

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(2) is not binding precedent of the Board.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. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PERCY JOSEFSSON

Appeal No. 97-1037
Application 08/467,869¹

HEARD: March 3, 1998

Before COHEN, PATE, and NASE, Administrative Patent Judges.

COHEN, Administrative Patent Judge.

¹ Application for patent filed June 6, 1995. According to appellant, the application is a continuation of Application 08/244,839, filed June 9, 1994, abandoned, which is a National stage application under 35 U.S.C. § 371 of PCT/SE92/00891, filed December 22, 1992.

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DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 5, all of the claims in the application.

Appellant's invention pertains to a vibration-and-noise damping insert for the brakes of automotive vehicles and to a method of producing a material web for the manufacture of vehicle brake vibration-and-sound damping inserts. An understanding of the invention can be derived from a reading of exemplary claims 1 and 4, copies of which appear in the appendix to appellant's main brief (Paper No. 20).

As evidence of obviousness, the examiner has applied the documents listed below:

Niwa et al. (Niwa)	5,063,098	Nov. 5, 1991
Fogg et al. (Fogg) (Great Britain) ²	1,550,616	Aug. 15, 1979
Josefsson (PCT document)	WO 91/13758	Sep. 19, 1991

² We shall refer to this reference as the British document, as did the examiner.

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The following rejections are before us for review.

Claims 1 through 3, and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Niwa in view of the British document.

Claims 1 through 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over the PCT document in view of Niwa.

The full text of the examiner's rejections and response to the argument presented by appellant appears in the answer (Paper No. 21), while the complete statement of appellant's argument can be found in the main and reply briefs (Paper Nos. 20, 22 and 25).

In the main brief (page 4), appellant indicates that claims 1, 2, and 4 may be considered together, while claims 3 and 5 are not to be considered with claims 1, 2, and 4. Pursuant to 37 CFR § 1.192(c)(7), we select claims 1 and 5 for review from appellant's respective groupings of claims. Accordingly, based upon our selection of claims 1 and 5 and appellant's stated claim groupings, as to the rejection of claims 1 through 3 and 5,

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claims 1 and 5 will be separately assessed and claims 2 and 3 stand or fall with claim 1 and claim 5, respectively, and as to

the rejection of claims 1 through 5, claims 1 and 5 will be separately assessed and claims 2, 3 and claim 4 stand or fall with claims 1 and 5, respectively.

OPINION

In reaching our conclusion on the obviousness issues raised in this appeal, this panel of the board has carefully considered appellant's specification and claims, the applied references,³ and the respective viewpoints of appellant and the examiner. As a consequence of our review, we make the determinations which follow.

³ In our evaluation of the applied teachings, we have considered all of the disclosure of each teaching for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

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Initially, we note that an obviousness question cannot be approached on the basis that an artisan having ordinary skill would have known only what they read in references, because such artisan must be presumed to know something about the art apart from what the references disclose. See In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962). Further, 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).

With the above in mind, we appreciate from our reading of appellant's underlying specification (page 1) that, at the time of the present invention, it was well known to effect a vibration-and-sound damping insert by coating a rubber layer on both sides of thin metal plates or strips. To solve the problem of depressions being formed in the rubber layer facing the rod of a hydraulic piston-cylinder unit, it was known to form the insert as two thin steel plates bonded together by a layer of adhesive. However, appellant points out that a drawback with this solution

was that the adhesive layer was destroyed when subjected to high pressure and high temperature, causing the steel strips to separate from one another.⁴

The rejection of claims 1 through 3, and 5

We affirm the rejection of these claims under 35 U.S.C. § 103.

Claim 1 is drawn to a vibration-and-noise damping insert for the brakes of automotive vehicles comprising, two metal plates and a damping layer enclosed there between, wherein said damping layer is thinner than each of said metal plates and is comprised of a rubber layer which is a sheet that is formed and subsequently vulcanized to the two metal plates.⁵

⁴ We perceive from this prior art disclosure that, as to the known insert with a rubber layer on both sides of a thin metal plate, the utilized rubber layers of undisclosed relative thickness were not destroyed when subjected to high pressure and temperature in the disc brake system environment. As disclosed, only the layer facing the rod of the hydraulic piston-cylinder unit was adversely effected by the formation of depressions therein. With respect to the known insert with an adhesive layer between thin steel plates, we are not informed as to the relative thickness of the adhesive layer.

⁵ Giving the claim language its broadest reasonable interpretation, consistent with the underlying specification, we understand the recitation of the relative term "thinner," in the context of the claim, to broadly denote any damping layer thickness less than the respective thickness of each metal plate.

