

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN O'BRIEN, DANNY LEWIS,
RAYMOND BUSHNELL and CHARLES OLSON

Appeal No. 2004-0459
Application No. 09/652,997

ON BRIEF

Before OWENS, DELMENDO, and PAWLIKOWSKI, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-6 and 14-20. Claims 7 and 8, which are all of the other claims pending in the application, have been allowed.¹

¹ The examiner (office action mailed September 11, 2002, paper no. 5, page 3) and the appellants (amendment after final rejection filed January 21, 2003, paper no. 7, page 2) agree that claim 9 should be canceled. In the event of further prosecution, this claim should be clerically canceled.

THE INVENTION

The appellants claim a process for forming a controlled extension and retraction tire tread segment which, when extended, improves the tire's traction. Claims 1 and 5 are illustrative:

1. A process for creating controlled extension and retraction of a tire tread segment in a vehicle tire which comprises:

providing a tire casing of steel and rubber which includes an outer peripheral wall bounded by side walls, the outer peripheral wall defining an outer peripheral surface;

designating a continuous peripheral strip of said peripheral surface for provision of an expandable chamber;

applying a non-adhering film over the designated continuous strip;

applying uncured rubber material suitable for a tire tread over the entire peripheral surface of the casing;

forming an indentation in the uncured rubber superimposed over the designated strip;

curing the uncured rubber to cause adhesion of the rubber to the casing and providing thereby a tire tread having a peripheral outer tread surface and an indentation inset from the tread surface, said film preventing adhesion between the rubber and the casing in said designated strip and defining thereby a non-adhering interface between said casing and said tread which defines an expandable chamber; and

providing a controlled air inlet to the chamber for expansion and retraction of the overlying tread segment for selective extension and retraction of said tread segment relative to said tread surface.

5. A process for creating controlled extension and retraction of a tire tread segment in a vehicle tire which comprises:

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providing a tire including a casing of steel and rubber having an outer peripheral surface and a tread secured to said peripheral surface and defining a ground engaging surface;

forming a channel in the tread with side walls and a bottom wall, the bottom wall of the channel inset from the ground engaging surface;

laying a non-adhering film on the bottom wall;

laying an uncured rubber layer over the film within the channel, said layer having an outer surface inset from the ground engaging surface of the tread;

curing the rubber and thereby bonding the rubber layer to the walls of the channel, the film preventing bonding of the rubber layer to the bottom wall to thereby form an expandable chamber between the layer and the bottom wall with the rubber layer then providing a continuation of the tread across the channel; and

providing a controlled air inlet to the chamber for extension and retraction of the chamber for selective extension and retraction of the tread segment from the channel.

THE REFERENCES

Case	1,298,661	Apr. 1, 1919
Jenne	2,237,559	Apr. 8, 1941
Voelkel et al. (Voelkel)	2,841,199	Jul. 1, 1958
Bell, Jr. (Bell)	3,712,336	Jan. 23, 1973
Harrington	3,930,528	Jan. 6, 1976
Kuan et al. (Kuan)	4,453,992	Jun. 12, 1984
Yi Su	4,676,289	Jun. 30, 1987
Hirakawa	4,815,513	Mar. 28, 1989
O'Brien	5,810,451	Sep. 22, 1998
Nakamura ² (Japanese patent application)	58-122207	Jul. 20, 1983

² Citations herein to Nakamura and Honda are to English translations thereof, copies of which are provided to the appellants with this decision.

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Yoshida et al. (Honda)³ 11-216781 Aug. 10, 1999
(Japanese patent application)

THE REJECTIONS

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 1 and 2 over O'Brien in view of Honda, Kuan, Harrington and Case; claims 3, 4, 14 and 15 over O'Brien in view of Honda, Kuan, Harrington, Case, Jenne, Bell and Voelkel; claims 16-19 over O'Brien in view of Honda, Kuan, Harrington, Case, Jenne, Bell, Voelkel and Hirakawa; claim 20 over O'Brien in view of Honda, Kuan, Harrington, Case, Yi Su and Hirakawa; and claims 5 and 6 over Nakamura in view of Honda, Kuan, Harrington and Case.

