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EXAMINER

MAKI, STEVEN D

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ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JON I. STUCKEY

Appeal 2015-002681
Application 13/034,109
Technology Center 1700

Before JAMES C. HOUSEL, N. WHITNEY WILSON, and
JULIA HEANEY *Administrative Patent Judges*.

WILSON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134 from the Examiner's December 5, 2013 decision finally rejecting claims 1–10, 12, 13, 15, 16, and 18–23. We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We affirm.

¹ The real party in interest is Bridgestone Americas Tire Operations LLC (Appeal Br. 1).

CLAIMED SUBJECT MATTER

Appellant's invention is directed to a tire having a tread divided into at least three circumferential ribs by grooves which run circumferentially around the tire (claim 1). Each rib is further divided into "lugs," which are separated from each other by lateral grooves (Spec. 4, ¶ 27). This general design may be seen in the following annotated version of FIG. 5 from the application on appeal:

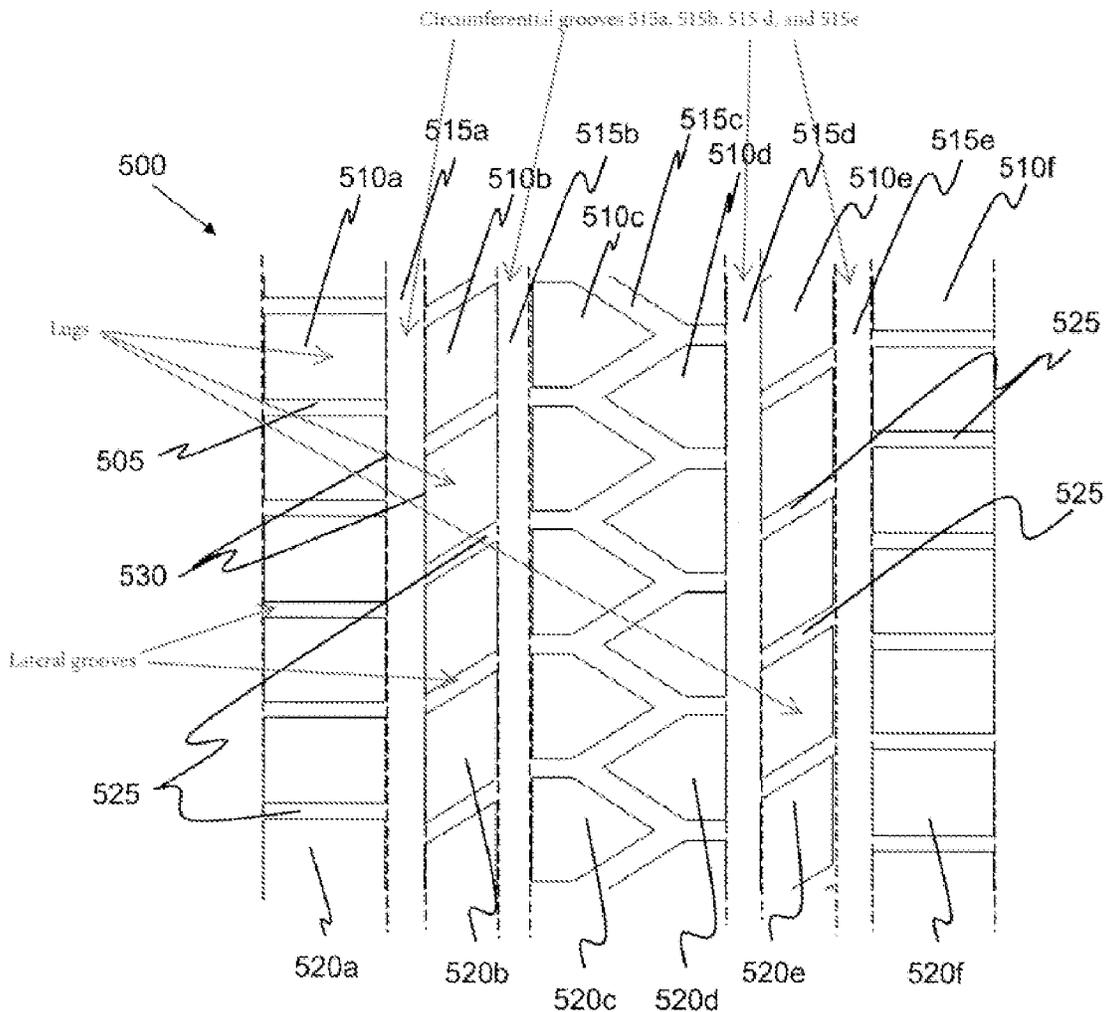


Fig. 5

Annotated FIG. 5 shows a top view of a portion of a tread of a tire according to the invention.

