J. M. MAJORS.

PNEUMATIC RUBBER TUBE AND METAL STEM PROTECTOR.

APPLICATION FILED DEC. 1, 1913.

**1,092,927.** Patented Apr. 14, 1914.

Fig. 1.

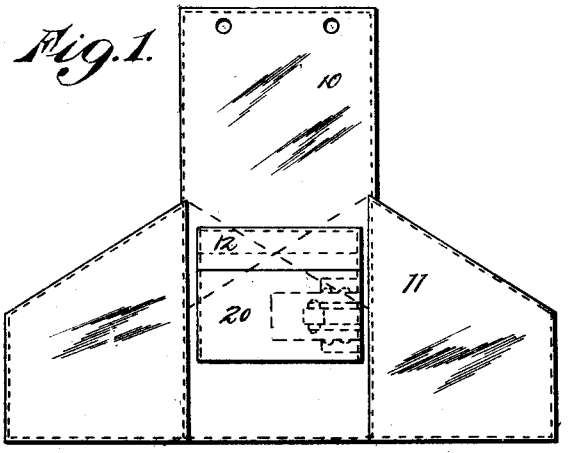



Fig. 2.

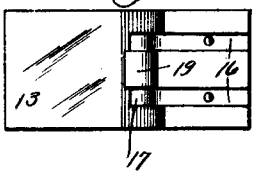



Fig. 5.

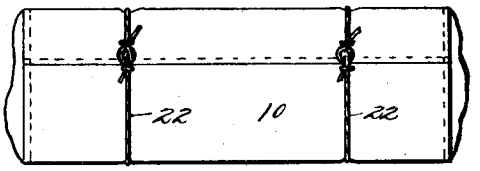



Fig. 3.

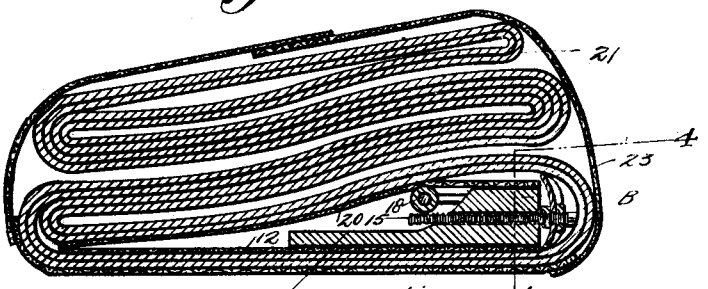
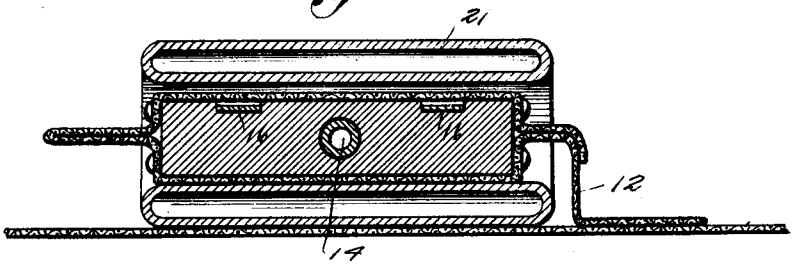



Fig. 4.




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# UNITED STATES PATENT OFFICE.

JAMES M. MAJORS, OF OTTUMWA, IOWA.

## PNEUMATIC-RUBBER-TUBE AND METAL-STEM PROTECTOR.

1,092,927. Specification of Letters Patent. Patented Apr. 14, 1914.

Application filed December 1, 1913. Serial No. 804,110.

*To all whom it may concern:*

Be it known that I, JAMES M. MAJORS, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented a certain new and useful Pneumatic-Rubber-Tube and Metal-Stem Protector, of which the following is a specification.

The object of my invention is to provide a pneumatic rubber tube and metal stem protector, of simple, durable and inexpensive construction, especially designed for carrying inner tubes for pneumatic tires.

More particularly it is my object to provide a device of the class mentioned having a firm support for the stem of an inner tube provided with means for holding said stem in position and yet permitting a slight movement thereof, especially for permitting rotary movement thereof, and at the same time protecting said metal stem from contact with parts which would injure the threads, or the like, and from contact with the rubber tube.

A further object is to provide a device of the kind just mentioned so arranged that the stem protecting part is mounted within the waterproof casing suitably adapted to contain the rubber tube.

My invention consists in certain details, in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 shows a plan view of a pneumatic rubber tube and metal stem protector embodying my invention as the same is laid out before the tube is placed in it. Fig. 2 shows a top or plan view of the rigid stem holding and supporting member. Fig. 3 shows a transverse, vertical, sectional view of the device after the stem has been placed in position and the tube folded and the side members of the casing have been folded over. Fig. 4 shows a vertical, sectional view taken on the line 4—4 of Fig. 3, and Fig. 5 shows a plan view of the device wrapped into a bundle with the tube inclosed therein.