OPINION

We affirm the rejections of claims 1-4 and 14-20, and reverse the rejection of claims 5 and 6.

The appellants state that they accept the examiner's grouping of claims (brief, page 6). Although additional references are applied to claim 20, the appellants do not argue this claim separately from claim 1 from which it depends (brief, page 10; reply brief, page 8). Claim 20, therefore, stands or falls with claim 1. Thus, we limit our discussion of the affirmed rejections to one claim to which each of the affirmed rejections other than

³ The examiner and the appellants refer to this reference as "Honda". For consistency, we likewise do so.

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the rejection of claim 20 applies, i.e., claims 1, 3 and 16. See *In re Ochiai*, 71 F.3d 1565, 1566 n.2, 37 USPQ2d 1127, 1129 n.2 (Fed. Cir. 1995); 37 CFR § 1.192(c)(7)(1997).

Claim 1

O'Brien discloses a tire comprising a tire tread segment (102) with a chamber (106), and having a controlled air inlet (110) for expanding and retracting the tread segment relative to the tread surface (col. 3, lines 2-14).⁴ There is an indentation in the tread surface at the position of the tread segment (figure 1). O'Brien does not disclose how the chamber is formed. Hence, for a suggestion of how to form the chamber, one of ordinary skill in the art would have looked to other references in the tire art which disclose methods for forming chambers between rubber layers in tires.

Honda discloses a method for forming a bag-like chamber for holding a puncture sealant (6) (page 9). The chamber is formed by placing an anti-adhesive sheet, preferably a polyfluoroethylene sheet, between a packing rubber sheet (5) and an inner liner

⁴ As acknowledged by the appellants (original claim 1), the casing of steel and rubber recited in the present claim 1 is conventional.

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rubber (12) to prevent a portion (5b) of the packing sheet from being bonded to the inner liner rubber when the tire is vulcanized (pages 6, 8-10, 12, 13).

Kuan discloses forming a pocket which is attached to the sidewall of a tire and contains a lubricant (abstract). The pocket is formed by Harrington's method (Harrington, col. 2, lines 53-68) wherein a strip of release material which conforms to the width and length of the pocket is placed between inner liners before the tire is vulcanized (Kuan, col. 2, lines 17-39).

Case discloses a method for preventing a tire tread inner layer (3) from adhering to an inner tube (6) during vulcanization by placing between the tread inner layer and the tube a fabric which will not bond to the inner layer during vulcanization (page 1, lines 57-66).

The teachings of Honda, Kuan, Harrington and Case would have fairly suggested, to one of ordinary skill in the art, placing an anti-adhesive sheet on the lower surface of O'Brien's indented tire segment around its circumference prior to vulcanization so that the surface under the anti-adhesive sheet does not bond to the rubber above the sheet during vulcanization and that therefore, the desired chamber is formed.

The appellants argue that O'Brien is a parent of the present application and is not prior art (brief, pages 6-8; reply brief,

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pages 3-4). The present application is a continuation-in-part of application no. 09/284,557, issued as patent no. 6,386,252. Both the '252 patent and O'Brien are continuations-in-part of application no. 08/733,676, issued as patent no. 5,788,335.⁵ The first disclosure of forming a chamber using a non-adhering film is in the present application filed August 31, 2000. Hence, O'Brien, which was issued on September 22, 1998, more than one year before the filing date of the present application, is prior art under 35 U.S.C. §§ 102(b) and 103.

