Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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***Ex Parte*** MICHAEL GLINZ, HORST SERGEL,
HANS-BERND HELLWEG
and HEINRICH HUININK

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Appeal No. 2002-1320
Application 09/027,776

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HEARD: January 23, 2003

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

JEFFREY T. SMITH, ***Administrative Patent Judge***.

***Decision on appeal under 35 U.S.C. § 134***

Applicants appeal the decision of the Primary Examiner's refusal to allow claims 1 to 30 and 34 to 36, all of the pending claims. We have jurisdiction under 35 U.S.C. § 134.

## *THE INVENTION*

The Appellants' claimed invention relates to an emergency support body for pneumatic tires mounted on rims. The emergency support body is arranged inside the pneumatic tire to provide an emergency rolling surface to support the tire in the event of failure. A full understanding of Appellants' invention can be obtained by review of appealed claims 1, 18 and 21 reproduced below:

> 1. A vehicle wheel comprising:
> a pneumatic tire mounted on a wheel rim, the pneumatic tire including a tire tread, two side-walls, a carcass, reinforcing elements, and two tire beads with bead cores;
> an emergency support body, mounted on the wheel rim and positioned inside the pneumatic tire, including an emergency rolling surface to support the tire in case of a failure of the pneumatic tire;
> the emergency rolling surface comprising a radially exterior surface of a ring torus with a bowl-shaped cross section, the ring torus being composed of a rigid material;
> the ring torus comprising axially exterior sections having cross-sectional contours with first curvatures open to the wheel rim and an intermediate section positioned between the axially exterior sections having a contour with a second curvature open to a crest point of the pneumatic tire, wherein, when deflated, the tire is capable of riding on the first and second curvatures;
> the ring torus being formed to maintain its cross-sectional contours during an emergency roll;
> the first and second curvatures including at least one radius of curvature; and
> supporting elements positioned to resiliently support the ring torus on the wheel rim.

18. A vehicle wheel comprising:

a pneumatic tire mounted on a wheel rim, the pneumatic wheel including a tire tread, side walls, a carcass, reinforcing elements, tire beads with bead cores;

an emergency support body, mounted on the wheel rim and positioned inside the pneumatic tire, that includes an emergency rolling surface to support the pneumatic tire in case of failure;

the emergency support body comprising a surrounding ring torus composed of a rigid material with a bowl-shaped cross section having at least two radially outwardly arched sections forming axially exterior peripheral areas separated from each other by a radial depression, wherein, when deflated, the tire is capable of riding on the outwardly arched sections and the radial depression;

the ring torus being formed to maintain the bowl-shaped cross section in an emergency roll; and

the emergency support body being resiliently supported over both axially exterior peripheral area by at least two supporting elements.

21. An emergency support body for use in a pneumatic vehicle tire comprising:

ring torus with a bowl-shaped cross section structured to be insertable into the pneumatic vehicle tire;

the ring torus having axial end sections comprising radially outwardly arched sections and an intermediate section coupling the axial end sections;

the axial end sections and the intermediate section being capable of supporting the tire during an emergency roll;

the ring torus being constructed to maintain the bowl-shaped cross section during an emergency roll; and

support elements, wherein at least one support element is coupled to extend from each axial end section and the support elements are capable of being coupled to a rim of a vehicle tire,

wherein the support elements are arranged to resiliently support both axial end sections.

## *CITED REFERENCES*

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

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| Lavanchy | 637,469 | Nov. 21, 1899 |
| Hockman | 728,106 | May 12, 1903 |
| Brown | 1,454,036 | May 08, 1923 |
| Hampshire et al. (Hampshire) | 3,990,491 | Nov. 09, 1976 |
| Osada et al. (Osada '810) | 4,216,810 | Aug. 12, 1980 |
| Osada et al. (Osada '747) | 4,346,747 | Aug. 31, 1982 |

The Examiner rejected claims 21 and 24 to 29 under 35 U.S.C. § 102(b) as anticipated by Hockman; claims 21 to 23, 25 and 27 under 35 U.S.C. § 102(b) as anticipated by Lavanchy; claims 1 to 14, 16, 18, 20 to 22, 25 to 27 and 34 to 36 under 35 U.S.C. § 103(a) as obvious over the combination of Osada '810 and Hampshire; claims 15, 19, 23 and 30 under 35 U.S.C. § 103(a) as obvious over the combination of Osada '810 and Hampshire further in view of Osada '747; claims 17, 24, 28, 29, 34 and 35 under 35 U.S.C. § 103(a) as obvious over the combination of Osada '810 and Hampshire further in view of Brown; and claim 24 under 35 U.S.C. § 103(a) as obvious over the combination of Hockman and Brown. (Answer, pp. 4-12).

