

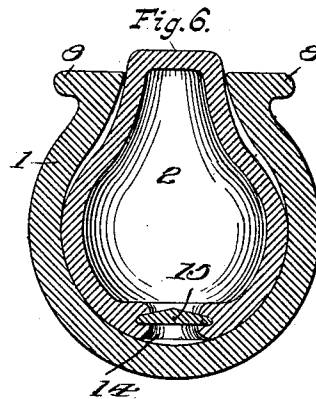
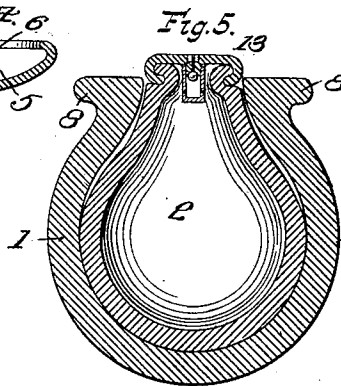
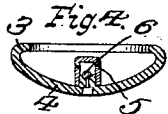
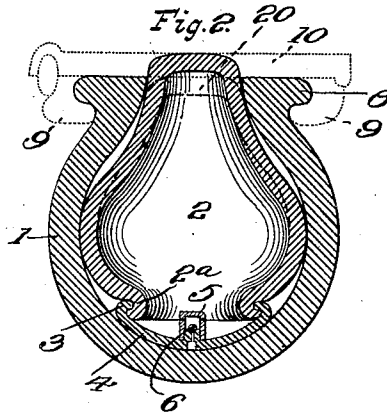
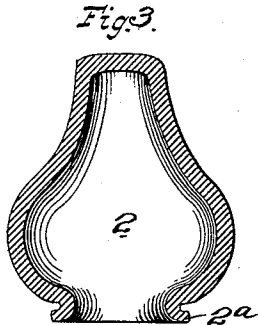
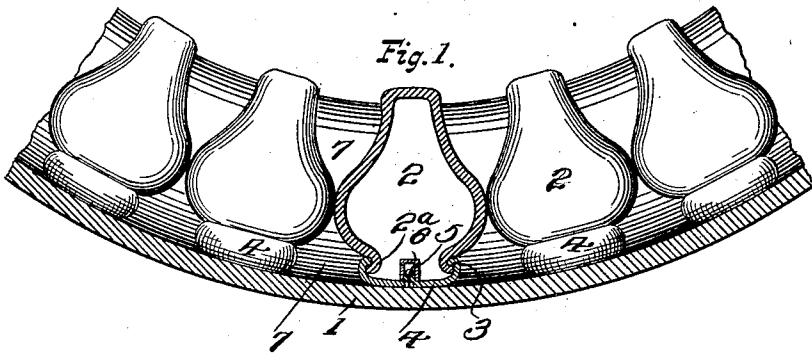
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TIRE.

APPLICATION FILED NOV. 21, 1910.

1,005,627.

Patented Oct. 10, 1911.



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TIRE.

1,005,627.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, MICHEL F. Fiset, Jr., and LOUIS A. Fiset, citizens of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Tires; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in pneumatic tires, primarily designed for automobiles.

The object of the invention is to provide a tire composed of a plurality of individually inflated cells, so that in case of puncture the whole tire will not be made useless.

A further object of the invention is to arrange a plurality of individual inflated cells in such manner that they can be separately readily and conveniently inserted in a casing, common to all of said cells and clamped to the rim of the wheel in the usual manner, so that if one cell becomes punctured, little difficulty will be experienced in removing the casing and inserting another cell.

Another object of the invention is to so shape the individual cells as to permit sufficient space for compression between adjacent cells when load pressure is applied to the tire.

The invention also comprehends improvements in the details of construction and arrangement of parts which will be hereinafter described and particularly pointed out in the claims.

In the drawings: Figure 1 is an elevation partially in section and illustrating several cells in a casing. Fig. 2 is a cross section of the same. Fig. 3 is a detail sectional view of one of the cells. Fig. 4 is a similar view of a cap for attachment of a valve to a cell. Fig. 5 is a cross section of a slight modification. Fig. 6 is a similar view of a further modification.

1, indicates an outer casing, which receives a series of pneumatic cells 2. Each cell is "pear-shape" in cross section, the lower end being open and formed with an annular flange 2^a, over which fits the in-

wardly flanged end 3, of a metallic cap 4. The cap is formed with an inwardly projecting housing 5, having openings, and in the housing is a valve 6.

