CLAIMS

1. Flat-running device configured to be fitted to a tubeless mounted assembly for a motor vehicle which comprises a wheel rim in several parts and a tire casing comprising beads mounted against edges of said rim, said device comprising:

- an annular supporting structure configured to be mounted around the rim for the purpose of supporting the casing, following a drop in inflation pressure inside the mounted assembly, and which is divided into at least two ring sectors in an arc of a circle suitable for forming said structure by juxtaposition in the circumferential direction, these sectors being articulated together in twos in this direction by connection means, and
- means for locking the beads against these edges which are configured to connect said annular supporting structure to these beads,

characterized in that said connection means are located between two lateral faces of each of the two sectors that they articulate together, and comprise two spindles extending in an axial direction of the device which are respectively attached in two facing connection ends of these sectors and which are connected together by an articulation extending in the circumferential direction of the device, said articulation consisting of at least one rigid lug with two through-holes or else of at least one flexible link with two loops, said or each lug or said or each link being articulated on these spindles by these two holes or loops, respectively.

2. The flat-running device according to Claim 1, characterized in that said locking means comprise a pair of one-piece annular wedges which are pressed axially on either side of said supporting structure and facing a radially inner zone of said supporting structure where said spindles are mounted so as to immobilize the latter inside the corresponding sectors.

3. The flat running device according to Claim 2, characterized in that each of said two wedges has a trapezoid-shaped axial section a small and large bases of which define respectively radially inner and outer surfaces of said locking means, each wedge consisting of rubber that is reinforced by a circumferential reinforcing element.

4. The flat-running device according to claim 1, characterized in that said spindles are formed of two spindles having shoulders which are respectively mounted in said two through-holes or loops of said articulation and which are attached inside the two corresponding articulated sectors.

5. The flat-running device according to claim 1, characterized in that one of the ends of each sector, or male end, terminates in a fitting male member which protrudes in the circumferential direction radially above said articulation and which is capable of partially fitting into a female end of the adjacent sector.

6. The flat running device according to Claim 4, characterized in that the articulated sectors are capable of moving reversibly relative to one another in the axial direction and in torsion about the circumferential direction via said locking means, under the effect of lateral shearing or compression forces applied to the casing when running flat or in the inflated state.

7. The flat-running device according to Claim 6, characterized in that each articulation, of rigid type and consisting of said at least one lug articulated on said spindles, is configured to slide axially and of pivoting on said spindles, so as to allow this reversible movement of the sectors thus articulated.

8. The flat-running device according to Claim 6, characterized in that each articulation of deformable type and consisting of said at least one flexible link articulated via said two loops on said spindle, such as at least one textile cable and/or one metal cable, is capable of moving on these spindles so as to allow this reversible movement of the sectors thus articulated.

9. The flat-running device according to claim 1, characterized in that the two ends of each sector are recessed over a substantially middle portion of their axial width so as to form, in each sector end, a recess which extends over at least a portion of the length of the sector in the circumferential direction and which is delimited axially by two axial recess faces both traversed by said spindle attached to this sector end.

10. The flat-running device according to Claim 9, characterized in that each spindle axially traverses right through the sector incorporating it, via an axial through-housing which is formed between each axial recess face and the lateral face facing this sector and which receives this spindle.

11. The flat-running device according to Claim 9, characterized in that said two recesses of the two respective connection ends of each sector extend radially from the radially inner face of this sector, each recess having a substantially rectangular axial section.

12. The flat-running device according to Claim 11, characterized in that said two recesses of each sector extend to the radially outer face of this sector, thus traversing in the radial direction of the latter.

13. The flat-running device according to Claim 11, characterized in that said two recesses of each sector terminate radially at a distance from the radially outer face of this sector, thus being blind in the radial direction of the latter, each sector optionally being surmounted by a rubber-based protective coating.

14. The flat-running device according to claim 1, characterized in that each of said sectors is made of a plastic or composite material.

15. A tubeless mounted assembly for a motor vehicle, comprising a wheel rim in several parts, a tire casing comprising beads respectively mounted against axially inner and outer edges of the rim, and a flat-running device mounted around the rim between said edges, characterized in that said flat-running device is as defined in claim 1.

16. The mounted assembly according to Claim 15, characterized in that said rim is of the two-part bolted type and has a substantially flat rim bottom.

