(No Model.)

E. H. SEDDON.

INFLATABLE TIRE.

No. 486,509. Patented Nov. 22, 1892.

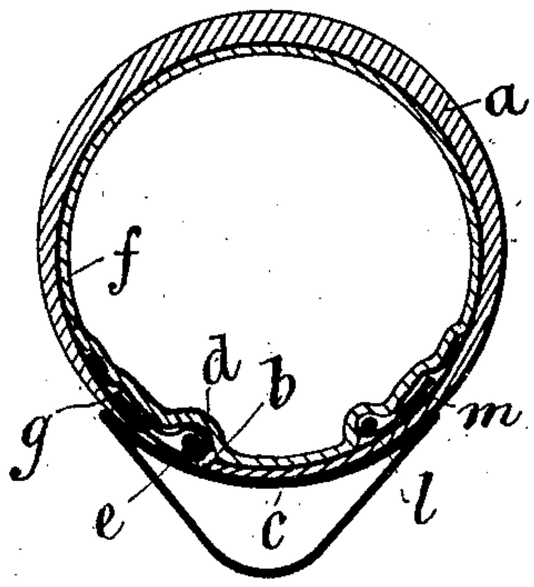

Fig. 1

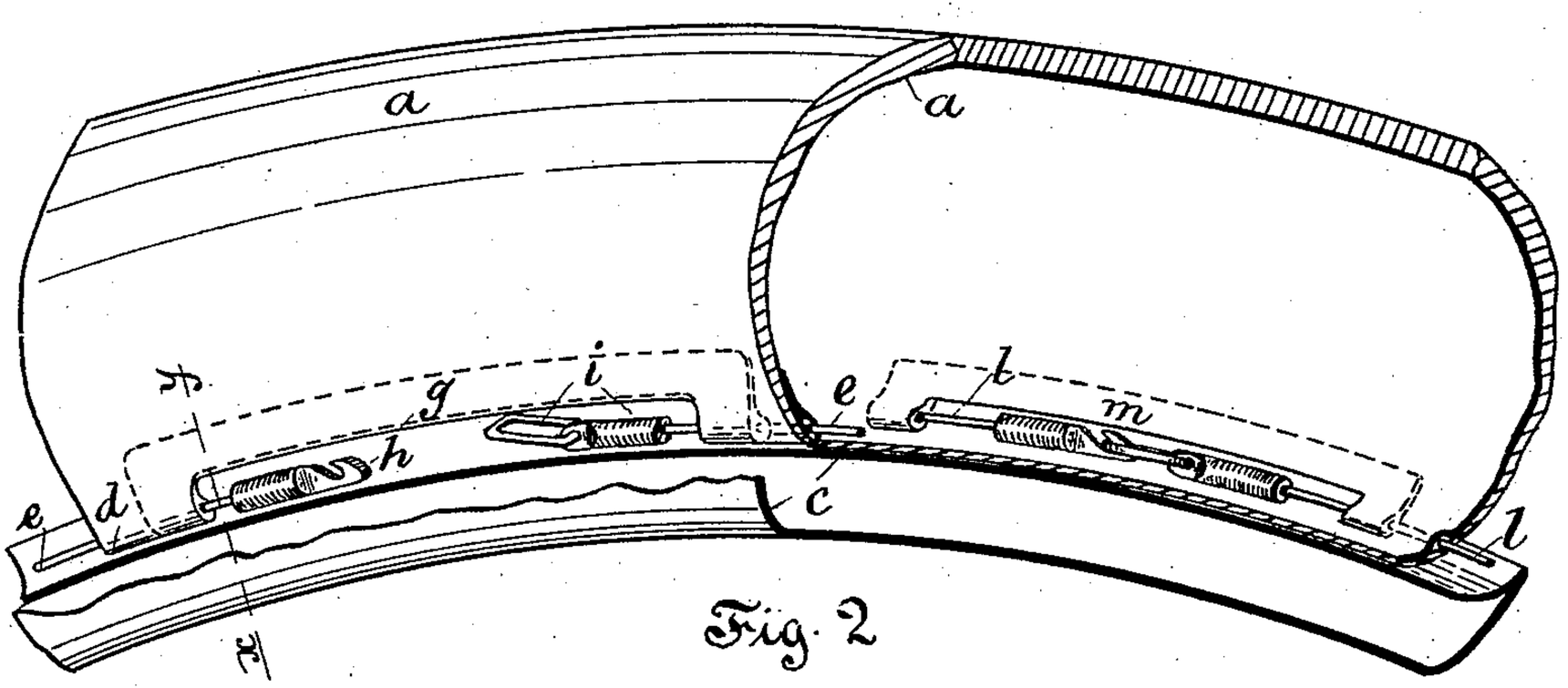

Fig. 2

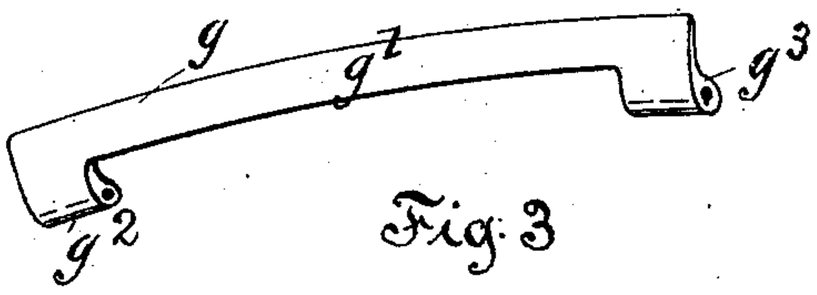

Fig. 3

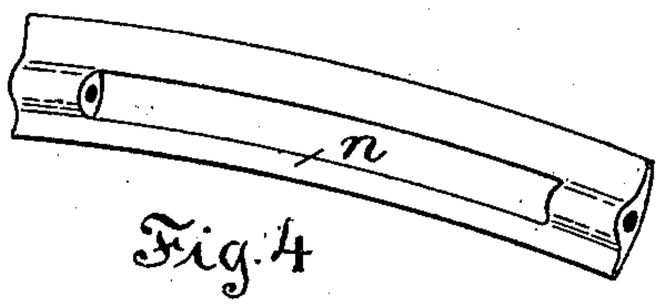

Fig. 4

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INFLATABLE TIRE.

SPECIFICATION forming part of Letters Patent No. 486,509, dated November 22, 1892.

Application filed May 21, 1892. Serial No. 433,798. (No model.)

To all whom it may concern:

Be it known that I, EDWARD HENRY SEDDON, a subject of the Queen of Great Britain, residing at Brooklands, in the county of Chester, in the Kingdom of Great Britain, have invented certain new and useful Improvements in Inflated Flexible Wheel-Tires for Velocipedes and Similar Road-Carriages, of which the following is a specification.

My invention relates to hollow flexible wheel-tires of velocipedes and similar road-carriages containing inflated air chambers or tubes inserted into said tires; and it consists in improved means for attaching the tires to the rims or fellies of the wheel, the object of my invention being to make the tire or one side thereof readily attachable and detachable for the purpose of inserting or withdrawing the air chamber or tube.

The manner in which my invention is to be carried out is described in the following statement, reference being had to the accompanying sheet of drawings, on which—

Figure 1 shows a cross-section of the tire; Fig. 2, a partial outside side view and partial longitudinal section; Figs. 3 and 4, details.