We turn now to the applied prior art.

Niwa informs us (column 1, lines 14 through 62, and column 3, lines 9 through 15, and lines 54 through 63) that, prior to appellant's invention, it was known to effect a constraint type of vibration damper (Figures 2 and 23), effective as the noise-preventing-material for disc brakes (column 7, lines 54 through 56). As shown in Figure 2, this form of damper can comprise metal sheets 1 and 4 with a rubber layer 2 and resin film (hot melt adhesive) 3 therebetween (Figure 2), while as depicted in Figure 23 this form of damper can also comprise a viscoelastic polymeric layer 2 bonded between two steel sheets 1. The patentee reveals that a constraint type of damper is effective with a thin viscoelastic layer (column 1, lines 33 and 34). More specifically, it is clear to us from Niwa's teaching of relative thicknesses (column 5, lines 33 through 39) that even considering the maximum values of the disclosed thickness ranges, the intermediate layer 2 (0.5 mm) and film 3 (0.1 mm) are taught to be thinner (0.6 mm total) than each metal sheet 1, 4 (1.0 mm).

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The minimum values similarly call for an intermediate layer 2 and film 3 thinner than each metal sheet. Of particular interest, is the clear indication by Niwa (column 6, lines 40 through 45) of a conventional form of damper wherein a sheet form of rubber is interposed between steel sheets with the use of polyethylene resin.

The British document (page 2, lines 13 through 26) teaches a vibration damping device having rubber material vulcanized to and sandwiched between metal plates. The document expressly indicates (page 2, lines 27 through 31) that

the thickness of the mixture of rubber and extract between the two relatively rigid structures may be determined by the man skilled in the art depending on the particular purpose for which the device is to be used, and the known principles governing the constructions of vibration damping devices of this type.

In applying the test for obviousness,⁶ we reach the conclusion that it would have been obvious to one having ordinary

⁶ The test for obviousness is what the combined teachings of references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

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skill in the art, from a combined assessment of the applied prior art, to vulcanize a rubber layer between the metal plates of a constraint type of vibration damper such as that taught by Niwa (Figure 2). From our perspective, the incentive on the part of one having ordinary skill in the art for making this modification would have simply been to obtain the expected benefit of this

alternative practice of rubber vulcanization, a practice well known in the vibration damping device art, as revealed by the British document. As explained above, Niwa would have been suggestive of a thinner damping layer, as claimed. As to the recitation in claim 1 of the rubber layer being a "sheet that is formed and subsequently" vulcanized, we note that the patentability of an article does not depend on its method of production. See In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). While in the final article (insert), as claimed, it does not appear that the initial sheet form of the rubber layer would be discernible, we do recognize that the Niwa disclosure is nevertheless suggestive of applying rubber in sheet form, as pointed out, supra. For these reasons, we affirm the

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rejection of claim 1 and the rejection of claim 2, since the latter claim stands or falls with claim 1.

Claim 5 adds the further limitations to claim 1 of the two plates having "essentially the same thickness" and the thickness of the rubber layer being "about one-third" of the thickness of each plate.

It is the opinion of this panel of the board that the applied references would have been suggestive of plates of the same thickness, and based upon these prior art teachings, considered as a whole, it is readily apparent to us that the selection of a particular thickness for the rubber layer would have been an obvious matter for one having ordinary skill in this art. Rubber layer thickness clearly appears to us to be a result effective variable in this art. Accordingly, the claimed value of "about one-third" is seen to be simply a working or optimum value obtainable through routine experimentation. See In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980) and In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Appellant's specification buttresses this viewpoint, since the rubber layer thickness value of "about one-third" is not indi-

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cated to solve a particular problem and/or yield any unexpected or unexpectedly good result. Therefore, we affirm the rejection of claim 5, and the rejection of claim 3 which stands or falls therewith.

