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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* JACOB JOHN, MICHAL LACKO,  
MIGUEL BISPO, and BRIDGET POLAND

Appeal 2019-002461  
Application 14/997,146  
Technology Center 1700

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Before KAREN M. HASTINGS, JULIA HEANEY, and  
MICHAEL G. McMANUS, *Administrative Patent Judges*.

McMANUS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> seeks review of the Examiner's decision to reject claims 1 and 3–11. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real parties in interest as Continental Reifen Deutschland GmbH, Jacob John, Michal Lacko, Miguel Bispo, and Bridget Poland. Appeal Br. 2.

### CLAIMED SUBJECT MATTER

The present application generally relates to a pneumatic tire for commercial vehicles that includes a five-ply belt. Specification dated Jan. 15, 2016 (“Spec.”) 1. Each ply of the belt is taught to contain reinforcements which run parallel within a given ply. *Id.* The reinforcements in one ply need not be parallel with the reinforcements in another ply. In a preferred embodiment, the reinforcements “run at angles  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ , and  $\varphi$  to the circumferential direction [indicated by line A–A].” *Id.* at 6. The Specification further teaches that in this embodiment, the slope of the reinforcements relative to the circumference of the tire (beginning with the innermost layer) “slope upward in the following sequence: to the right - to the right -  $0^\circ$  - to the left - to the left.” *Id.* Figure 2 is reproduced below.

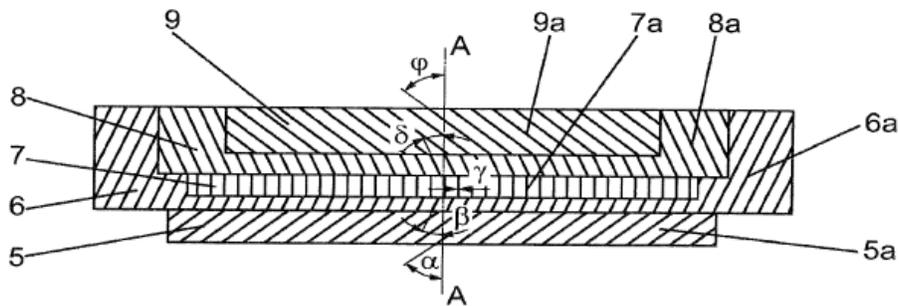


Figure 2 shows a plan (top) view of segments of the belt plies of a preferred embodiment. *Id.* at 5. “The belt 4 has five belt plies 5, 6, 7, 8 and 9, wherein the first belt ply is the radially innermost belt ply 5.” *Id.*

Claim 1 is illustrative of the subject matter on appeal and is reproduced below with certain limitations bolded for emphasis:

1. A pneumatic vehicle tire of radial configuration for commercial vehicles, the pneumatic vehicle tire defining an axial direction and comprising:  
a tread;

a belt disposed beneath said tread and having **five belt plies having respective sets of reinforcements** with the reinforcements of each set being arranged so as to be parallel to each other;

said five belt plies being disposed one atop the other and being successively identified as first, second, third, fourth and fifth belt plies from radially innermost to radially outermost plies, respectively;

**said third belt ply being a 0° ply** having a predetermined width and comprised of several component plies in said axial direction;

said second and fourth belt plies being working belt plies each directly adjacent said third ply;

said second and fourth belt plies having respective widths and said predetermined width of said third belt ply being less than each of said widths of said second and fourth belt plies;

the respective sets of **reinforcements of said first and second belt plies lying adjacent one side of said 0° ply running upward at respective positive slopes and the respective sets of reinforcements of said fourth and fifth belt plies lying adjacent the other side of said 0° ply running upward at respective negative slopes;**

said tire defining a peripheral direction (A-A); said set of reinforcements of **said first belt ply** and said peripheral direction (A-A) jointly **defining an angle  $\alpha$  lying in a range of  $35^\circ \leq \alpha \leq 70^\circ$ ;**

said set of reinforcements of **said fifth belt ply** and said peripheral direction (A-A) jointly **defining an angle  $\phi$  lying in a range of  $35^\circ \leq \phi \leq 70^\circ$ ;**

wherein the **reinforcements of the reinforcement sets of said fourth and fifth belt plies run upward to the right;**

wherein the **reinforcements of the reinforcement sets of first and second belt plies run upward to the left;**

the reinforcements of said sets of reinforcements in said second and fourth belt plies having an elongation of  $\geq 0.2\%$  at 10% breaking load;

Appeal 2019-002461  
Application 14/997,146

said elongation being measured using reinforcements taken from a fully vulcanized tire; and,

the set of reinforcements corresponding to said third ply being differentially prestressed so as to cause circumferential stiffness in individual ones of said component plies to be selectively influenced to provide additional support for achieving uniform wear of said tread.