## ***OPINION***[1]

Upon careful review of the respective positions advanced by Appellants and the Examiner, we find ourselves in agreement with Appellants' position in that the Examiner has failed to carry the burden of establishing a ***prima facie*** case of anticipation, ***see Scripps Clinic & Research Found. v. Genentech Inc.,*** 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991), and obviousness. ***See In re Oetiker,*** 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); ***In re Piasecki,*** 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). Accordingly, we will not sustain the Examiner's rejections. We will limit our discussion to the independent claims, i.e., claim 1, 18 and 21.

Rejections under 102(b)

In order for a claimed invention to be anticipated under 35 U.S.C. § 102, all of the elements of the claim must be found in one reference. ***Scripps,*** 927 F.2d, 1576, 18 USPQ2d, 1010.

Claim 21 requires the emergency support body to have a ring torus having axial end sections comprising radially outwardly arched sections and an intermediate

[1] In rendering this decision, we have considered Appellants arguments presented in the Brief, filed Aug. 6, 2001, and Reply Brief , filed Nov. 26, 2001.

section coupling the axial end sections. The ring torus is constructed to maintain the bowl-shaped cross section during an emergency roll and the support elements are arranged to resiliently support both axial and end sections.

The Examiner asserts, Answer, page 4, "[t]he reference [Hockman] shows a tire with the claimed shape which can be inserted into a pneumatic tire and is capable of supporting that tire during an emergency roll. It is constructed so as to maintain the shape in use and has support elements coupled to the rim 1. (Figure 1)."

We do not agree with the Examiner's description of the Hockman invention. Hockman describes a two component wheel rim. Specifically, Hockman describes a wheel rim composed of channeled sections 1 and 2, arranged in apposition. The longitudinal side edges of the inner section 1 are bent outwardly at an oblique angle to form stop flanges 3. The longitudinal side edges of the outer section 2 are bent upwardly and laterally to form hooks or locking flanges 4. The hooks project over upon the inner sides of the sides of the section 1 and form a locking engagement. This structure holds the two sections 1 and 2 united. (Col. 1, ll. 29 to 42).

The Examiner appears to be relying only on section 2 of the wheel rim. Section 2 includes a locking flange 4 that is not part of the claimed invention. The wheel rim of Hockman is constructed such that sections 1 and 2 hook to one another

to support a solid tire. The Examiner has not directed us to evidence that section 2, that includes locking flange 4, would function to resiliently support both axial and end sections as required by the claimed invention. Moreover, we have not been directed to evidence that the ring torus of section 2 would maintain a bowl-shaped cross section during an emergency roll.

The rejection over the Hockman reference is reversed.

The Examiner asserts, Answer, page 5, "[t]he reference [Lavanchy] shows a tire with several bowl shaped sections. It has radially outer sections, is insertable into a pneumatic tire, is capable of supporting that tire during an emergency roll, maintains its bowl sections during the roll, and has 2 support elements. (Figures 2-4) The claim does not require only one bowl shaped section."

The Examiner has not appropriately characterized the Lavanchy reference. Lavanchy describes a flexible metallic tire which is a replacement for a pneumatic tire. (Col. 1, ll. 7 to 10). The Examiner has not directed us to evidence that the flexible metallic tire would function as required by the claimed invention. Moreover, we have not been directed to evidence that the flexible metallic tire would be capable of supporting a direct load from a pneumatic tire and maintain a bowl-shaped cross section during an emergency roll.

The rejection over the Lavanchy reference is reversed.

Rejections under 103(a)

The invention of claims 1, 18 and 21 require an emergency support body to have a ring torus having axial end sections comprising radially outwardly arched sections and an intermediate section coupling the axial end sections. Claims 1 and 18 disclose the ring torus is composed of a rigid material. Claim 21 discloses the ring torus is constructed to maintain the bowl-shaped cross section during an emergency roll. The claims also require the support elements to be arranged to resiliently support both axial and end sections. Thus, the emergency support body comprises supporting elements and a ring torus wherein the supporting elements are resilient and the ring torus is rigid so as to maintain the bowl-shaped cross section during an emergency roll.