CLAIMS

1. Flat-running device configured to be fitted to a tubeless mounted assembly for a motor vehicle which comprises a wheel rim in several parts and a tire casing comprising beads mounted against edges of said rim, said device comprising:

- an annular supporting structure configured to be mounted around the rim for the purpose of supporting the casing, following a drop in inflation pressure inside the mounted assembly, and which is divided into at least two ring sectors in an arc of a circle suitable for forming said structure by juxtaposition in the circumferential direction, these sectors being articulated together in twos in this direction by connection means, and

- means for locking the beads against these edges which are configured to connect said annular supporting structure to these beads,

wherein said connection means are located between two lateral faces of each of the two sectors that they articulate together, and comprise two spindles extending in an axial direction of the device which are respectively attached in two facing connection ends of these sectors and which are connected together by an articulation extending in the circumferential direction of the device, said articulation consisting of at least one rigid lug with two through-holes or else of at least one flexible link with two loops, said or each lug or said or each link being articulated on these spindles by these two holes or loops, respectively, wherein the two connection ends of each sector form, in each sector end, a recess delimited axially by two axial recess faces both traversed by said spindle attached to each sector end, each recess extending radially from the radially inner face of this sector,

wherein the two ends of each sector are recessed over a substantially middle portion of their axial width so as to form, in each sector end, said recess which extends over at least a portion of the length of the sector in the circumferential direction, each recess having a substantially rectangular axial session.

2. The flat-running device according to Claim 1, characterized in that said locking means comprise a pair of one-piece annular wedges which are pressed axially on either side of said supporting structure and facing a radially inner zone of said supporting structure where said spindles are mounted so as to immobilize the latter inside the corresponding sectors.

3. The flat-running device according to Claim 2, characterized in that each of said two wedges has a trapezoid-shaped axial section a small and large bases of which define respectively radially inner and outer surfaces of said locking means, each wedge consisting of rubber that is reinforced by a circumferential reinforcing element.

4. The flat-running device according to claim 1, characterized in that said spindles are formed of two spindles having shoulders which are respectively mounted in said two through-holes or loops of said articulation and which are attached inside the two corresponding articulated sectors.

5. The flat-running device according to claim 1, characterized in that one of the ends of each sector, or male end, terminates in a fitting male member which protrudes in the circumferential direction radially above said articulation and which is capable of partially fitting into a female end of the adjacent sector.

6. The flat-running device according to Claim 4, characterized in that the articulated sectors are capable of moving reversibly relative to one another in the axial direction and in torsion about the circumferential direction via said locking means, under the effect of lateral shearing or compression forces applied to the casing when running flat or in the inflated state.

7. The flat-running device according to Claim 6, characterized in that each articulation, of rigid type and consisting of said at least one lug articulated on said spindles, is configured to slide axially and of pivoting on said spindles, so as to allow this reversible movement of the sectors thus articulated.

8. The flat-running device according to Claim 6, characterized in that each articulation of deformable type and consisting of said at least one flexible link articulated via said two loops on said spindle, such as at least one textile cable and/or one metal cable, is capable of moving on these spindles so as to allow this reversible movement of the sectors thus articulated.

9. The flat-running device according to Claim 1, characterized in that each spindle axially traverses right through the sector incorporating it, via an axial through-housing which is formed between each axial recess face and the lateral face facing this sector and which receives this spindle.

10. The flat-running device according to Claim 1, characterized in that said two recesses of each sector extend to the radially outer face of this sector, thus traversing in the radial direction of the latter.

11. The flat-running device according to Claim 1, characterized in that said two recesses of each sector terminate radially at a distance from the radially outer face of this sector, thus being blind in the radial direction of the latter, each sector optionally being surmounted by a rubber-based protective coating.

12. The flat-running device according to claim 1, characterized in that each of said sectors is made of a plastic or composite material.

13. A tubeless mounted assembly for a motor vehicle, comprising a wheel rim in several parts, a tire casing comprising beads respectively mounted against axially inner and outer edges of the rim, and a flat-running device mounted around the rim between said edges, characterized in that said flat-running device is as defined in claim 1.

14. The mounted assembly according to Claim 13, characterized in that said rim is of the two-part bolted type and has a substantially flat rim bottom.