

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. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex Parte HIROSHI SATO

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Appeal No. 2003-0332  
Application 09/057,383

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ON BRIEF

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Before GARRIS, OWENS and JEFFREY T. SMITH, *Administrative Patent Judge*.

JEFFREY T. SMITH, *Administrative Patent Judge*.

***DECISION ON APPEAL***

Applicant appeals the decision of the Primary Examiner's refusal to allow claims 1 to 4, 9 to 11, 16, 17, 19 and 21.<sup>1, 2</sup> We have jurisdiction under 35 U.S.C. § 134.

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<sup>1</sup> In rendering our decision, we have considered Appellant's arguments presented in the Brief, filed April 11, 2002 and the Reply Brief, filed October 21, 2002. We have considered the Examiner's position presented in the Answer, mailed August 23, 2002.

<sup>2</sup> The Examiner has indicated that claims 6, 13, 14 and 22 to 28 contain allowable subject matter. Claim 14 has been objected to as being dependent upon a rejected base claim. The Amendment filed April 11, 2002 has been entered. (Answer, p. 2).

***THE INVENTION***

The Appellant's claimed invention relates to a pneumatic tire that comprises a first block row and a second block row in which a plurality of blocks projecting from an outer circumferential of the pneumatic tire are disposed along the tire circumferential direction. According to Appellant, the invention reduces the noise associated with the tire's tread pattern while maintaining dynamic performance.

(Brief, p. 2). Claim 1 which is representative of the invention is reproduced below:

1. A pneumatic tire comprising:

a first block row in which a plurality of blocks projecting from an outer circumferential of said pneumatic tire are disposed along a tire circumferential direction; and

a second block row in which a plurality of blocks projecting from the outer circumference of said pneumatic tire are disposed along the tire circumferential direction, said second block row being parallel to said first block row,

wherein a side surface of a leading edge side end portion of each block of said first block row and said second block row is inclined with respect to a tire transverse direction such that an angle, which is formed by the side surface of the leading edge side end portion of each block of said first block row and a line tangent to a tire leading edge side contour line of a ground-contact configuration, and an angle, which is formed by the side surface of the leading edge side end portion of each block of said second block row and a second tangent line to a tire leading edge side contour line of the ground-contact configuration, are substantially equal.

As evidence of unpatentability, the Examiner relies on the following references:

Williams	4,299,264	Nov. 10, 1981
Miller	4,456,046	Jun. 26, 1984
Shiraishi	5,054,530	Oct. 08, 1991

### ***THE REJECTIONS***

The Examiner rejected claims 1 to 4, 9 to 11, 16, 17, 19 and 21 under 35 U.S.C. § 102(b) as anticipated by Shiraishi; and claims 1 to 4, 9 to 11, 16, 17, 19 and 21 under 35 U.S.C. § 103 over the combination of Shiraishi, Williams and Miller.<sup>3</sup> (Answer, p. 3).

### ***OPINION***

The Appellant submits that for each of the rejections, the claims are grouped together. (Brief, p. 3). Accordingly, claims 1 to 4, 9 to 11, 16, 17, 19 and 21 will stand or fall together. We will limit our discussion to claim 1 as representative of the rejected claims. See 37 CFR § 1.192(c)(7)(2001).

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<sup>3</sup> According to the Examiner, the rejection under 35 U.S.C. § 112, second paragraph, has been withdrawn. (Answer, p. 3).

The Examiner rejected claims 1 to 4, 9 to 11, 16, 17, 19 and 21 under 35 U.S.C. § 102(b) as anticipated by Shiraishi.

We note that Shiraishi describes a prior art tire that has straight grooves. Specifically, Shiraishi discloses “[t]he tire of the prior art was prepared with the same groove area ratio, groove pitch and groove depth as those of the tire of the present invention. This tire was cut to form in its tread surface: transverse grooves of straight shape having an angle of 30° on the grounding center line with respect to its circumferential direction in the running direction of the tire.” (Col. 4, l. 67 to col. 5, l. 5).