The appellants argue that Honda, Kuan, Harrington and Case have nothing to do with forming an expandable chamber which is located under a tread portion and is used to expand and retract that tread portion (brief, pages 9-10). This argument is deficient in that the appellants are attacking the references individually when the rejection is based on a combination of references. See *In re Keller*, 642 F.2d 413, 426, 208 USPQ 871, 882 (CCPA 1981); *In re Young*, 403 F.2d 754, 757-58, 159 USPQ 725, 728 (CCPA 1968). The expandable chamber under a tread portion is disclosed by O'Brien (col. 3, lines 2-14).

⁵ An inspection of the '252 and '335 patents shows that the Patent and Trademark Office records which state that the present application is a continuation of application no. 09/248,557 and that application no. 09/248,557 is a continuation of application no. 08/733,676 are incorrect.

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The appellants argue that "[a] tire manufacturer looking to resolve the problem of producing selective tread expansion chambers would not find an incentive for accomplishing that task from a disclosure that provides internal sealant-containing pockets for sealing punctures" (brief, page 9), but do not provide any evidence or reasoning in support of this argument. Because Honda, Kuan, Harrington and Case disclose that placing an anti-adhesive sheet between rubber layers of a tire to prevent them from adhering to each other during vulcanization is an effective method for forming a chamber, they would have fairly suggested, to one of ordinary skill in the art, using such a method to form O'Brien's chamber.

The appellants argue that Honda, Kuan and Harrington do not indicate that their methods are separate from vulcanization and are compatible with vulcanization (reply brief, pages 5-6). As discussed above, each of these references discloses that the anti-adhesive sheet is placed between rubber layers prior to vulcanization.

The appellants argue that "Case is devoid of any teaching of a chamber or pocket of any kind much less an on demand expandable-contractible chamber" (reply brief, page 7). O'Brien is relied upon by the examiner for a disclosure of an expandable-contractible chamber. Case is relied upon by the examiner for a

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suggestion of how to keep O'Brien's upper and lower portions of the tread segment from adhering to each other during vulcanization such that the desired chamber is formed. As discussed above, Case would have provided one of ordinary skill in the art with such a suggestion.

For the above reasons we affirm the rejection of claim 1 and claims 2 and 20 that stand or fall therewith.

Claim 3

Claim 3, which depends from claim 1, requires that the tire casing is mounted on a tire rim and filled with air under pressure, and that air is directed from the casing into the chamber for extending the tread segment. O'Brien does not disclose the source of the air used to expand his chamber.

Voelkel teaches that the air in a tire is effective for providing air through a valve (52) to a cylinder (22) in the tread of the tire for expanding the cylinder such that a roadway penetrating member (30) extends beyond the tire tread (col. 1, lines 40-45; col. 2, lines 42-46 and 56-62; col. 2, line 71 - col. 3, line 4; col. 3, lines 50-62; col. 4, lines 24-62). This teaching would have fairly suggested, to one of ordinary skill in the art, use of the air in O'Brien's tire to expand the chamber in the tire tread segment.

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The appellants argue that Voekel's air source provides for external air input, is mounted separately, and is nonrotatable relative to the rotatable tire (brief, page 9; reply brief, page 7). Voekel's air source is the tire (col. 3, lines 57-59), not a separately-mounted, nonrotatable device as argued by the appellants.

Accordingly, we affirm the rejection of claim 3 and claims 4, 14 and 15 that stand or fall therewith.⁶

Claims 16-19

Claim 16, which depends from claim 14 which depends from claim 1, requires that the chamber in the tread segment is connected via a line through the interior of the tire casing to a first valve stem which is exterior of the wheel rim, and that a second valve stem projected from the wheel rim is connected to the first valve stem by a line that includes an air pressure control to limit the air pressure conveyed to the chamber in the tread segment.

The examiner argues that one of ordinary skill in the art would have understood that inflation pressure control is desirable in any inflation process, and that Hirakawa "provides clear evidence in support of the known desirability in this art of

⁶ A discussion of Jenne and Bell is not necessary to our decision.

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controlling the flow of air to and from the expansion chambers"
(answer, pages 7-8).

