

W. A. LURIE.
PNEUMATIC TIRE.
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962,230.

Patented June 21, 1910.

Fig. 1.

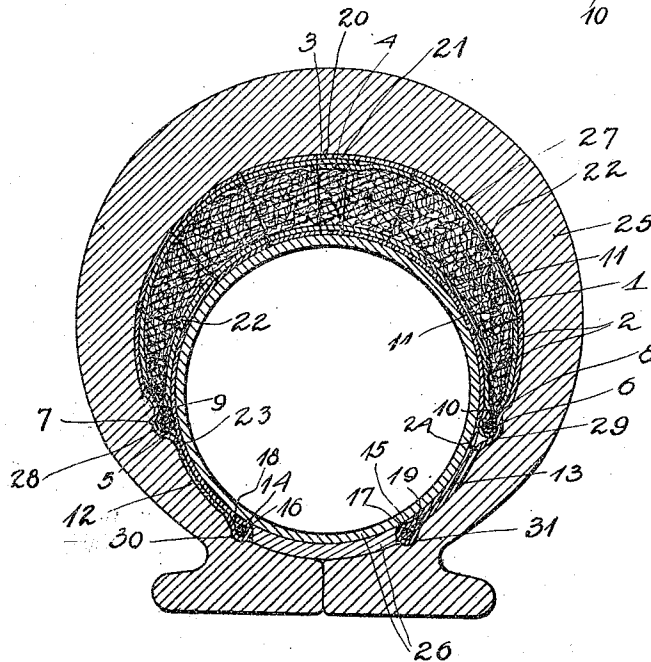
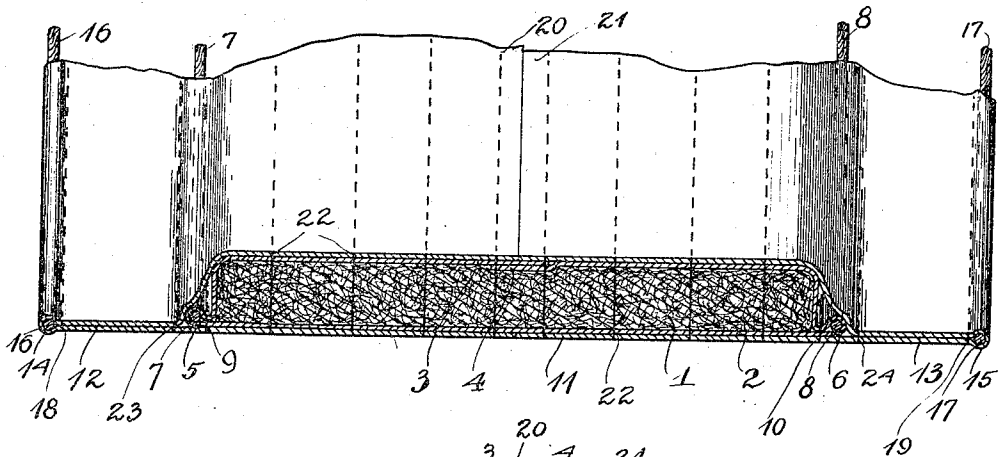


Fig. 2.

WITNESSES—

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WILLIAM A. LURIE, OF CHICAGO, ILLINOIS.

PNEUMATIC TIRE.

962,230.

Specification of Letters Patent. Patented June 21, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM A. LURIE, a citizen of the United States, and residing at Chicago, county of Cook, and State of Illinois, have invented new and useful Improvements in Pneumatic Tires, of which the following is a specification.

My invention relates to automobile tires and has for its object a construction which will render such tires more tough and more puncture proof without detracting from their traction efficiency or from their pneumatic cushioning properties.

In accordance with my invention I interpose between the outer casing of the tire and the inner inflatable tube, a pad or sheath built up of tough fibrous materials such as canvas and felt which when compressed upon inflation of the inner tube will effectively resist and prevent puncturing objects from reaching the inner tube.

In the accompanying drawings which illustrate my invention Figure 1 is a plan view of part of the puncture resisting pad; and Fig. 2 shows in section a tire in which the pad has been applied.