Appellant argues that Shiraishi distinguishes itself from the prior art that uses straight grooves. (Reply Brief, p. 3). Appellant’s argument is an admission that it was known in the prior art to form tires that includes grooves of a straight shape. A tire tread surface with transverse grooves of straight shape having a constant angle of 30° on the grounding center line would meet the requirements of the claimed invention.

Notwithstanding the above description of the prior art, the Examiner asserts that Shiraishi discloses a pneumatic tire that renders the claimed invention unpatentable. Specifically, the Examiner states :

*With respect to the tire tread*, Shiraishi discloses a pneumatic tire having a directional asymmetric tread comprising **rows of blocks including the middle block rows** defined by **circumferential grooves 2** and **transverse grooves (lug grooves/lateral grooves) G** wherein the block rows are parallel to each other. The blocks, transverse grooves and circumferential grooves are illustrated in figure 3 (one embodiment of the invention of Shiraishi). Each block of each row has an side surface which is inclined with respect to the transverse direction of the tire (a side surface of a leading edge side portion which is inclined with respect to a tire transverse direction). This inclined side surface of the block is defined and formed by an inclined transverse groove. As illustrated in figure 3, the inclined transverse grooves in the middle block rows are relatively straight. Hence, the tire of Shiraishi, like the claimed tire, has rows of blocks including a “first row of blocks” and a “second row of blocks” wherein each block has a [sic, an] inclined side surface defined by an inclined transverse groove.

*With respect to ground contact configuration (the area of contact between the tire and the road)*, Shiraishi teaches that the pneumatic tire has a **grounding surface (a ground contact configuration)** wherein the ground contact configuration has a leading edge F (a tire leading edge side contour line of a ground contact configuration). The ground contact configuration including its leading edge F is illustrated in figure 2. Hence, the tire of Shiraishi, like the claimed tire, has a ground contact configuration having a tire leading edge side contour line.

*With respect to the relationship between the tire tread and the ground contact configuration*, Shiraishi describes a **constant angle  $\alpha$  which requires that the angle  $\alpha$  at one location is equal to the angle  $\alpha$  at another location**. In particular, Shiraishi teaches that an angle  $\alpha$  between the transverse grooves and the leading edge of the grounding surface is constant at individual eight ones of ten width wise equidistantly divided sections of the grounding surface excepting the two side sections. The relationship is indicated in figure 2 which illustrate[s] angle  $\alpha$  at each of [the] sections Z2-Z9 as being equal [to] each other.

Answer, pp. 4-5 (emphasis original).

We also agree with the Examiner that Shiraishi's invention anticipates the invention of claim 1.

The subject matter of claim 1 describes the relationship between two block rows base upon the angle which is formed by the side surface of the leading edge side end portion of each block of the first and second block rows and the tangent line to the tire leading edge side contour line of the ground-contact configuration for the respective block rows. This description does not require the leading edge side end portion of the block rows to be straight. In fact, the claim only specifies that the above described angles for each of the block rows are substantially equal to one another. In another embodiment, the specification discloses that the absolute difference between the two angles should be  $\leq 5^\circ$ . (Specification, p. 8). The variance in the angle would result from differences in the structure (i.e. shape) of the blocks in the rows. In other words, the variance in the angle for the block rows could result from pitch of the leading edge of the block or result from curvature of the leading edge of the block. During examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification. *In re Morris*, 127 F.3d 1048, 1053-54, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

Appellant argues that Shiraishi's average angle  $\beta$  of the inclined grooves is not constant, as is the case with  $\alpha$ , because the transverse grooves are curved. Thus, Shiraishi does not anticipate the claimed invention. (Brief, p. 8).

We are not persuaded by Appellant's argument. As stated above, claim 1 does not require the grooves to be straight. The claim specifies that the angles for the first and second block rows are substantially equal. This language allows for some variance in the angle. Shiraishi discloses the average angle  $\beta$  of the individual sections for the inclined grooves in the common direction may be set at the constant angle  $\alpha$  and preferably vary by  $\pm 3^\circ$ . (Col. 3, ll. 46-50).

