Jan. 31, 1928. 1,657,820

W. A. CORLETT

PRESSURE TUBE CONSTRUCTION

Filed March 19, 1925

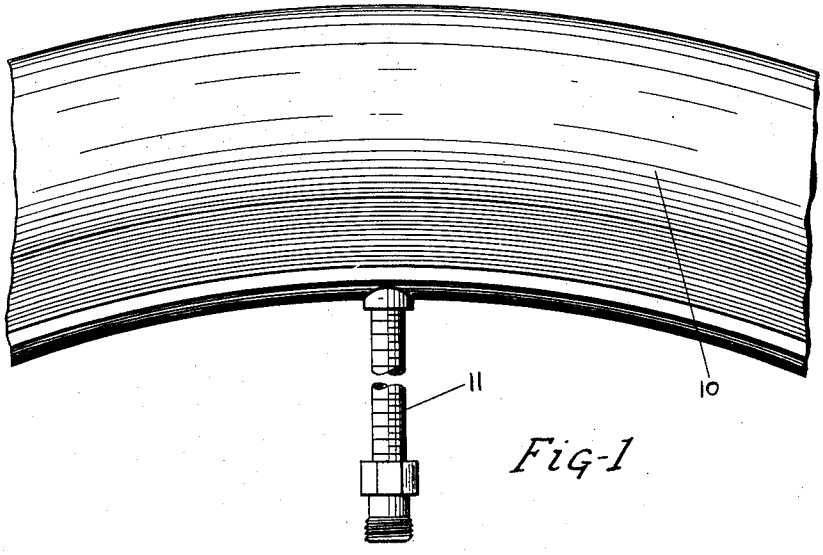


Fig-1

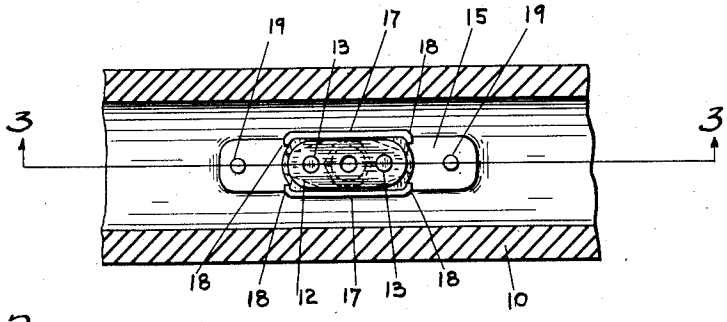


Fig-2

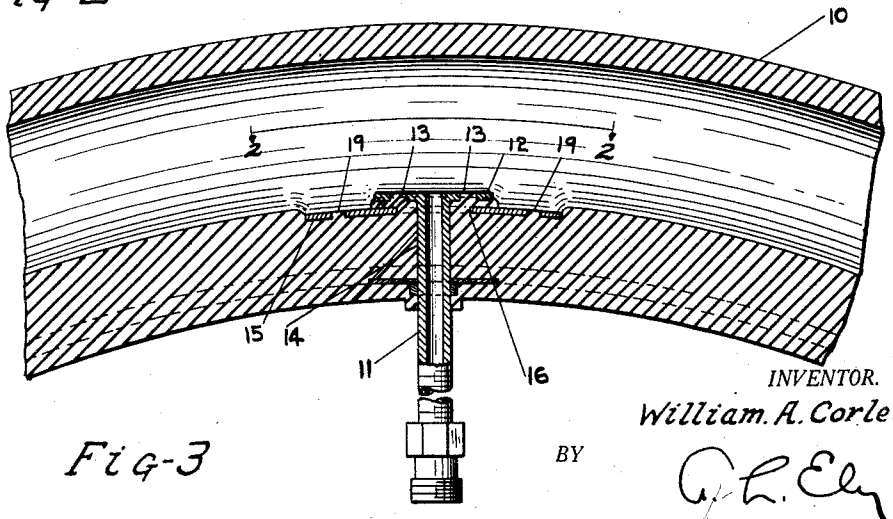


Fig-3

INVENTOR.
William A. Corlett
BY
ATTORNEY.

Patented Jan. 31, 1928. 1,657,820

UNITED STATES PATENT OFFICE.

WILLIAM A. CORLETT, OF KENMORE, OHIO, ASSIGNOR TO THE FIRESTONE TIRE AND RUBBER COMPANY, OF AKRON, OHIO, A CORPORATION OF OHIO.

PRESSURE-TUBE CONSTRUCTION.

Application filed March 19, 1925. Serial No. 16,704.

This invention relates to annular tubes of rubber or rubber and fabric such as air or pressure bags used in the vulcanization of tires.

