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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* VIPIN RAJAN, ALEXIS KEATHLEY,<sup>1</sup> and  
HENDRIK MEYER

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Appeal 2019-002485  
Application 14/981,460  
Technology Center 1700

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Before ROMULO H. DELMENDO, CHRISTOPHER C. KENNEDY, and  
BRIAN D. RANGE, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The second Inventor's last name was corrected to "Gorgun" from "Keathley" (Application Data Sheet filed March 2, 2016 at 1; Inventors' 37 C.F.R. § 1.63 Declaration filed March 2, 2016), but the Bibliographic Data Sheet does not reflect this change. In the event of continued examination, the Appellant and the Examiner should resolve this discrepancy.

The Appellant<sup>2</sup> appeals under 35 U.S.C. § 134(a) from the Primary Examiner’s final decision to reject claims 1, 5–12, and 14–16.<sup>3,4</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

## I. BACKGROUND

The subject matter on appeal relates to a radial pneumatic vehicle tire (Specification filed December 28, 2015 (“Spec.”) at 1, ll. 11–19). Figure 1 (annotated), which is illustrative of the claimed subject matter, is reproduced from the Drawings filed December 28, 2015, as follows:

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<sup>2</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42—namely, “Continental Reifen Deutschland GmbH” (Application Data Sheet filed December 28, 2015 at 6). The Appellant and the named inventors (Vipin Rajan, Alexis Gorgun, and Hendrik Meyer) are identified as the real parties in interest (Appeal Brief filed November 9, 2018 (“Appeal Br.”) at 2).

<sup>3</sup> *See* Appeal Br. 8–23; Reply Brief filed February 5, 2019 (“Reply Br.”) at 2–5; Final Office Action entered June 13, 2018 (“Final Act.”) at 2–7; Examiner’s Answer entered December 20, 2018 (“Ans.”) at 3–6.

<sup>4</sup> Claim 13 was rejected under 35 U.S.C. § 112(b) in the Final Office Action (Final Act. 2), but was subsequently canceled (Amendment filed September 10, 2018; Advisory Action entered September 18, 2018; Ans. 3).

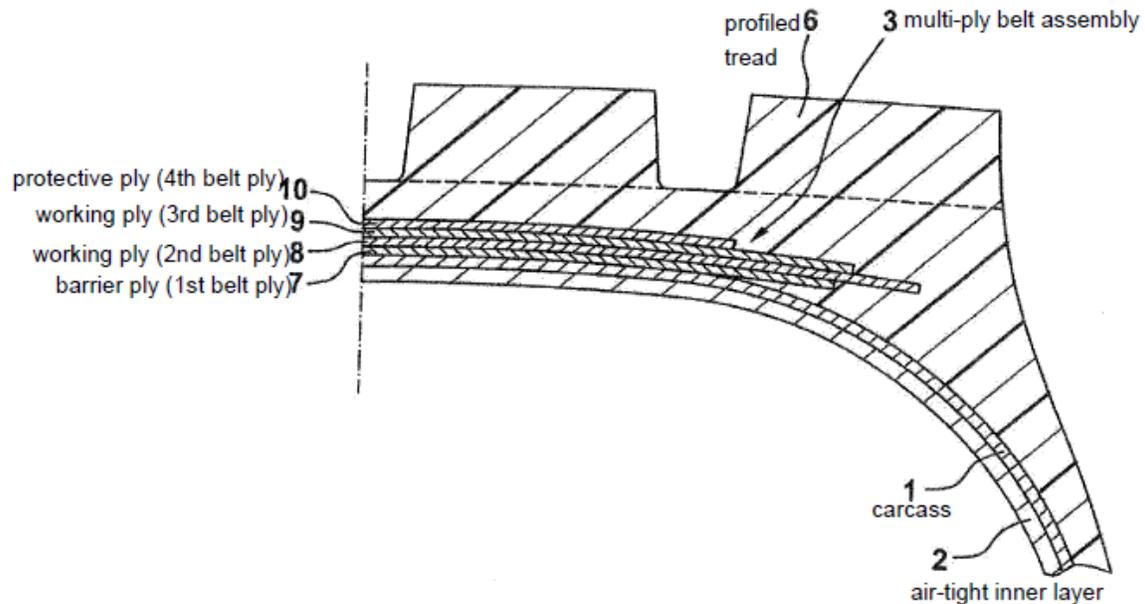


Figure 1 above shows a cross-section through a truck tire's tread and breaker belt region in a customary standard construction having a carcass **1** with steel cords as reinforcements, an air-tight inner layer **2**, a multi-ply belt assembly **3** (with four belt plies **7**, **8**, **9**, and **10**, the latter being a protective ply **10**), and a profiled tread **6** (*id.* at 6, ll. 5–23).