Appellant argues that claim 1 defines a relationship of angles A and B which is different from the angle  $\beta$  in Shiraishi. Specifically, "[t]he angle A of one row and the circumferential direction in a corresponding angle B on the other row in a circumferential direction are made substantially equal to each other at one pair of blocks of one pair of the circumferential rows. This means that the angles A and B of the present invention are not intended to have a substantially constant angle value such as the value  $\alpha$  of Shiraishi throughout the widthwise or transverse direction." (Brief, p. 11).

The subject matter of claim 1 does not specify a relationship for angles A and B. In other words, the claimed subject matter does not preclude the angles A and B from being constant throughout the widthwise or transverse direction.

Appellant argues that “[t]he Examiner’s rejection thus is predicated on taking these continuous grooves [block rows between circumferential grooves 2] and considering only a portion of them which, in the Examiner’s view, are relatively straight given the depiction in Figure 3. (Reply Brief, p. 3).

Appellant’s argument is not persuasive. The subject matter of claim 1 describes the invention by describing the characteristics of two block rows and not the entire tread design. Moreover, the claimed invention does not preclude curved grooves. (See above).

After reviewing the totality of the evidence before us, including consideration of Appellant’s arguments, it is our determination that Shiraishi describes subject matter that anticipates the subject matter of claim 1. *See In re Schreiber*, 44 USPQ2d 1429, 1433 (Fed. Cir. 1997). (“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.”)

The Examiner also rejected the subject matter of claims 1 to 4, 9 to 11, 16, 17, 19 and 21 under 35 U.S.C. § 103 over the combination of Shiraishi, Williams and Miller. The Examiner added the Miller and Williams references to establish that a

person of ordinary skill in the art would have recognized the suitability using linear transverse grooves in a pneumatic tread design.

The Examiner states:

Shiraishi 'prefers' curved transverse grooves. However: The use of the conventional linear transverse grooves for the one block row and the other block row of Shiraishi is suggested by the prior art since (1) Shiraishi (directed to a directional tire tread having excellent water repellency) recognizes that variance from the constant angle alpha is permitted (e.g. within  $\pm 5$  degrees) and (2) linear transverse grooves whose inclination angle changes from row to row is well known in the tire art as evidenced by Williams (directed to a directional tire tread having improved wet drainage and noise reduction) and Miller (directed to a directional tire tread for evacuating water from the footprint/ground contact configuration).

[Answer, p. 8].

We agree with the Examiner. Shiraishi's admitted prior art, Miller and Williams indicate that even if Shiraishi's grooves must be curved, the curvature can be minimal, such that the angles are substantially equal as required by the Appellant's claim. Therefore, it would have been obvious to a person of ordinary skill in the art to determine suitable minimal degrees of curvature through no more than routine experimentation. Discovery of the optimum or workable range through routine experimentation does not impart patentability unless the results in the critical range are unexpectedly good. *See Merck & Co. v. Biocraft Labs.*, 874 F.2d 804, 809, 10 USPQ2d 1843, 1847 (Fed. Cir. 1989); *In re Geisler*, 116 F.3d 1465, 1470, 43

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USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Upon careful review of the entire record including the respective positions advanced by Appellant and the Examiner, we find that the Examiner has carried his burden of establishing a *prima facie* case of obviousness and that this *prima facie* case has not been effectively rebutted by Appellant. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1471-1472, 223 USPQ 785, 787-788 (Fed. Cir. 1984). Accordingly, we will sustain the Examiner's rejection.

#### ***CONCLUSION***

The rejections of claims 1 to 4, 9 to 11, 16, 17, 19 and 21 under 35 U.S.C. § 102(b) as anticipated by Shiraishi; and claims 1 to 4, 9 to 11, 16, 17, 19 and 21 under 35 U.S.C. § 103 over the combination of Shiraishi, Williams and Miller are affirmed.

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

**AFFIRMED**

BRADLEY R. GARRIS  
*Administrative Patent Judge*

TERRY J. OWENS  
*Administrative Patent Judge*

JEFFREY T. SMITH  
*Administrative Patent Judge*

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SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 PENNSYLVANIA AVENUE, N.W.  
WASHINGTON, DC 20037-3202