The appellants argue that their "controls are contained in or on the wheel and avoids [sic] the need for external control as taught by *Hirakawa*" (brief, page 10), and that "Hirakawa does not teach a process for utilizing a primary chamber of the same tire to produce expansion of the secondary chamber" (reply brief, page 7).

As discussed above, the suggestion for using the primary chamber of the same tire to expand the chamber in O'Brien's tire tread would have been provided to one of ordinary skill in the art by Voelkel. Also, contrary to the appellants' argument, claim 16 does not require that the air pressure control is in or on the wheel.

The appellants do not challenge the examiner's argument that one of ordinary skill in the art would have understood that pressure control would have been desirable in any inflation process in the tire art and that Hiramawa provides evidence of that desirability in the context of expansion chambers in tire segments. Consequently, we accept the examiner's argument as being correct. Moreover, because the chambers in O'Brien's tire tread clearly are less resistant than the tire carcass to air pressure, the suggestion by Voelkel of using air from the same

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tire to expand the chamber in O'Brien's tire tread would have led one of ordinary skill in the art to use an air pressure control in the line from the primary chamber to the chamber in the tire tread to prevent overpressuring the chamber in the tire tread.

Accordingly, we affirm the rejection of claim 16 and claims 17-19 that stand or fall therewith.

Claims 5 and 6

Nakamura discloses a method for forming an anti-skid projection on a tire tread (page 1). Nakamura forms a cylindrical indentation (2) in the tire tread, attaches the periphery of a bent, sheet-like elastic element (3) around the surface of the indentation at any location in the indentation, and forms within the indentation a rubber or plastic anti-skidder (4) of any size and shape on the outer surface of the elastic element (pages 2-3; figure 1). The anti-skidder is projected by introducing compressed air into the inner space between the indentation surface and the elastic element, thereby outwardly deforming the elastic element so as to push the outer end of the anti-skidder beyond the tire tread surface (page 2; figure 2).

The examiner argues that to permit formation of a chamber during otherwise conventional tire formation, it would have been obvious to one of ordinary skill in the art, in view of Honda, Kuan, Harrington and Case, to replace Nakamura's elastic element,

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which adheres to the indentation and to which the anti-skidder adheres, with a non-adhering film, and to replace the anti-skidder with uncured rubber (answer, page 9).

As indicated by the above discussions of the references applied to claims 5 and 6, none of these references discloses forming a chamber in a tire tread during otherwise conventional tire formation. The examiner has not explained how the secondary references themselves would have fairly suggested, to one of ordinary skill in the art, replacing Nakamura's elastic member with an anti-adhering film and replacing Nakamura's anti-skidder with uncured rubber so that a chamber is formed in this manner. See *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). Thus, the record indicates that the motivation for using this chamber-forming method comes from the appellants' disclosure rather than coming from the applied prior art and that, therefore, the examiner used impermissible hindsight in rejecting the appellants' claim 5 and claim 6 which depends therefrom. See *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Rothermel*, 276 F.2d 393, 396, 125 USPQ 328, 331 (CCPA 1960). Accordingly, we reverse the examiner's rejection of claims 5 and 6.

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DECISION

The rejections under 35 U.S.C. § 103 of claims 1 and 2 over O'Brien in view of Honda, Kuan, Harrington and Case, claims 3, 4, 14 and 15 over O'Brien in view of Honda, Kuan, Harrington, Case, Jenne, Bell and Voelkel, claims 16-19 over O'Brien in view of Honda, Kuan, Harrington, Case, Jenne, Bell, Voelkel and Hirakawa, and claim 20 over O'Brien in view of Honda, Kuan, Harrington, Case, Yi Su and Hirakawa, are affirmed. The rejection under 35 U.S.C. § 103 of claims 5 and 6 over Nakamura in view of Honda, Kuan, Harrington and Case is reversed.

AFFIRMED-IN-PART

TERRY J. OWENS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ROMULO H. DELMENDO)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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