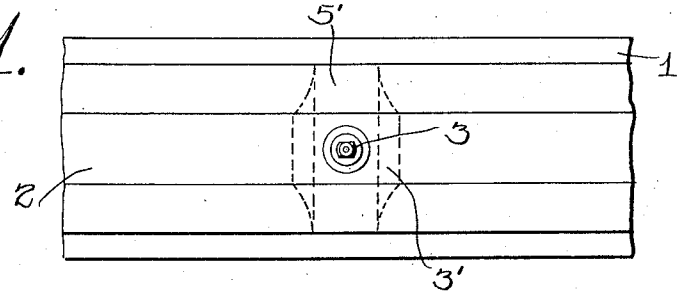
Sept. 17, 1929. J. GREEN 1,728,825

ATTACHMENT FOR PNEUMATIC TIRES

Filed Aug. 6, 1925

Fig. 1.



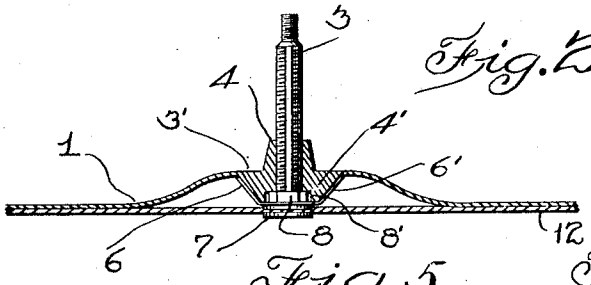




Fig. 2.

Fig. 5.

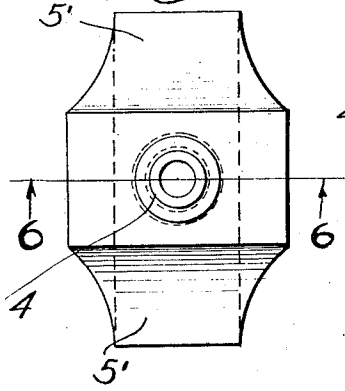
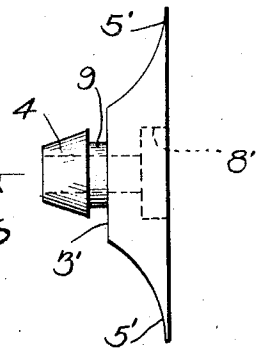



Fig. 6



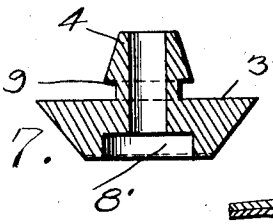




Fig. 7.

Fig. 4.

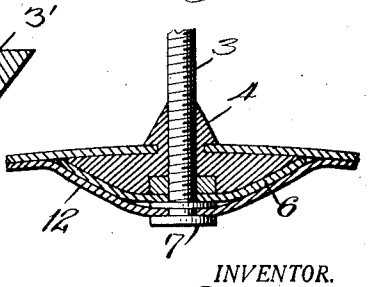
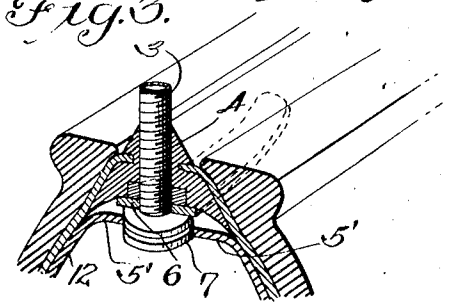



Fig. 3.




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# UNITED STATES PATENT OFFICE

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## ATTACHMENT FOR PNEUMATIC TIRES

Application filed August 6, 1925. Serial No. 48,668.

This invention relates to an attachment for pneumatic tires, in the use of which the juncture of the valve stem and valve stem opening in the tire rim is sealed against the admission of moisture or deleterious matter, with the result that damage to the inner tube from such source is entirely avoided.

The invention contemplates the provision of a sealing plug which may be constructed as a separate unit or may be made integral with the flap usually employed in pneumatic tires. This plug either as a unit or integral with the flap is formed to permit the passage of the valve stem therethrough and is recessed on the underside to receive the nut usually employed to secure the metallic wear guard in place. The plug of this improvement is a resilient body having a lower portion shaped to fit more or less snugly within the metallic guard, this portion of the plug having its ends inclined to accommodate the inclined end flanges of the guard. Laterally of the guard, that is, at right angles to the undercut ends, the plug is extended in what will be termed side sections, the lower surfaces of which project in the plane of the bottom of the plug proper with the upper surfaces curved to correspond approximately to the curvature of the inner surfaces of the beads of the casing when the latter is in place. The plug also comprises an upper portion of conical formation which passes through the valve stem opening in the tire rim and acts to seal the opening beyond the valve stem.

The invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of the improved sealing plug, the same being shown integral with the flap.

Fig. 2 is a transverse section, a portion of the inner tube being shown to illustrate the connection of the valve stem.

Fig. 3 is a broken perspective view showing the improved attachment in operative position in a tire.

Fig. 4 is a longitudinal section through the same.

Fig. 5 is a plan of the sealing plug shown as an independent unit.

Fig. 6 is a side elevation of the same.

Fig. 7 is a section on line 6—6 of Fig. 5.

With particular reference to Figs. 1 and 2, wherein the sealing plug is shown as an integral part of the flap, 1 represents a flap having a thickened central portion 2 to reinforce the same. The plug of the present invention is in this form shown integral with the flap and comprises what may be termed a lower portion 4′ and an upper portion 4. The lower portion 4′ longitudinally of the flap comprises a rectangular part 3′ of uniform thickness, the ends of which are undercut at 6′ to fit the upstanding end flanges of the usual metallic guard 6. This guard is applied over the valve stem 3 on the outer side of the inner tube 12, the valve stem having the usual inner integral flange 7 by which it is held on the inner side of the inner tube. The rectangular part 3 of the lower portion 4′ of the plug thus corresponds in length and breadth to the similar maximum length and breadth of the guard 6.

The guard 6 of course extends longitudinally of the flap when the parts are in applied position, as indicated in Fig. 3, and the lower portion 4′ of the plug is extended in both directions laterally to the guard to provide wings 5′, the lower surfaces of which are on a plane with the lower surface of the portion 4′ of the plug and the upper surfaces of which curve from the upper surface of such lower portion downwardly and outwardly to merge with the lower surface. The plug also includes an integral upper portion in the shape of a conical section 4 which extends above the flap, as indicated in Fig. 2. The plug as an entirety is formed with an opening 5 to permit the passage of the valve stem therethrough, the lower surface of the part 3′ of the lower portion of the plug being recessed at 8′ to receive the nut 8, which is usually employed to hold the guard in place.

In Figs. 5, 6, and 7, the plug is shown as a unit independent of the flap and the construction is identical with that previously described, except for the fact that the juncture between the lower portion 4′ of the plug and the upper conical portion 4 thereof is reduced to form a neck 9, designed to receive the usual openings formed in the independ-

ent flap and to hold the flap in position below the conical portion of the plug.

In applied position, as indicated in Fig. 3, it will be noted that the plug substantially fills the space beyond the inner tube and between the beads of the casing throughout the extent of the guard 6 and that the wings 5′ of the plug are, in the application of the tire and the inflation of the inner tube, bent downwardly so as to follow to some extent the curvature of the inner tube. The curved faces of the upper portions of these wings are such as to conform to the curvature of the inner surfaces of the casing beads, thus rendering a smooth normal fitting of the parts and a complete filling of the space at this portion of the tire. A conical portion 4 of the plug, which of course encircles the valve stem 3, projects through the valve stem opening in the rim, effectively filling this opening beyond the valve stem and sealing the opening against the admission of moisture or deleterious matter which would eventually injuriously affect the inner tube.

It is to be noted that where the sealing plug is formed integral with the flap, it will be arranged approximately between the ends of the flap, so that the flap with the integral plug will fit any size tire. That is to say, the plug will define that portion of the flap through which the valve tube extends and the ends of the flap will overlap each other at the diametrically opposite portion of the tire. Thus, but one flap is required for any size tire.

Claims:

1. A sealing plug for pneumatic tires, constructed of resilient material and having a lower portion to fit the guard plate of the inner tube with flexible wings extended laterally of said guard plate, and an upper conical portion to seal the valve stem opening in the tire rim beyond such stem.

2. A tire flap and a sealing plug integral therewith having a body portion below the flap to seat in the metallic guard carried by the inner tube, and an upper portion above the flap to seal the valve stem opening in the tire rim.

3. A tire flap and a sealing plug integral therewith having a body portion below the flap to seat in the metallic guard carried by the inner tube, and an upper portion above the flap to seal the valve stem opening in the tire rim, that portion of the plug below the flap having free flexible wings extended transversely of the flap.

4. A tire flap and a sealing plug integral therewith having a body portion below the flap to seat in the metallic guard carried by the inner tube, and an upper portion above the flap to seal the valve stem opening in the tire rim, that portion of the plug below the flap having free flexible wings extended transversely of the flap with their upper surfaces downwardly and inwardly curved.

5. A tire flap having a sealing plug integral therewith and arranged centrally between the ends of the flap.

In testimony whereof I affix my signature.

JACK GREEN.