The claimed invention requires that there be different numbers of lugs in at least two of the ribs, and that the circumferential shear stiffness of the ribs be within 5 percent of each other. Claim 1 is illustrative of the claimed invention and is reproduced below from the Claims Appendix of the Appeal Brief (*key claim limitation in italics*):

1. A tire having a circumferential tread, the tire comprising:
 - a plurality of circumferential grooves disposed in the circumferential tread, including at least a first circumferential groove and a second circumferential groove;
 - a plurality of circumferential ribs at least partially defined by the plurality of circumferential grooves, the plurality of circumferential ribs including at least a first circumferential rib, a second circumferential rib, and a third circumferential rib;
 - a first plurality of lugs formed in the first circumferential rib;
 - a second plurality of lugs formed in the second circumferential rib, wherein a total number of lugs in the second plurality of lugs is different from a total number of lugs in the first plurality of lugs; and
 - a third plurality of lugs formed in the third circumferential rib,
wherein the first circumferential rib has a first circumferential shear stiffness, the second circumferential rib has a second circumferential shear stiffness that is within 5-percent of the first circumferential shear stiffness, and the third circumferential rib has a third circumferential shear stiffness that is within 5-percent of the first circumferential shear stiffness and within 5-percent of the second circumferential shear stiffness.

REJECTION

Claims 1–10, 12, 13, 15, 16, and 18–23 (all of the claims in appeal) are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP '110² in view of JP '130³ or Kousaie,⁴ and optionally further in view of at least one of Mancosu,⁵ EP '557,⁶ and JP '040.⁷

DISCUSSION

Appellant does not offer separate arguments in support of the patentability of any of the claims (see, e.g. Appeal Br. 22–24).⁸ Accordingly, we focus our discussion on the rejection of claim 1.

The Examiner finds that JP '110 discloses each element of the claimed invention, except that it does not recite that the circumferential shear stiffness of the ribs are within 5% of the other ribs, as set forth in the final paragraph of claim 1 (Final Act. 3). The Examiner further finds, *inter alia*, that JP '130 and Kousaie each teach that in an asymmetrical tread pattern, the circumferential shear stiffness of the various ribs “should be about equal” (JP '130), or the differences between the ribs “should be minimized (Kousaie) to improve steering stability (JP '130) or to obtain balanced wet, dry, and snow performance (Kousaie) (Final Act. 4).

² Morikawa et al., JP 63-159110, published July 2, 1988.

³ Naoki, JP 2009-035130(A) published February 19, 2009.

⁴ Kousaie et al., U.S. Patent No. 6,609,548 B2, issued August 26, 2003.

⁵ Mancosu et al., U.S. Patent No. 6,697,772 B2, issued February 24, 2004.

⁶ Sawano, EP 0 367 557 A2, published May 9, 1990.

⁷ Takeshi, JP 2006-143040, published June 8, 2006.

⁸ Appellant notes that claims 9, 10, 18, 22, and 23 recite differing amounts of circumferential shear stiffness differential, but does not offer separate arguments with regard to these amounts (Appeal Br. 22–24).

Therefore, the Examiner determines that it would have been obvious to ensure that the ribs in the JP '110 tire have similar circumferential shear stiffnesses (*id.*).⁹

We have reviewed the arguments and evidence set forth by Appellant in the Appeal Brief and the Reply Brief, but are not persuaded that Appellant has demonstrated reversible error in the rejection, essentially for the reasons set forth by the Examiner in the Final Action and the Answer. We add the following for emphasis.

Appellant contends the proposed combination of JP '110 with JP '130 or Kousaie would not have had a reasonable expectation of success and, therefore, would not have rendered the claimed invention obvious (see, e.g. Appeal Br. 13). In particular, Appellant argues that although the secondary references do teach that minimizing the difference in circumferential shear stiffness between ribs is desirable (Appeal Br. 14), none of the references “provide methods for balancing the stiffness of three ribs having different numbers of lugs” (*id.*).

The Examiner finds that Kousaie explicitly teaches a tire with circumferential ribs having differing amounts of lugs and having substantially similar circumferential stiffnesses (Ans. 23–24). The Examiner finds that the tire depicted in Kousaie’s FIG. 2 shows ribs having differing amounts of lugs (Ans. 23). Specifically, the Examiner finds that the number of lugs (blocks) in rib R5 is greater than the number of lugs (blocks) in either rib R2 or R1, and the number of lugs in rib R4 is greater than the number of

⁹ The Examiner makes additional findings based on Mancosu, JP '040, and EP '557 to bolster the basic findings from JP '130 and Kousaie (Final Act. 4–5).

blocks in either rib R2 or rib R1 (*id.*). This is shown in the following annotated version of Kousaie's FIG. 2