Representative claim 1 is reproduced from the Claims Appendix to the Appeal Brief, as follows:

1. A pneumatic vehicle tire having a radial configuration, the pneumatic vehicle tire comprising:
  - a belt assembly having at least three plies including two working plies and a protective ply arranged radially outwardly with respect to said two working plies;
  - wherein:
    - each of said at least three plies comprises reinforcements;
    - each of said reinforcements comprises at least one steel filament;
    - said reinforcements of each of said plies are arranged mutually parallel and mutually spaced from each other;

said steel filaments of said reinforcements of said protective ply have a filament diameter lying in a range of 0.10 mm to 0.35 mm;

said reinforcements have a reinforcement diameter lying in a range of 0.20 to 0.85 mm;

said protective ply has a rupture strength lying in a range of 15 kN/dm to 95 kN/dm;

said reinforcements of said protective ply are arranged in said protective ply with a density lying in a range of 50 to 120 ends per decimeter;

said reinforcements of said protective ply are steel cords of twisted together steel filaments; and

***said steel filaments of said protective ply have a construction of 2x0.30, 2+2x0.32, 2+2x0.28, 2x0.15, or 3x0.10.***

(Appeal Br. 24 (emphasis added)).

## II. REJECTION ON APPEAL<sup>5</sup>

Claims 1, 5–12, and 14–16 stand rejected under AIA 35 U.S.C. § 103 as unpatentable over Imhoff et al.<sup>6</sup> (“Imhoff”).

## III. DISCUSSION

### 1. *Grouping of Claims*

In the Appeal Brief, the Appellant relies on the same arguments for all claims on appeal, focusing only on independent claim 1 (Appeal Br. 8–23).

Therefore, we decide this appeal on the basis of claim 1, which we designate

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<sup>5</sup> As discussed above, claim 13 was also rejected under 35 U.S.C. § 112(b) in the Final Office Action, but that rejection has been rendered moot because the claim has been canceled.

<sup>6</sup> EP 2 433 814 A1, published March 28, 2012.

as representative pursuant to 37 C.F.R. § 41.37(c)(1)(iv). Claims 5–12 and 14–16 stand or fall with claim 1.<sup>7</sup>

2. *The Examiner’s Position*

The Examiner finds that Imhoff describes a tire having most of the limitations recited in claim 1, including a working belt ply **34** (corresponding to the Appellant’s “protective ply”) formed with steel cords having a 2x or a 2+2 structure and a filament diameter between 0.08 and 0.35 mm (Final Act. 2–3). Specifically, the Examiner states that “Imhoff expressly teaches 2+2 and 2x cord structures and teaches a filament diameter range that fully encompasses the claimed filament diameters [and, therefore,] one of ordinary skill in the art . . . would have found the claimed cord constructions obvious in view of the general disclosure of Imhoff” (*id.*

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<sup>7</sup> In the Appeal Brief, the Appellant argues that “the Examiner . . . does not point to any specific disclosure or suggestion in Imhoff . . . leading one of ordinary skill in the art to particularly select the very specifically claimed species recited in any of the dependent claims” (Appeal Br. 16). That is incorrect (*see* Final Act. 3–6), and, in any event, such a skeletal argument is not an argument for separate patentability. *See* 37 C.F.R. § 41.37(c)(1)(iv). In the Reply Brief (Reply Br. 3), the Appellant states that the Examiner’s Answer includes a table (Ans. 5) that indicates Imhoff teaches *only* 2x and 2+2 cord constructions. On that premise, the Appellant argues that, if this finding is correct, “at least dependent claim 12, directed to a 3x0.10 cord construction [would] not [have been] obvious in view of Imhoff” (Reply Br. 3). The Appellant’s premise, however, is incorrect. The table in the Answer merely lists the two types of cord constructions disclosed in Imhoff that are also recited in claim 1, as previously indicated in the Final Office Action (Final Act. 3). Contrary to the Appellant’s suggestion, the Examiner does not indicate in the chart that Imhoff’s disclosure would have been understood by a person having ordinary skill in the art to be *limited* to these two constructions. The findings summarized in the chart are not new, and, therefore, the Appellant’s argument directed to claim 12 is untimely and need not be considered. *See* 37 C.F.R. § 41.41(b)(2).