My improved device comprises a sheet of waterproofing material which I have indicated in the accompanying drawings by the reference numeral 10, and which is preferably rectangular in shape, as shown in Fig. 1. Sewed, or otherwise secured to the side edges of the sheet 10 adjacent to one end thereof, are side wings 11 of similar waterproof material. Secured to the strip 10, preferably approximately between the upper ends of the wings 11, is a flap 12. The flap 12 is preferably secured along its upper edge, as shown in Fig. 1, so that the lower portion thereof is free to move. Arranged longitudinally of the flap 12, adjacent to one end of the portion thereof which is free to move, and preferably near the edge of the strip 10, as shown by the dotted lines in Fig. 1, and in cross section in Fig. 3, is a rigid metallic tube supporting member 13. The end of the member 13, adjacent to the nearest edge of the strip 10, as shown at B in Fig. 3, is thicker than the other end of said member 13, as clearly shown in said figure. Extending longitudinally through the thicker portion of the end B of the member 13 is an opening 14 designed to receive the stem 15 of an inner tube. The opening 14 is so located that the free end of the tube, when inserted in said opening, if long enough, will extend through the opening and rest just above the thinner end of the member 13, as clearly shown in Fig. 3.

Secured to the upper surface of the thick end B of the member 13 is a spring device which may be made of two parallel flat springs 16 which extend beyond the thick portion B to points above the thinner end of the member 13. The free ends of the springs 16 form bearings 17 for a small shaft 18 on which, between the springs 16, is mounted a rubber roller 19. The roller 19 extends down to a point slightly below the level of the upper part of the hole or opening 14 and is adjacent to the thick portion B of the member 13, and is designed to yieldingly engage the free end of the stem 15, as shown in Fig. 3.

Secured to the flap 12, and covering the rigid supporting device 13, is a second flap 20 which is fastened only adjacent to its end near the thick portion B so that its other end is free to be raised or folded out of the way.

In the practical use of my improved device, the flaps 12 and 20, and the rigid supporting device 13 are raised slightly and the stem 15 of an inner tube 21 is inserted in the opening 14 with its free end projecting through said opening above the thinner part of the member 13. One portion of the tube 21 is then extended under the flap 12 and

the other portion is extended over the flap 20 and the remainder of the tube is then folded into coils, as shown in Fig. 3. The wings 11 are then folded over the folded tube 21, and the lower and upper parts of the strip 10 are folded over and the bundle thus formed may be tied with the flexible devices 22, forming a comparatively small and compact package.

The strip and the wings 11 being made of waterproof material will protect the rubber from contact with oil or moisture, thereby thoroughly protecting it. The construction and arrangement of the rigid supporting device 13 is such that the metal stem is firmly supported and is yieldingly held against rotation and against removal by the rubber roller 19.

The portion B is preferably of such thickness that the curved metal shield 23, found on the ordinary inner tube, extends only a short distance above and below it so that there is little likelihood of the tube being cut on said metal part.

The stem 15 may rotate in the opening 14 slightly for adjusting the parts in position and on that account it is not likely that the rubber will be torn in placing the tube in the casing. The tube, when placed in my casing, can be put in the ordinary tool box or in any convenient place, and will be safe from contact with metal tools or hard parts which might otherwise bruise or injure it. The tube can be readily folded into a comparatively small space and can be wrapped so that the rubber practically does not chafe or rub.

It may be noted that by placing the stem in position and then folding the tube, beginning from the portion farthest from the stem, the air can be easily forced from the tube during the process of folding.

It is understood that numerous changes may be made in the details of the construction of my device without departing from its essential features and it is my intention to cover by this application any such changes which may be included within the scope of the appended claims.

I claim as my invention:

1. In a device of the class described, a flexible waterproof casing, a rigid supporting device, flexibly secured thereto, having a thickened end provided with an opening extending through it to receive the stem of a rubber tube so that the stem may project above the thinner portion of said supporting device, and a non-metallic device for yieldingly engaging the free end of said stem.

2. In a device of the class described, a flexible waterproof covering, a flap secured thereto along one edge, a rigid supporting device secured to the loose portion of said flap near one edge thereof, said supporting device having a thickened end provided with a longitudinal opening to receive the stem of an inner tube, a non-metallic yielding device arranged to engage the end of said stem, and a second flap arranged to cover said rigid supporting device.

Des Moines, Iowa, November 18, 1913.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."