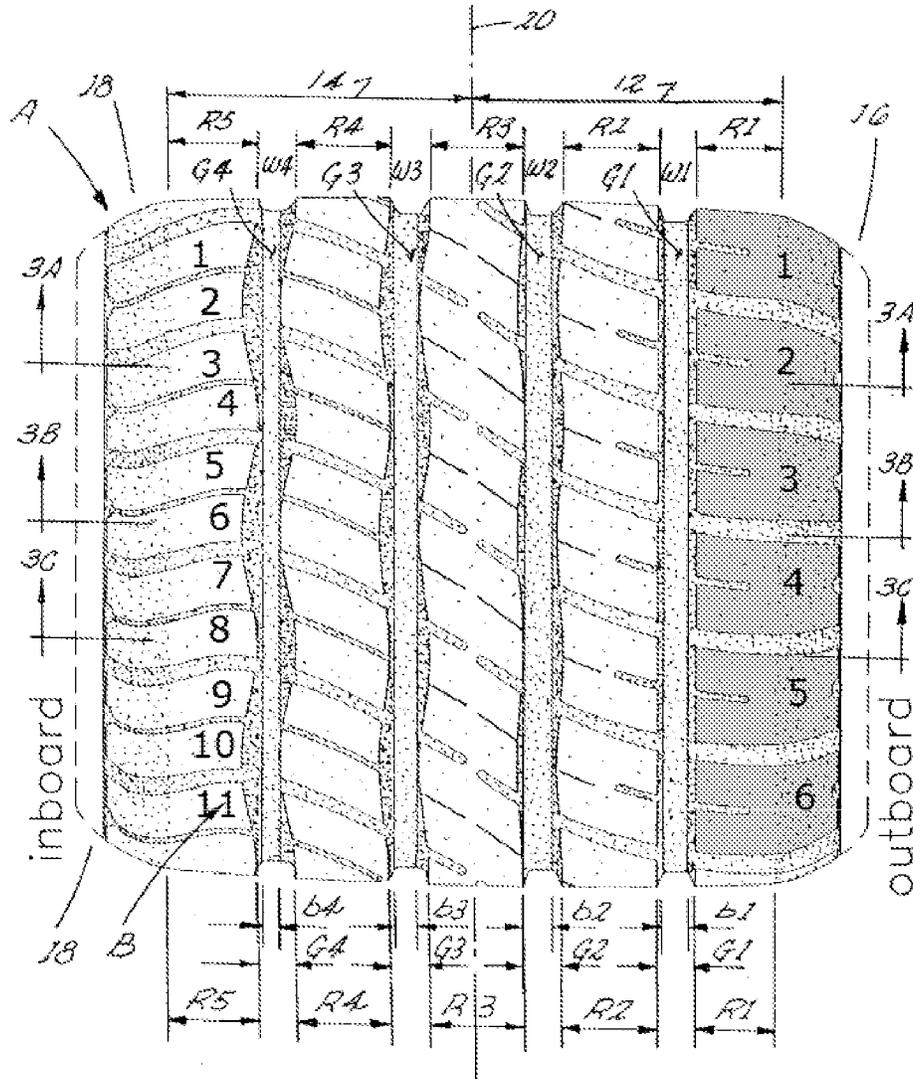


Fig. 2

FIG. 2 is a plan view of an asymmetric high performance vehicle tire according to the Kousaie which illustrates the inboard tread pattern and outboard tread pattern as defined about a mid-circumferential plane.

The Examiner finds that “[r]ibs R4 and R5 have a greater number of blocks (lugs) because ‘the inboard tread pattern has a higher density of lateral grooves than the outboard tread pattern’” and that “lateral grooves (but not sipes) divide a ‘rib’ into ‘blocks’ (‘lugs’)” (Ans. 23) (emphasis omitted). In other words, with reference to FIG. 2, rib R5 has 11 lugs, while rib R1 has 6 lugs, which are numbered in the annotated version reproduced above.

Appellant contends that the narrow grooves separating lugs 1 and 2, for example, do not create two lugs, but instead lugs 1 and 2 should be considered a single lug and that, therefore, each of the ribs has the same number of lugs (Appeal Br. 16–17). Appellant argues that the narrow grooves (called sipes and slots) do not affect the number of lugs in each rib (Appeal Br. 17). This argument is not persuasive.

Appellant has not provided a source for or evidence in support of the contention that the narrow grooves of Kousaie do not create separate lugs, as the Specification of the application on appeal does not provide a definition of lug or an explanation which would mean that rib R5 of Kousaie’s FIG. 2 does not contain 11 lugs.

To the extent that Appellant argues (Reply Br. 7–8) that because Kousaie only teaches two ribs with differing amounts of lugs having the same stiffness and not three, a person of skill in the art would not have reasonably been expected to be able to produce the claimed invention, we disagree. Kousaie discloses that it is possible to produce ribs having the same thickness but with differing numbers of lugs. Appellant does not dispute that the art teaches that having each of the ribs with a similar stiffness is desirable (Appeal Br. 14). Accordingly, we agree with the

Examiner that a person of skill in the art could reasonably have expected that it would be possible to produce a multi-rib tire where at least three ribs have differing amounts of lugs and similar stiffnesses. (Moreover, only claims 13 and 21 require that all three ribs have different amounts of lugs. The remaining claims do not recite this requirement).

Accordingly, based on the evidence of record, Appellant has not demonstrated reversible error in the rejection.

CONCLUSION

We AFFIRM the rejection of claims 1–10, 12, 13, 15, 16, and 18–23 under 35 U.S.C. § 103(a) as being unpatentable over JP '110 in view of JP '130 or Kousaie, and optionally further in view of at least one of Mancosu, EP '557, and JP '040.

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

AFFIRMED