PATENT CLAIMS

1. A device for transport of air for a tire, comprising

a component that at least partially defines a chamber, the component being adapted to be placed along at least a part of perimeter of the tire;

a ring disposed at a radially inner side of the chamber component, such that a radial distance between a radially inner side of the chamber and an axis of rotation of the tire is equal to 1 to 1.1 times a radial distance between a radially outer side of the ring and the axis of rotation of the tire; and

a structure defining an inner reservoir adapted to be at least partially disposed between the ring and the tire, the inner reservoir at least partially adjoining both the walls of tire and the wall of the ring to hold the ring in place.

2. A device according to claim 1 characterized by the fact that the ring is placed on an air tube and/or a bag placed inside the tire and filled by air.

3. A device according to claim 2 characterized by the fact that the end into the chamber is interconnected with the air tube D and/or bag and/or a base OD and/or a case SC.

4. A device according to any of the above-stated claims characterized by the fact that the end of the chamber is fitted with a control element.

5. A device according to any of the above-mentioned claims characterized by the fact that the valve (V) is a three-way valve with inputs interconnected with the external environment (O) and the tire internal space (P), where one input (VI) is provided with a valve (JV), the next input (V2) is connected to the chamber with shape memory (K), and the last input (V3) is interconnected with a closure element (R).

6. A device according to any of the above-mentioned claims characterized by the fact that the chamber is provided with 4 openings, where the longitudinal divisional plane is movable in the direction of deformation of at least one of the segmented parts of the chamber and at least one opening is provided with a valve and/or at least one segmented part of the chamber is permanently blocked by the deformation.

7. A device according to the claim 6 characterized by the fact that the lengthwise segmented chamber is placed in the wall and/or close to the tire wall and/or air tube wall and is provided with 3 openings leading into the tire and one opening leading into the external environment or with 3 openings leading into the external environment and one opening leading into the tire and/or the output of one longitudinal part of the chamber is interconnected with the input of the second longitudinal part of the chamber.

8. A device according to the claims 6 or 7 characterized by the fact that the channel and/or chamber is formed by at least one of two flexible tubes placed next to each other, where one has its outer diameter equal to the inner diameter of the second tube and/or one is, at least partly, inserted inside the other.

9. A device according to any of the above-mentioned claims characterized by the fact that the chamber is in the shape of a curved hollow channel with at least one its outer wall at least partly formed by at least a part of a pair of areas lying in the longitudinal direction of the chamber, containing the angle a = 0 to 120 ; if a > 0 it is located on the contact edge of these areas (10) situated on the further side from the center of the area of the chamber cross-section (1).

10. A device according to any of the above-mentioned claims characterized by the fact that the ring has a variable length.

11. A device according to any of the above-mentioned claims characterized by the fact that the ring cross-section is T-, I-, or O-shaped.

12. A device according to any of the above-mentioned claims characterized by the fact that the ring or a pressure intensifier MU act on the chamber wall by less surface area than the surface area from which the tire pressure acts on it from the opposite side.

13. A tire rim comprising a device for transport of air for a tire, the device comprising

a component that at least partially defines a chamber, the component being adapted to be placed along at least a part of perimeter of the tire;

a ring disposed at a radially inner side of the component chamber, such that a radial distance between a radially inner side of the chamber and an axis of rotation of the tire is equal to 1 to 1.1 times a radial distance between a radially outer side of the ring and the axis of rotation of the tire; and

a structure defining an inner reservoir adapted to be at least partially disposed between the ring and the tire, the inner reservoir at least partially adjoining both the walls of tire and the wall of the ring to hold the ring in place.