The argument advanced by appellant in the main and reply briefs (Paper Nos. 20, 22, and 25) has not persuaded us that the content of claims 1 and 5 is patentable under 35 U.S.C. § 103. Contrary to the view taken by appellant (main brief, page 9), we determined above that the combined teachings would have been suggestive of the claimed invention. While appellant faults the references for not suggesting the "importance" of having a thin damping layer (main brief, pages 9 and 11), we note that the brief does not refer us to any portion of the present specification that expressly sets forth the importance of having a thin damping layer, and we can find none. While appellant views the teaching of a thinner damping layer by Niwa as a mere happenstance (main brief, page 10), this argument nevertheless cannot detract from Niwa's explicit teaching (column 5, lines 36 through 39) of a thinner damping layer. Appellant's assertion that Niwa teaches away from a thinner damping layer (main brief, page 11) is clearly based upon a misapprehension of the docu-

ment's disclosure. The passage quoted from the Niwa reference (main brief, page 11), read in the context of the overall patent, simply indicates that when a greater damping capacity is desired the single thin damping layer of Figure 2 should not be increased in thickness, but additional thin laminated layers of rubber should be added, for example, as shown in Figure 1. Thus, when the patent to Niwa is fairly understood, it does not teach away from the present invention. As to appellant's argument relative to the recitation of the sheet form of the rubber layer (main brief, page 12), we refer to our earlier commentary on this matter. Appellant asserts that the British document does not cure the deficiencies of the primary reference Niwa (main brief, pages 13 and 14). We, on the other hand, find that the teaching of the British reference reveals that more than a decade before appellant's invention those practicing the vibration damping art were vulcanizing rubber between steel sheets. Not only that, but the British document also supports our earlier stated position regarding the selection of a damping layer thickness by expressly instructing that the thickness of the rubber may be determined by the man skilled in the art based upon the particular purpose of the device and known principles governing vibration damping devices of that type. As should be evident from our analysis,

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supra, we are not in accord with the argued view (pages 4 and 5 of the reply briefs; Paper Nos. 22 and 25) to the effect that the rejection is based upon appellant's disclosure and an impermissible hindsight reconstruction of random prior art facts in light thereof. We earlier explained that the prior art itself would have been suggestive of the claimed invention to one having ordinary skill. Further, as articulated, supra, each of Niwa and the British patent are seen as suggesting to those versed in the art the alternatives of a damping layer of rubber and hot-melt adhesive resin film and a damping layer of vulcanized rubber.

The rejection of claims 1 through 5

We reverse the rejection of these claims under
35 U.S.C. § 103.

As earlier indicated, the insert of claim 1 on appeal requires two metal plates and a damping layer enclosed therebetween, wherein said damping layer is thinner than each of said metal plates and is comprised of a rubber layer which is a sheet that is formed and subsequently vulcanized to the two metal plates.

The PCT document discloses a method of making a web for manufacturing gaskets, such as vibration and noise damping spacers for vehicle brakes. As disclosed in this document, whether with the prior art method of Figures 1 and 2, or with the invention method of Figures 3 and 4, the resulting spacer would be constituted as a body of sheet metal coated with a vulcanized rubber layer on at least one side thereof. Thus, this document teaches the type of spacer (external rubber layer) indicated by appellant (specification, page 1) to pose the problem that the present invention seeks to overcome.

Niwa as previously described teaches a constraint type of vibration damper (Figures 2 and 23), effective as the noise-preventing-material for disc brakes. As shown in Figure 2, this form of damper can comprise metal sheets 1 and 4 with a rubber layer 2 and resin film (hot melt adhesive) 3 therebetween (Figure 2), or as depicted in Figure 23 this form of damper can comprise a viscoelastic polymeric layer 2 bonded between two steel sheets 1. As portrayed in Figure 22 of Niwa, a known non-constraint type of vibration damper includes a thin steel sheet with rubber bonded to both sides thereof (column 1, lines 15 through 20).

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Considering these two disclosures together, it is clear to us that the focus of the PCT document is the formation of a non-constraint type of vibration and noise spacer (at least one external vulcanized rubber layer), while Niwa is particularly concerned with a constraint type of vibration damper. As such, we perceive that one of ordinary skill in the art would consider each of these documents to reveal separate alternative forms of vibration devices clearly effected by distinctly different methods of manufacturing, as disclosed. With this latter understanding, we cannot fairly say that the examiner's proposed significant reworking of the spacer of the PCT document would have been obvious to one having ordinary skill in the art on the basis of these applied teachings. Accordingly, we reverse the rejection of claim 1, and the rejection of claims 2 and 4 which stand or fall with claim 1. The rejection of dependent claims 3 and 5 on the same prior art is likewise reversed in light of our reversal of the rejection of independent claim 1.

In summary, this panel of the board has:

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affirmed the rejection of claims 1 through 3, and 5 under 35 U.S.C. § 103 as being unpatentable over Niwa in view of the British document, and

reversed the rejection of claims 1 through 5 under 35 U.S.C. § 103 as being unpatentable over the PCT document in view of Niwa.

The decision of the examiner is affirmed-in-part.

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

IRWIN CHARLES COHEN)
Administrative Patent Judge)
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