Appeal Br. 17–18 (Claims App.) (emphasis added).

### REFERENCES

The Examiner relies upon the following prior art:

Name	Reference	Date
Bederna et al. ("Bederna")	US 2012/0318426 A1	Dec. 20, 2012
Uniroyal, Inc. ("Uniroyal")	GB 1418558	Dec. 24, 1975
Kanehira et al. ("Kanehira")	JP 2003-237312	Aug. 27, 2003

### REJECTION

The Examiner maintains the following rejection: Claims 1 and 3–11 are rejected under 35 U.S.C. § 103 as being unpatentable over Bederna in view of Kanehira and further in view of Uniroyal. Final Action dated June 8, 2018 ("Final Act.") 2–4.

### DISCUSSION

The Examiner rejects claims 1 and 3–11 as obvious over Bederna in view of Kanehira and further in view of Uniroyal. *Id.* In support of the rejection, the Examiner finds that Bederna teaches an embodiment (shown in Figure 4) including four belt plies (designated 13–16) that correspond to

plies 2–5 of the claims. *Id.* at 2. The Examiner further finds that Bederna teaches a different embodiment (shown in Figure 6) including four belt plies (designated 17, 13, 14, and 15) that correspond to plies 1–4 of the claims.

These embodiment are depicted in Figures 4 and 6, reproduced below.

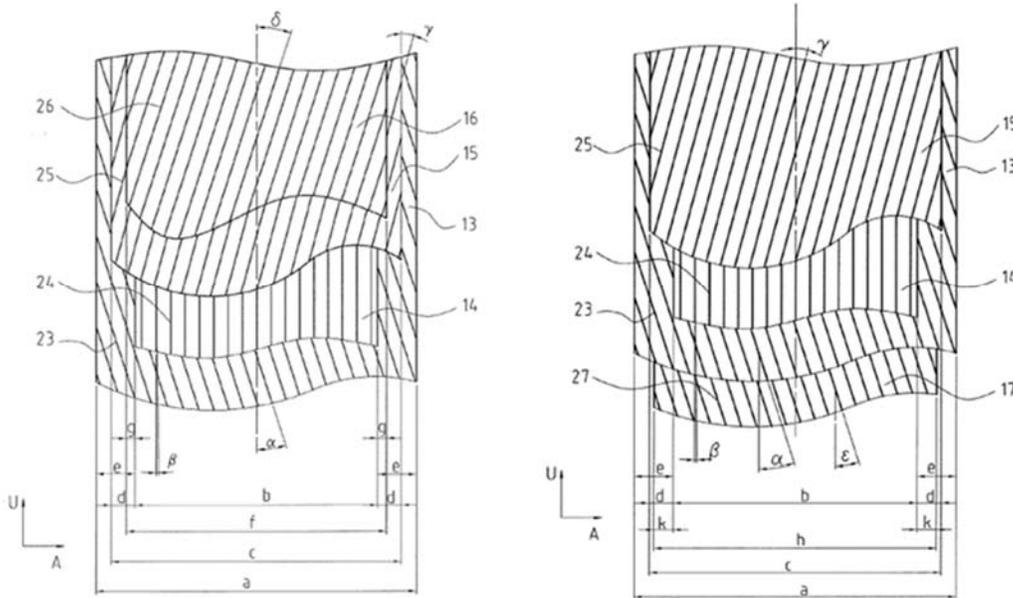


Figure 4 (left) and Figure 6 (right) each show a top view of a radial tire. Bederna ¶¶ 21–26. Figure 4 depicts the reinforcements of inner working ply 13 as sloping upward to the left, those of ply 14 as vertical ( $0^\circ$ ), and those of plies 15 and 16 as sloping upward to the right (angles designated by Greek letters). Figure 6 depicts the reinforcements of inner plies 17 and 13 sloping upward to the left, those of ply 14 as vertical ( $0^\circ$ ), and those of outer ply 15 as sloping upward to the right (angles designated by Greek letters). Thus, Figure 6 is generally similar to Figure 4 but has two plies interior to the  $0^\circ$  ply and one ply exterior to it rather than two plies exterior and one ply interior thereto.