The Examiner asserts the claimed invention is obvious over the combined teachings of Osada '810 and Hampshire. Specifically, the Examiner states:

> Osada et al '810 discloses an insert placed within a tire that has a tread, sidewalls, carcass, reinforcing elements, beads and bead cores. This insert has a rolling surface which supports the tire during an emergency roll(16) and has two support elements(15). The rolling surface is the radially exterior surface of a ring torus(Figure 2) which is formed of a rigid material like spring steel or synthetic resin. (Col. 2, ll. 39-42) This material causes the insert to have a suitable resiliency. (Col. 2, ll. 39-42) The reference discloses the torus having axially exterior sections

> with first contours open to the wheel rim but without a second intermediate curvature open to the crest of the tire.
>
> Hampshire et al. discloses an insert placed within a tire that has a tread, sidewalls, carcass, reinforcing elements, beads and bead cores. This insert has a rolling surface which supports the tire during an emergency roll (15) and has one support element (16). This shape causes the insert to have resiliency. The rolling surface is the radially exterior surface of a ring torus (Figure 8) which is formed of a rigid material like fiber reinforced resin. (Col. 3, ll. 12-15) The reference discloses the torus having an axially exterior section with a first contour open to the wheel rim and a second intermediate curvature open to the crest of the tire (Figure 8) but does not disclose two support elements.
> (Answer, pp. 5-6).

The Examiner concludes that it would have been obvious to combine the teachings of Osada '810 and Hampshire. First, the Examiner asserts it would have been obvious to modify Osada '810 by the design of Hampshire so that the outer edges of tread can be supported more than the interior. The Examiner also asserts it would have been obvious to modify Hampshire to include an additional support because they are obvious alternatives as described in Osada '810. (Answer, p. 6).

We do not believe that the modification of the references as proposed by the Examiner would have rendered the claimed invention obvious. Neither Osada '810 nor Hampshire disclose a emergency support member wherein the supporting elements are resilient and the ring torus is rigid so as to maintain the bowl-shaped cross section during an emergency roll as required by claims 1, 18 and 21.

The Examiner asserts that Osada '810, column 2, lines 39 to 42, discloses the safety tire (flat protector) is composed of material which gives the safety tire resiliency. (Answer, pp.7 and 15). This description describes the entire flat protector 14. Thus, it appears that the whole structure is resilient and the ring torus section would not be rigid so as to maintain the bowl-shaped cross section during an emergency roll. The Examiner has not adequately explained how a person skilled in the art would have been motivated, from the descriptions of Osada '810 and Hampshire, to form an support member wherein the supporting elements are resilient and the ring torus is rigid so as to maintain the bowl-shaped cross section during an emergency roll. The mere fact that the prior art could be modified as proposed by the Examiner is not sufficient to establish a ***prima facie*** case of obviousness. ***See In re Fritch***, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).

The 35 U.S.C. § 103(a) rejections over the Osada '810 and Hampshire references are reversed.

The Examiner combined the teachings of Brown with Hockman to reject the subject matter of claim 24 under 35 U.S.C. § 103(a). We reverse this rejection because the teachings of Brown do not remedy the deficiencies identified in Hockman *supra*.

## *CONCLUSION*

The rejection of claims 21 and 24 to 29 under 35 U.S.C. § 102(b) as anticipated by Hockman; claims 21 to 23, 25 and 27 under 35 U.S.C. § 102(b) as anticipated by Lavanchy; claims 1 to 14, 16, 18, 20 to 22, 25 to 27 and 34 to 36 under 35 U.S.C. § 103(a) as obvious over the combination of Osada '810 and Hampshire; claims 15, 19, 23 and 30 under 35 U.S.C. § 103(a) as obvious over the combination of Osada '810 and Hampshire further in view of Osada '747; claims 17, 24, 28, 29, 34 and 35 under 35 U.S.C. § 103(a) as obvious over the combination of Osada '810 and Hampshire further in view of Brown; and claim 24 under 35 U.S.C. § 103(a) as obvious over the combination of Hockman and Brown are reversed.

**REVERSED**

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| TERRY J. OWENS | ) | |
| ***Administrative Patent Judge*** | ) | |
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| | ) | **BOARD OF PATENT** |
| CATHERINE TIMM | ) | **APPEALS AND** |
| ***Administrative Patent Judge*** | ) | **INTERFERENCES** |
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