

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YASUTOSHI AOKI
and YASUTAKA ENOKI

Appeal No. 94-3608
Application 07/844,980¹

HEARD: July 14, 1997

Before STONER, *Chief Administrative Patent Judge*, and ABRAMS and FRANKFORT, *Administrative Patent Judges*.

ABRAMS, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Application for patent filed March 2, 1992. According to appellants, the application is a continuation of Application 07/598,030, filed October 16, 1990, now abandoned.

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This is an appeal from the decision of the examiner finally rejecting claims 1 through 4, 6 through 8, 10, 12 through 16, 18, 19 and 22 through 25, which are the only claims remaining of record in the application.

The appellants' invention is directed to a heavy-duty pneumatic radial tire. The subject matter before us on appeal is illustrated by reference to claim 1.

1. A heavy-duty pneumatic radial tire comprising a tread wherein a pair of upper and lower rubber layers having mutually different moduli of 300% elasticity at room temperature are laminated, said upper rubber layer being located on a tread surface side of said tire and having a smaller modulus of 300% elasticity at room temperature than said lower rubber layer, said tread comprising:

plural main grooves extending in said one rubber layer located on said tread surface side of said tire, along the circumferential direction of said tire, and defining land portions adjacent a groove wall of each of said main grooves,

a narrow-width fine groove extending in said one of said pair of upper and lower rubber layers which is located on a tread surface side of said tire, along a circumferential direction of said tire, a radius of curvature of a bottom of said fine groove being 1.5 mm or less and a width of said fine groove being set in a range of not less than 15% and not more than 30% of a width of one of said main grooves,

wherein a shortest distance between said bottom of said fine groove and a boundary surface bordering between said pair of upper and lower rubber layers is set to be within a range of 1 mm and 3 mm.

THE REFERENCES

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

Brown	3,157,218	Nov. 17, 1964
Greiner	3,759,306	Sep. 18, 1973
Russell	3,830,275	Aug. 20, 1974
Mamada et al. (British '048) (UK Patent Application)	2,190,048	Nov. 11, 1987
Kazuyuki (Japanese '403)	63-240403 4,724,878 (English Language Equivalent)	Oct. 6, 1988
Japan (Japanese '305)	2-169305 313,361 (English Language Equivalent)	June 29, 1990
Okuno (Japanese '904) (Japan)	58-128904	Aug. 1, 1983

The prior art admitted by the appellants on pages 1 and 2 of the specification.²

THE REJECTIONS

The following rejections stand under 35 U.S.C. § 103:

(1) Claims 1 through 3, 8, 10, 13 through 15 and 22 through 25 on the basis of Japanese '904, Japanese '403, Russell, Brown and British '048.

² We note that the examiner has failed to list the admitted prior art as a reference on pages 2 and 3 of the Answer, although it has been applied in two of the rejections of the appellants' claims (pages 11 through 16).

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(2) Claims 4, 6, 7, 12, 16, 18 and 19 on the basis of the references cited against claim 1 **et al.** above taken further in view of Japanese '305.

(3) Claims 1 through 3, 8, 10, 13 through 15 and 22 through 25 on the basis of Greiner, the admitted prior art, Japanese '403 and British '048.

(4) Claims 4, 6, 7, 12, 16, 18 and 19 on the basis of the references cited against claim 1 **et al.** immediately above, taken further in view of Japanese '305.

The rejections are explained in the Examiner's Answer and Supplemental Answer.

The opposing viewpoints of the appellants are set forth in the Brief.

OPINION

With reference to pages 2 and 3 of the appellants Brief, the problem to which their invention is directed is described in the following manner:

Heavy duty pneumatic radial tires are subject to great wear and heat. To resist excessive wear, wear-resistant rubber is generally employed in an upper tread surface. To resist heat deformation, heat-resistant rubber having a different modulus of elasticity than the wear-resistant layer is generally employed in a lower layer of the tread. Further, these

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tires tend to wear irregularly and wander. Narrow-width grooves can be employed to improve wear and decrease wandering.

In such a tire, with a tread having a pair of upper and lower rubber layers with different moduli of elasticity, deforming stress concentrates in the boundary surface bordering the two rubber layers when the tire rolls normally or rides on a curb stone.

The appellants go on to describe their discovery that the deforming stress which concentrated in the boundary surface adversely affected the bottom of the fine groove, causing cracks to occur, and that their invention solves this problem by a tire construction having a plurality of features.

The following requirements manifest the appellants' invention in both of the independent claims:

(1) Upper and lower tread layers having different moduli of 300% elasticity at room temperature with the layer located on the tread surface side having a smaller modulus than the other layer.

(2) Plural circumferential main grooves on the tread surface side of the tire.

(3) A narrow-width fine circumferential groove in the layer on the tread surface side of the tire and having

(a) a radius of curvature of its bottom of 1.5mm or less, and

(b) a width in a range of not less than 15% and not more than 30% of the width of one of the main grooves.

(4) The shortest distance between the bottom of the fine groove and a boundary surface bordering between the pair of upper and lower layers being within a range of 1mm and 3mm.

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Including the admitted prior art, the examiner has relied upon the combined teachings of five references to meet the seven limitations recited above in the two independent claims in the first of the two rejections, and four references in the second. However, essentially for the reasons expressed by the appellants on pages 10 through 17 of the Brief, it is our view that the combined teachings of the references cited in each of the two rejections of independent claims 1 and 13 fail to establish a *prima facie* case of obviousness with regard to the subject matter of these claims. In particular, it is our opinion that even assuming, *arguendo*, that the features recited in these two claims exist individually in the references relied upon, the only suggestion for combining them in the manner proposed by the examiner is found in the hindsight accorded one who first viewed the appellants' disclosure. As our reviewing court stated in *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992):

It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated

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disclosures in the prior art to deprecate the claimed invention" (citations omitted).

We will not sustain any of the rejections.

The decision of the examiner is reversed.

REVERSED

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BRUCE H. STONER, JR. Chief)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
NEAL E. ABRAMS)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
)	
CHARLES E. FRANKFORT)	
Administrative Patent Judge)	

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