Referring to Figs. 1 and 2, I form the outer envelope *a* of the tire as an annular tube divided, preferably, at one side *b* of the vertical center line. The envelope is composed, as usual, of an india-rubber compound lined with canvas or cloth entirely or near to the edges of the same. The part at the edge *b* lying in the center of the rim or felly *c* is made elastic to a limited extent, either by being formed of a slightly-elastic fabric or of an unelastic fabric with short india-rubber or other elastic parts inserted in one or two places in order that this bottom part of the tire can be distended and passed over the edge of the felly *c* and afterward contract again and fit into the hollow of the felly. This side of the envelope may be fixed to the felly in any suitable manner—for instance, by being cemented thereto or bound on by a band or wire passing round the center or in the manner hereinafter described. The other edge *d* of the envelope *a* is secured in its position on the rim or felly *c* by means of a wire *e*, passed through a loop formed, preferably, by the canvas lining of the envelope being folded over and its edge cemented to the body of the lining. In order to draw the ends of the wire together and tighten the wire on the felly, access must be allowed to said ends, and for this purpose the ends of the wire must be laid bare for some distance and passed out of the loop or the latter cut away. In consequence this part of the edge as hitherto made is not secured, and when the air-chamber *f*, inserted into the envelope, is inflated this part is bulged out and over the edge of the rim, and such wire fastenings have hitherto been found impracticable. To overcome this difficulty, I employ a bridge-piece *g*, consisting of a plate or bar *g'* of metal or other stiff material, with lugs g^2 g^3 at its ends, formed with bosses or swellings pierced for the passage of the wire *e*. This bridge-piece is cemented to the envelope and the canvas lining turned over the lugs g^2 g^3 and the bar *g'* and cemented to the body of the lining or envelope, the whole being preferably afterward vulcanized. In this manner the edge of the envelope *a* between the said lugs is securely held to the bridge-piece. By pushing the envelope inward while the air-tube *f* is deflated the ends of the wire passing through the lugs g^2 g^3 are readily accessible and may be drawn up and tightened in any suitable manner—for instance, by screwing nuts upon the threaded ends of the wire *e*, said nuts bearing against the lugs g^2 g^3. By preference, however, I connect the ends of the wire in the manner shown on the drawings. I screw upon each end of the wire *e* a long nut or tapped nipple, one of which *h* is formed with a hook, while the other *i* has a shackle attached to it. I draw the nipples *h* and *i* together by a tool which may have the form of a pair of pliers, the jaws of which are slotted for the wire *e* to enter the slots, so that the jaws can seize the nipples and draw them together till the shackle can be slipped over the hook, or the tool may be in the form of a coach-wrench or adjustable spanner, the jaws of which are slotted for the wire, or any other suitable tool may be used. By the arrangements described the edge *d* can be easily fixed to the felly or detached therefrom. The other side of the envelope *a* may be fastened to the felly in a similar manner by having a similar bridge-piece *m* fixed to the inside of the envelope at one side of the vertical center line, as shown on the drawings, and a wire *l*

passed round the tire through a loop formed on the same and the lugs on the bridge-piece, with a coupling device between them. In this case the bridge-piece may be made in the shape of a slotted plate, as shown by Fig. 4, with pierced bosses at the ends and the lower bar *n* of the same attached to the part of the envelope resting in the central hollow part of the rim. The envelope *a* may also be divided centrally and both sides fastened in the manner hereinbefore described with reference to the side or edge *d*.

I claim as my invention—

1. The combination, with a longitudinally-divided envelope of an inflated tire for velocipedes and similar light road-carriages, of a bridge-piece *g*, inserted into the edge of said envelope, a wire inserted into a loop formed on said edge and passing through the pierced lugs of said bridge-piece, and a coupling device for said wire between the lugs of the bridge-piece.

2. The combination of a bridge-piece *g*, inserted into one edge of a tubular tire for wheels of velocipedes and similar road-carriages, divided longitudinally on one side of the vertical center line of the felly, a wire *e*, inserted into a loop formed on said edge and the pierced lugs g^2 g^3 of said bridge-piece, and a coupling device for the ends of the wire between said lugs, the other edge *b* of the tubular tire being slightly elastic and cemented to the felly of the wheel.

3. The combination of a bridge-piece *g*, inserted into one edge *d* of a tubular tire for wheels of velocipedes and similar road-carriages, divided longitudinally on one side of the vertical center line of the felly, a wire inserted into a loop formed on said edge and the pierced lugs g^2 g^3 of said bridge-piece, and a coupling device for the ends of the wire between said lugs, the other edge *b* of the tubular tire being slightly elastic and attached to the felly by a band passed around the same.

4. The combination of a tubular tire divided longitudinally, bridge-pieces *g m*, attached to the sides of said tire, wires *e l*, passing through loops formed on the said sides and through the pierced lugs of said bridge-pieces, and coupling devices for the ends of the wires between the lugs of the bridge-pieces.

In testimony whereof I have hereto affixed my signature in presence of two witnesses.

EDWARD HENRY SEDDON.

Witnesses:

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