In the form of the invention illustrated in Figs. 1, 2, and 3, the greatest diameter of each cell is approximately slightly below the center of the length of said cell, which abuts against the corresponding portion of the adjacent cells, so that the upper and lower ends of the cells do not contact. By referring to Fig. 1 it will be observed that by this construction a substantial space 7, is formed adjacent the upper and lower ends of the adjacent cells, whereby when load pressure is applied, and the shape of the cells becomes distorted, the walls will have ample room for movement without frictionally contacting with each other. The advantage derived from this construction is that it precludes undue friction between adjacent cells, and therefore, reduces the wear between the parts and permits of an easy riding tire structure.

The caps 4 are so shaped on their outer surfaces as to fit snugly the contour of the inner surface of the casing. The casing is provided with the end flanges 8, which co-operate with annular flanges 9, on the wheel rim 10.

In Fig. 5, the cap, instead of being located on the outer enlarged end of the cell, is fastened to the inner smaller end, as shown at 13. The cap has the same essential characteristics in this instance as in the preferred form of the invention, the same being gripped and held to the flange of the cell when air pressure is introduced.

In Fig. 6, the lower enlarged end of the cell is shown as provided with an opening 14, in which fits a plug 15.

In assembling the tire, a series of cells are placed in an outer casing, and the whole is slipped over the rim 10. When the casing containing the cells is forced over the rim, the reduced ends or necks are compressed and held between the rim and casing to substantially fill the cross sectional area of the space, as shown in dotted lines at 20, in Fig. 2. After the casing and the cells are placed on the rim, the usual detachable annular flange 9, is applied to hold the case and the cells securely in position on the wheel.

Obviously, by constructing and arranging the tire as herein described, each cell is separate in itself and contains its own air

pressure, so that in case of a puncture, another cell may be quickly and conveniently inserted, or if desired, and the load pressure is not too great, the puncturing of one such cell will not entirely destroy the use of the tire, as such puncture would only make one interval in the tire ineffective as a sustaining medium. Furthermore, by providing metal caps on the outer ends of the cells, the chances of puncturing are remote, as each cap serves as an armor to prevent the passage of a nail or the like to the resilient walls of the cells.

What we claim is:

1. A tire comprising a casing, a plurality of individual resilient cells mounted in the casing, each of said cells having an open end and an enlarged portion which abuts against the adjacent cell, and a metallic cap fitted over said open end and bearing on the inner surface of the casing.

2. A tire comprising a casing, a plurality of individual resilient cells mounted in the casing, each of said cells having an open end and an enlarged portion which abuts against the adjacent cell, a metallic cap fitted over said open end and bearing on the inner surface of the casing, said cap having an opening for the admission of air to the cell, and valves for holding the air in each of said cells.

3. In combination, a wheel having a rim, a casing secured to the rim, a plurality of individual cells, the inner ends of which are reduced and the said cells being confined between the rim and the casing, each of said cells having an enlarged portion which abuts against the adjacent cell, a metallic cap for each cell formed with an opening, and a valve to control said opening, said caps bear-

ing against the inner surface of the casing adjacent the tread portion thereof.

4. A tire comprising an outer casing, a plurality of individual resilient cells mounted in the casing, each of said cells having one end provided with a metallic cap formed with an opening, and a valve for controlling said opening, each of said cells having a reduced end and an enlarged rounded portion, and the adjacent cells being in contact with each other at the enlarged portion thereof.

5. A tire comprising an outer casing and a plurality of individual resilient cells, each of said cells being reduced at one end and formed with an enlarged portion against which the adjacent cells abut, a flange formed at the end of each cell, a metallic cap formed with an inwardly extended flange to engage with the flange on the end of the cell, said cap having an opening, and a valve to control said opening.

6. In combination, a wheel having a rim, a plurality of individual cells open at one end for the admission of air, the inner ends of which are reduced said cells being confined between the rim and the casing, each cell having an enlarged portion which abuts against the adjacent cell, and means in the opening in the end of each cell to prevent the escape of air.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

MICHEL F. Fiset, Jr.
LOUIS A. Fiset.

Witnesses:

JAMES F. TRACEY,
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