The Examiner further relies upon the following portion of Bederna:

In further alternative versions, not illustrated, the additional inner belt ply 17 illustrated in connection with FIG. 5 and FIG. 6 is also formed in the versions with an additional belt ply 16 which are illustrated in connection with FIG. 3 and FIG. 4. **In this case, the belt 9 is formed from a 5-ply arrangement with the belt plies 17, 13, 14, 15 and 16 arranged one above the other radial from inside radially outward.**

Bederna ¶ 43 (emphasis added). The Examiner relies upon this paragraph, in conjunction with Figures 4 and 6 and related disclosures as teaching the five (5) plies of claim 1 and the orientation of their reinforcements.

#### *Claim 1*

Appellant argues that the rejection of claim 1 is erroneous. Appeal Brief dated Nov. 14, 2018 (“Appeal Br.”) 10–15. First, Appellant argues that Bederna does not teach an embodiment with five plies where the angles of the reinforcement cords are described for each ply. *Id.* at 13. Appellant acknowledges that the paragraph quoted above describes a five-ply arrangement but asserts that “there is no description of the five different angle tilt degrees for the reinforcements of the five layers.” *Id.*

This is not persuasive. The Examiner determines that Bederna teaches a tire construction where “layers 17 and 13 . . . are inclined in a first, same direction and (b) layers 15 and 16 . . . are inclined in a second, same direction that is different from said first direction.” Answer 3. This is supported by Figures 4 and 6 and by Paragraph 43 of Bederna. The Examiner further finds that a “fair reading of Bederna suggests that the first direction can be to the left or to the right and the second direction can be to the left or to the right – it is simply required that respective directions cross one another.” *Id.* at 3–4. The Examiner similarly determines that “[t]here

Appeal 2019-002461  
Application 14/997,146

are only two possible arrangements and a fair reading of Bederna suggests the use of a right-right-0-left-left arrangement or a left-left-0-right-right arrangement.” *Id.* at 4. This is further supported by claim 1 of Bederna which specifies that the inner reinforcements of ply 13 have “an opposite axial inclination” to those of ply 15 but does not specify the orientation of the inner or outer reinforcements. Bederna 5 (claim 1).

Bederna teaches the following angles of orientation for the reinforcements found in each ply:

- innermost ply 17, angle  $\epsilon$  45°–90° (Spec. ¶13, claim 7);
- inner working ply 13, angle  $\alpha$  10°–45° (*id.* ¶ 6);
- zero-degree ply 14, angle  $\beta$  0°–5° (*id.* ¶ 6);
- outer working ply 15, angle  $\gamma$  10°–45° (*id.* ¶ 6); and,
- outer ply 16, angle  $\delta$  10°–90°, preferably 15°–45° (*id.* ¶ 12, claim 6).

Appellant does not specifically dispute any of Bederna’s teachings. Accordingly, Appellant has not shown that Bederna fails to teach the claimed ply reinforcement angles.

Second, Appellant argues that claim 1 requires that the angle of the reinforcements of the first ply must differ from the angle of the reinforcements of the second ply. Appeal Br. 3–5. Similarly, Appellant argues that the angle of the reinforcements of the fourth ply must differ from the angle of the reinforcements of the fifth ply. *Id.*

Claim 1 includes numerical limitations regarding the required slope of the reinforcements for the first, third and fifth plies. Specifically, the claim requires that the reinforcements of the first ply have an angle of 35°–70°, the reinforcements of the third ply have an angle of 0° and those of the fifth ply

have an angle of 35°–70°. Appeal Br. 17–18 (Claims App.). Claim 1 additionally requires

the respective sets of **reinforcements of said first and second belt plies** lying adjacent one side of said 0° ply **running upward at respective positive slopes** and the respective sets of **reinforcements of said fourth and fifth belt plies** lying adjacent the other side of said 0° ply **running upward at respective negative slopes**;