The object of the invention is to provide an improved manner of securing valves in the bag by vulcanization whereby loosening of the valve in the bag caused by rocking thereof due to frequently attaching and detaching pressure fluid connections thereto will be prevented and leakage of the bag after a few cures will not result.

The foregoing and other objects are obtained by the construction illustrated in the accompanying drawings and described below. It is to be understood that the invention is not limited to the specific construction shown and described.

Of the accompanying drawings

Figure 1 is a side elevation of a portion of a bag showing the valve therein.

Figure 2 is a section therethrough on line 2—2 of Figure 3; and

Figure 3 is a section therethrough on line 3—3 of Figure 2.

Referring to the drawings, 10 is an air or pressure bag for use in vulcanizing tires, fluid under pressure being supplied thereto through a valve 11 vulcanized therein. Valve 11 is of ordinary construction and is provided with the usual base 12 which, for the purposes of this invention, is apertured as at 13, 13. In the construction of the bag, the tube of rubber is extruded or otherwise formed into the cross-sectional shape shown and is cut to length, bent into the form of an annulus and spliced. Prior to bending and splicing the bag, an aperture 14 is formed therein and the valve is inserted into the end of the tube and pushed outwardly through the aperture.

When the bag is vulcanized, the base 12 becomes embedded in the rubber by the exertion of a pull on the valve during the vulcanizing operation. The base 12, however, in the past has not prevented the loosening action described above. Accordingly there is provided a separate sub-base 15 of much larger area than base 12, which sub-base comprises a plate slotted as indicated at 16 to facilitate insertion of the valve and sub-base into the tube and to permit easy insertion of the valve through aperture 14. Sub-base 15 is also formed with upstanding flanges 17, 17 arranged to receive base 12 therebetween and to so embrace the latter that rocking of the tube valve cannot occur, flanges 17 being bent inwardly at their ends 18, 18 to centralize the valve in slot 16. Plate 15 is provided with apertures 19, 19 adjacent its ends to serve in anchoring the plate in the bag.

The vulcanization of the bag is effected in the customary manner, a pull being exerted on valve 11 during the same. Plate 15 will accordingly become slightly embedded in the rubber of the bag and the rubber will flow into apertures 19, riveting it in place. In addition, rubber will flow through slot 16 and be squeezed between base 12 and sub-base 15 to further rivet the latter in the bag and to more securely connect base 12 to the sub-base 15, the rubber flowing into the apertures 13 acting as rivets to bring about this result.

By the construction shown and described, it will appear that rocking of the valve 11 in any direction will be prevented by the sub-base with which it is practically integral and leaking of the bag as a result of loosening of the valve therein cannot result. It is to be noted that the provision of a base of the size of base 15 originally integral with valve 11 would prevent the easy and practical insertion of the valve in the bag and in some bags such insertion would be impossible without unduly distorting the bag.

Modifications of the invention may be resorted to without departing from the spirit thereof or the scope of the appended claims.

What is claimed is:

1. A tube of rubber having a valve vulcanized therein, said valve having an integral base thereon, and a second separate base for said valve adapted to be inserted therewith in said bag and adapted to be vulcanized in place therein in such a manner as to prevent rocking of said valve by engagement with the first base.

2. A tube of rubber having a valve vulcanized therein, said valve having an integral base thereon, and a second separate base for said valve adapted to be inserted therewith in said bag and adapted to be vulcanized in place therein in such a manner as to prevent rocking of said valve by engagement with the first base, said second base being provided with an aperture for loosely re-

ceiving said valve in such a manner that the valve and the second base can be inserted together into the tube.

3. A tube of rubber having a valve vulcanized therein, said valve having an integral base thereon, and a second separate base for said valve adapted to be inserted therewith in said bag and adapted to be vulcanized in place therein in such a manner as to prevent rocking of said valve by engagement with the first base, said second base being apertured so that the rubber of said bag will flow into the apertures therein during vulcanization.

4. A tube of rubber having a valve vulcanized therein, said valve having an integral base thereon, and a second separate base for said valve adapted to be inserted therewith in said bag and adapted to be vulcanized in place therein in such a manner as to prevent rocking of said valve by engagement with the first base, said second base being of substantially greater area than said first base.

5. A tube of rubber having a valve vulcanized therein, said valve having an integral base thereon, and a second separate base for said valve adapted to be inserted therewith in said bag and adapted to be vulcanized in place therein in such a manner as to prevent rocking of said valve by engagement with the first base, said second base being formed with flanges adapted to embrace said first base.

6. A rubber tube construction including a valve vulcanized in said tube formed with an integral base and extending through a separate sub-base of substantially greater area than said integral base, said sub-base being anchored in said tube by vulcanization, and having means thereon embracing said integral base to prevent loosening of said valve in said tube.

WILLIAM A. CORLETT.