at 3). The Examiner further finds that “Imhoff is silent with respect to (a) the rupture strength of said steel cords and (b) the cord density or loading in the protective ply” (*id.*). Regarding the rupture strength, the Examiner finds that “one of ordinary skill in the art . . . would have expected the steel cords of Imhoff to demonstrate the claimed rupture strength since the type of steel, the steel cord construction, and the filament diameters taught by Imhoff are substantially the same as those encompassed by . . . the claimed invention” (*id.*). Regarding the cord density, the Examiner finds that “the claimed densities are consistent with those that are conventionally used in a wide variety of tire components, including tire belt plies” and that “Imhoff mentions a cord density between 8 and 20 ends per inch (Paragraph 56) and such significantly overlaps with the broad range of the claimed invention” (*id.* at 3–4).

### 3. *The Appellant’s Contentions*

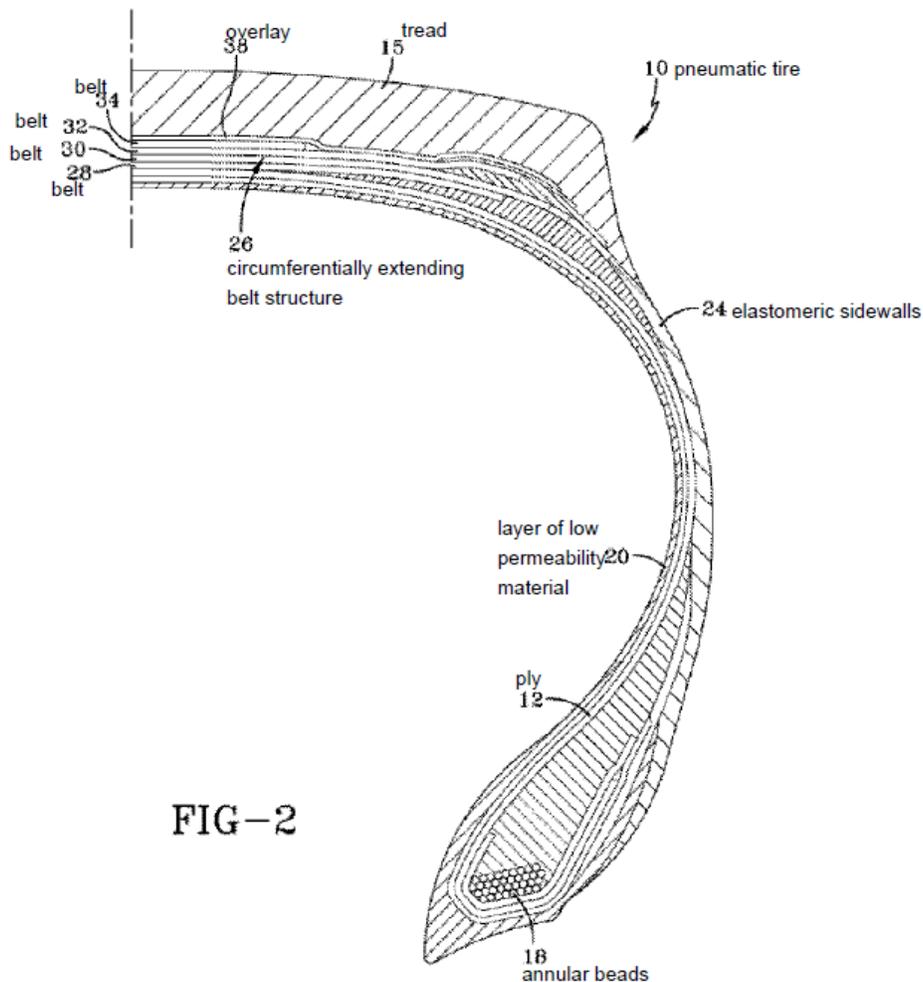
The Appellant’s principal contention is that, in contrast to the “very specific species of construction” for the protective ply’s steel filaments recited in claim 1 (“2x0.30, 2+2x0.32, 2+2x0.28, 2x0.15, or 3x0.10”), “Imhoff . . . only discloses a very generic and very broad genus of cord diameters and combinations” (Appeal Br. 14–15; *see also id.* at 15–19). The Appellant also argues that the claimed invention provides a unique solution to an unappreciated problem because “[t]he higher cord density of the claimed invention results in a protective ply that is more protective since the higher cord density forms a more effective grid protecting the inner working plies from penetrating objects” and “the lower diameter of the cord added to the protective ply means that the ply itself is thinner and therefore less elastomer material is needed to produce such tires” (*id.* at 20). According to