\* \* \*

wherein the **reinforcements** of the reinforcement sets of **said fourth and fifth belt plies run upward to the right**;

wherein the **reinforcements** of the reinforcement sets of **first and second belt plies run upward to the left**.<sup>2</sup>

*Id.* (emphasis added). Appellant argues that the use of the plural “slopes” requires that the first and second slopes (of the angle of the ply reinforcements) must differ from one another. Reply Br. 4. We do not adopt this construction. During examination, claim terms must be given their broadest reasonable construction consistent with the Specification. *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). An applicant seeking a narrower construction must either show why the broader construction is unreasonable or amend the claim to expressly state the scope intended. *In re Morris*, 127 F.3d 1048, 1057 (Fed. Cir. 1997).

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<sup>2</sup> There is some ambiguity as to whether the limitation requiring the reinforcements of the “fourth and fifth belt plies run upward to the right” is consistent with the limitation requiring “reinforcements of said fourth and fifth belt plies . . . running upward at respective negative slopes.” There is similar ambiguity regarding whether the “upward to the left” limitation applicable to the first and second plies is consistent with the “upward at respective positive slopes” limitation. We do not further consider this issue in the present decision.

The broadest reasonable interpretation of claim 1 is that the slope angles of the reinforcements of plies 1 and 2 may differ or be the same as long as the reinforcements slope in a similar direction. This is also true of plies 4 and 5. Accordingly, Appellant has not shown error in this regard.

### *Dependent Claims*

Appellant includes a brief assertion that “[d]ependent claims 3, 4, and 6 further define the angle of tilt of the reinforcements of the plies lying between the middle-most ply and the outermost plies.” Appeal Br. 12. This is inadequate to present an issue for appeal. *See* 37 CFR 41.37(c)(1)(iv) (“the brief shall contain . . . . The arguments of appellant with respect to each ground of rejection, and the basis therefor, with citations of the statutes, regulations, authorities, and parts of the Record relied on. The arguments shall explain why the examiner erred as to each ground of rejection contested by appellant.”); *see also In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (“[W]e hold that the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art.”).

To further prosecution, we offer the following regarding the dependent claims at issue. Claim 3 depends from claim 1 and further requires that “said angle  $\phi$  is at least  $43^\circ$ .” Appeal Br. 18 (Claims App.). This refers to the angle of the reinforcements found in the fifth (outermost) ply. An overlapping range ( $10^\circ$ – $90^\circ$ ) is taught by Bederna. *See* Bederna ¶ 12, claim 6.

Claim 4 depends from claim 1 and further requires that angles  $\beta$  and  $\delta$  “lie in a range of  $14^\circ$  to  $30^\circ$ .” Appeal Br. 18 (Claims App.). An overlapping

Appeal 2019-002461  
Application 14/997,146

range for each angle is taught by Bederna. *See* Bederna ¶ 6 (teaching angles ranging from 10°– 45° for the reinforcements found in the second and fourth plies).

Claim 6 depends from claim 5 which is presently canceled. Appeal Br. 19 (Claims App.). For purposes of this decision, we regard claim 6 as depending from claim 1. Claim 6 requires that “angle  $\alpha$  is at least 43°.” *Id.* Angle  $\alpha$  defines the orientation of the reinforcements of the first ply relative to a circumferential direction. Bederna teaches a range of 45°– 90° for the orientation of the reinforcements of the first ply. *See* Bederna ¶ 13, claim 7.

Appellant relies on the foregoing arguments in asserting error in the rejection of the remaining dependent claims. Appeal Br. 15. As we have not found such arguments persuasive, we determine that Appellant has not shown reversible error in the rejection of any claim.

## CONCLUSION

In view of the reasoning set forth in the Final Action, the Examiner’s Answer, and above, the Examiner’s rejections are affirmed.

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 3–11	103	Bederna, Kanehira, Uniroyal	1, 3–11	
<b>Overall Outcome</b>			1, 3–11	

Appeal 2019-002461  
Application 14/997,146

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