circular cross-section and an opening having a square cross-section. While the tests therefore may be relevant to several of the dependent claims, which contain these limitations, they clearly have no nexus to the more broad recitation of the invention presented in representative claim 1 or, for that matter, with regard to any of the other independent claims. Therefore, the scope of the evidence supplied is not commensurate with the breadth of representative claim 1, to which it purports to apply, and it fails at the outset to be worthy of any weight when set off against the *prima facie* case of obviousness established against the subject matter of this claim. Nevertheless, in keeping with our desire to expeditiously adjudicate the issues in this case, we shall press forward and evaluate the evidence as if it were applicable to the invention of all the claims, as apparently was the appellant's intent.

Looking for the moment to the teachings present in the prior art, there is no question that Gumkowski discloses the basic structure recited in claim 1, over which the appellant believes his invention to be an improvement. In our opinion, one of ordinary skill in the art would have been cognizant of the fact that relative rotation between the retaining spring and the brake pad is undesirable, and would have recognized that among the purposes in Gumkowski for providing the hole and the mounting projection with complementary D-shaped configurations is the prevention of such relative rotation. Feller states that his industry was "well aware" of the problem of relative motion between elements attached by means of a circular opening and a circular foot or stem (column 1, line 12 *et seq.*), for even after riveting they "tend[ed] to rotate within their bore" (column 1, line 32). This gave rise to the requirement for "a very precise and fixed attachment" (column 1, lines 46 and 47), which Feller accomplished by maintaining the circular cross-section of the stem but replacing the circular cross-section of the hole with a "non-circular cross-sectional configuration" (column 2, lines 8 and 9). As shown in Figure 5, this comprised a square hole and a

round stem. In describing the manufacturing process, Feller explains that in deforming<sup>2</sup> the stem the material of the stem "tends to fill-out the cross-section of the associated opening 3, thereby assuming the shape or configuration of such associated opening" (column 3, lines 33-35). The result is that the applied element "can no longer rotate within its opening" (column 3, lines 40 and 41).

We share the examiner's opinion that one of ordinary skill in the art would have been taught by Feller that the rotation that could result when a round projection is installed in a round hole is eliminated by placing the round projection in a non-circular hole, such as one having a square cross-section, because the subsequent deformation of the projection causes the metal to fill in the boundaries of the opening, thus creating a non-circular portion of the projection in a matching non-circular hole. Suggestion for such a modification is found in the explicit teachings of Feller, which were referred to above. It is our further view that the artisan would have recognized from the teachings of

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<sup>2</sup>Feller establishes that riveting was a known means for accomplishing this deformation (column 1, line 33).

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Feller that the more non-circular the complementary configurations, the more resistance is provided to rotation. Therefore, we do not share the appellant's opinion that the improvement to resistance of rotation of one element with regard to the other achieved by utilizing an opening of square configuration rather than the substantially rounded one disclosed by Gumkowski would have been unexpected.

For the foregoing reasons, even if this factor of the rebuttal evidence is considered to apply to the subject matter of claim 1, it can be accorded little if any weight.

The other test presented by the appellant was offered as showing that the claimed invention required less riveting force, angle and time, which also is alleged to be unexpected. Even considering this evidence in its most favorable light, and as being applicable to claim 1, it is our opinion that it cannot be accorded sufficient weight on its own, or in concert with the other evidence, to outweigh the evidence case of obviousness. A distraction with regard to this factor is that claim 1 is a product-by-process claim and the second proffered unexpected result concerns the process and not the resulting product.

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Thus, it is our conclusion that, on balance, the evidence and argument provided by the appellant fails to outweigh the evidence of obviousness established by the prior art. This being the case, we will sustain the examiner's rejection of representative claim 1. The rejection of the other claims also is sustained, in that they fall therewith.

We have carefully considered all of the arguments and the evidence presented by the appellant as it might apply to the conclusions we have expressed above. However, they have not convinced us that the rejections should not stand. Our position with regard to each of them should be apparent from the explanations we have provided.

#### **SUMMARY**

Both rejections are sustained.

The decision of the examiner is affirmed.

The rejections are denominated as falling within the scope of 37 CFR § 1.196(b) new grounds of rejection (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). In this regard, 37

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CFR § 1.196(b) provides, "a new ground of rejection shall not be considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision . . . .

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 (37 CFR § 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. . . .

Should appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the

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prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment

or a second appeal, this case should be returned to us for final action on the affirmed rejection, including any timely request for rehearing thereof.

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

AFFIRMED; 37 CFR § 1.196(b)

	Neal E. Abrams	)	
	Administrative Patent Judge	)	
		)	
		)	
	Jeffrey V. Nase	)	BOARD OF
PATENT	Administrative Patent Judge	)	APPEALS AND
		)	INTERFERENCES
		)	
	John F. Gonzales	)	
	Administrative Patent Judge	)	

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