the Appellant, the problem with which Imhoff is concerned is different from that disclosed for the claimed invention (*id.* at 21).

4. *Opinion*

The Appellant's arguments fail to identify reversible error in the Examiner's rejection. *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011).

Imhoff's Figure 2 (annotated) is reproduced, as follows:



Imhoff's Figure 2 above shows a partial cross-section of a pneumatic tire including, *inter alia*, four layers of belts that may include steel reinforcing cords 28, 30, 32, and 34, wherein the cords 36 (shown in Fig. 3) have diameters in the range of 0.08 mm to 0.35 mm and may have a construction

of, e.g., 2x or 2+2 (Imhoff ¶¶ 54, 58, 59). In addition, Imhoff teaches that Ultra Tensile Strength (UT) steel reinforcing cords arranged so as to have 15–35 ends per 2.54 cm or 8–20 ends per 2.54 cm may be used (*id.* ¶¶ 30, 32), which the Examiner finds as overlapping or encompassing the densities recited in claim 1 (Ans. 4; Final Act. 3–4).

Given the teachings found in Imhoff, we discern no reversible error in the Examiner’s determination that the prior art genres or ranges would have rendered obvious the four specific diameters (0.30, 0.32, 0.28, or 0.15) for the 2x or 2+2x constructions that are recited in claim 1, or the density range recited in claim 1. Specifically, with respect to the four 2x and 2+2x species with four discrete diameters recited in claim 1, the selection of any of the four diameters would have been obvious in view of Imhoff’s disclosure that the diameters may be 0.08 mm to 0.35 because the four diameters specified in claim 1 falls within a relatively narrow prior art range (or genus). *Cf. In re Petering*, 301 F.2d 676, 681 (CCPA 1962) (“[O]ne skilled in this art would, on reading the Karrer patent, at once envisage each member of this limited class, even though this skilled person might not at once define in his mind the formal boundaries of the class as we have done here.”). As for the density, the Examiner finds that the prior art densities encompass or overlap the range recited in claim 1, and that finding has not been refuted. *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003) (“A *prima facie* case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art.”).

Turning to the Appellant’s argument that the claimed invention is directed to providing a unique solution to an unappreciated problem (Appeal Br. 20), we observe at the outset that the argument is merely an unsupported

allegation because the Appellant fails to direct us to evidence that a person having ordinary skill in the art would not have appreciated the problem and/or the solution. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (“Mere argument or conclusory statements in the specification does not suffice.” (Internal citation omitted)).

Moreover, the case law does not require the prior art’s motivation or reason to arrive at the Appellant’s claimed subject matter to be the same as that of the Appellant. *KSR Int’l Co. Teleflex Inc.*, 550 U.S. 398, 420 (2007) (“The first error of the Court of Appeals in this case was to foreclose [an obviousness] reasoning by holding that . . . patent examiners should look only to the problem the patentee was trying to solve.”). “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the [prior art] can provide a reason for combining the elements in the manner claimed.” *Id.* See also *In re Kemps*, 97 F.3d 1427, 1430 (Fed. Cir. 1996) (the motivation or reason in the prior art need not be the same as that of the inventor).

For these reasons, and those given by the Examiner, we uphold the Examiner’s rejection as maintained against claim 1, as well as claims 5–12 and 14–16 falling therewith.

#### IV. CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 5–12, 14–16	103	Imhoff	1, 5–12, 14–16	

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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