The body of the pad is in the form of a strip of fibrous material such as felt. The strip, before application of the pad to the tire, is of rectangular cross section and of a length depending upon the circumference of the tire. This strip is wrapped by a canvas strip 2 which engages the base and side edges of the strip and whose ends 3 and 4 engage the top of the strip and may overlap as shown. The corners between the base and sides of the canvas wrapper are looped to form pockets 5 and 6 for receiving cords or ropes 7 and 8, which are confined in these pockets by stitching 9 and 10. An outer wrapping 11 of canvas surrounds the inner wrapper and has its corners prolonged laterally to form extensions 12 and 13 terminating in pockets 14 and 15 for receiving cords or ropes 16 and 17 held in place by stitching 18 and 19. The ends 20 and 21 of the outer wrapper join at the top of the pad as shown. Any number of longitudinal stitch lines 22 are run through both wrappers and the felt strip to hold the parts in relative position. Stitches 23 and 24 are applied through the looped extensions 12 and 13 adjacent to the pockets 5 and 6 of the inner wrapper. The stitching 9 and 10 may also extend through the outer wrapper.

In Fig. 2, the pad is shown in its final po-

sition within a tire. The pad, after being built up, can be applied in various manners to the tire casing. It can be bent longitudinally into circular form before application, or can be caused to assume this shape during application to the casing. In Fig. 2, 25 represents the outer casing of more or less elliptic cross-section, and 26 represents the inner inflatable tube which is of more circular cross section, so that a crescent shaped annular chamber 27 is provided between the casing and tube. Into this crescent shaped chamber the pad will be compressed, the strip 1 assuming a crescent shaped section as shown, while the extensions 12 and 13 engage snugly between the casing and tube at the inner sections thereof. The casing may be provided with annular grooves 28, 29 and 30, 31 for receiving respectively the ropes 7, 8 and 16, 17. Upon inflation of the inner tube, the pad is compressed snugly in the chamber 27, and the sections containing the ropes are compressed into and securely held in the grooves 28, 29 and 30, 31 so that relative displacement of the parts is prevented and the thick, tough part of the pad retained in position adjacent the tread section of the casing. The extensions 12 and 13, besides serving to anchor the pad in place, also offer protection to the inner tube along its inner section.

The end of strip 1 and of the canvas wrappers 2 and 11 are overlapped and sewn together to form a close joint, and either before or after the pad is placed into the casing, the ends of each rope are drawn together until the circumference of the ropes equals that of the respective grooves provided in the casing, and the rope ends are then tied or otherwise fastened together. This drawing together of the ropes gives the pad approximately the elliptical form to fit the tire casing.

The two canvas wrappers together with the felt strip 1 after being compressed in the tire offer a tough barrier which will resist the passage of sharp objects and will prevent their reaching the inner tube. Nails, wire and the like will be bent and deflected from a straight course by the pad and will lodge flat on or in the pad. Glass and stones are, deflected and thrown out, or brought flat between the outer casing and pad. The pad will also prevent blowing out of the inner tube upon tearing or cutting of the outer casing. The pad will also keep

the inner tube cool, and in case of injury to the casing, will prevent seepage of water to the inner tube. The secure manner in which the pad is anchored by the rope sections, will prevent any displacement during running of the tire.

I do not desire to be limited to the exact formation and structure as shown as modifications are possible which would still come within the scope of my invention.

Having thus described my invention, what I claim as new and desire covered by Letters Patent is—

In a pneumatic tire, an outer casing and an inner inflatable tube forming between them a chamber adjacent the tread section of the casing, a pad comprising a strip of felt disposed in said chamber, an inner canvas

wrapping for said strip having its lateral edges looped to form pockets, cords extending through said pockets, an outer canvas wrapping for said strip having its lateral edges looped to form pockets, and cords extending through said last mentioned pockets, said outer casing having grooves in its inner surface into which said cords are compressed upon inflation of the inner tube to anchor the pad against displacement.

In witness whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. LURIE.

Witnesses:

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