M. H. LOUGHRIDGE.

TUBULAR TAG.

APPLICATION FILED DEC. 15, 1917.

1,298,981. Patented Apr. 1, 1919.

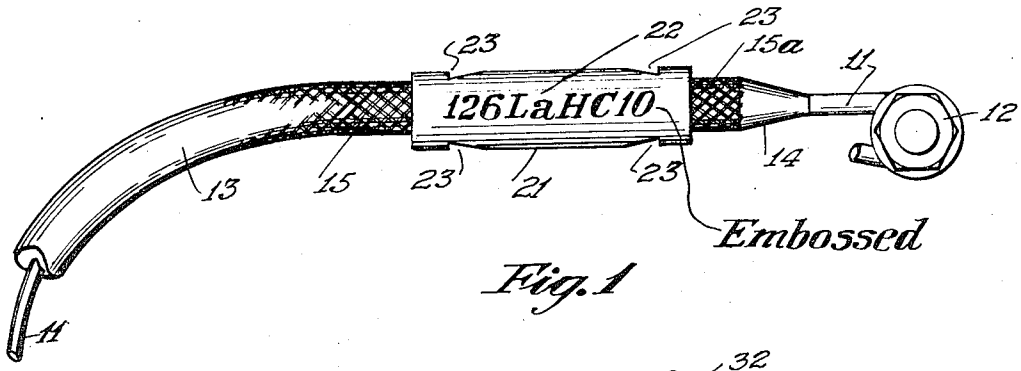


Fig. 1

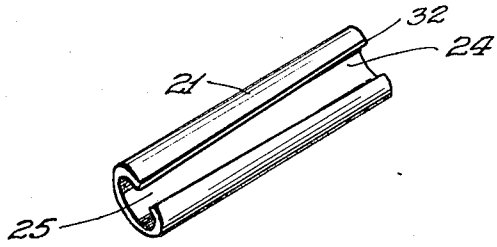


Fig. 2

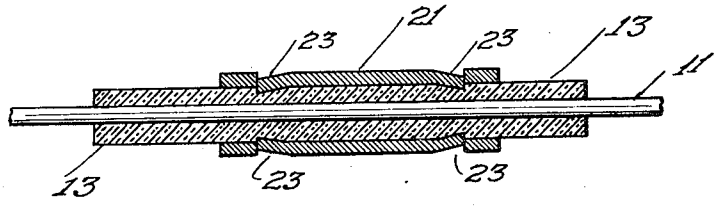


Fig. 3

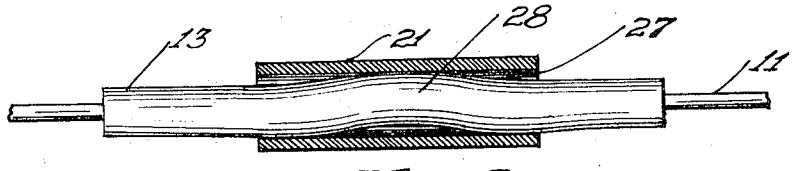


Fig. 4

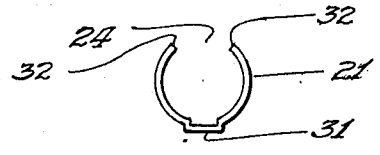


Fig. 5

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TUBULAR TAG.

1,298,981. Specification of Letters Patent. Patented Apr. 1, 1919.

Application filed December 15, 1917. Serial No. 207,333.

To all whom it may concern:

Be it known that I, MATTHEW H. LOUGHRIDGE, a citizen of the United States, and a resident of Bogota, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Tubular Tags, of which the following is a specification.

This invention relates to tags and particularly to tags of a tubular formation for attaching to cylindrical bodies. Its objects are to provide an inexpensive tag that may be readily applied or removed, that will not corrode and will withstand weather conditions without materially affecting the designation on the tag; also to provide protection for the article to which it is applied.

In the accompanying drawings my invention is shown in its application to an insulated wire in which, Figure 1, shows the tag in place, Fig. 2 is a back view of the tag by itself, Fig. 3, is a sectional elevation on the plane of Fig. 1. Fig. 4 shows an application, partly in section, where the tag is of larger diameter than the wire, Fig. 5 is an end view of a tag having a special portion for the designation.

Insulated wires of the character shown are usually applied in exposed and outdoor work. The conductor 11 has a covering of a rubber compound 13, which is usually protected by a tape or a braid or both, as indicated at 15. In railway signal work, telephone work and the like, these wires are usually led to a row of terminals similar to 12 where the insulation is stripped from them as at 14 to make electrical connection with the terminal. It is necessary to be able to tell the function of each individual wire and for this purpose they are tagged. At present this tagging is done with a piece of sheet fiber which is fastened by a length of twine to the wire. This has the disadvantage that the twine slips on the wire, it deteriorates with exposure, becomes entangled and is eventually lost. This invention avoids these defects by placing the tag on the wire as shown in Fig. 1, so that it actually forms part of, and protects the insulation of the wire.

These tags must, obviously, be of insulating material as otherwise they would be liable to corrode and to cause short circuits between the exposed terminals or ends of wires. The designation of the wires, as for instance, the characters "126 LaHC 10" in Fig. 1, is embossed on the tag 21 by an embossing punch; thus these characters become an integral part of the tag and cannot be effaced by exposure to the weather.

This tag is made from a springy resilient material and has a longitudinal segment cut away from the back a shown in Fig. 2. It is desirable, although not essential, that this segment be cut on a taper having one end 24 wider than the other end 25. The longitudinal opening of the tag is applied to the wire and by the pressure of the thumb it is snapped into place, the resilience of the material making this possible. The tag can also be removed from the wire by the pressure of the fingers and by bending the wire out through the slot. Where the slot is tapered the wide end facilitates placing and removing of the tag.

The elasticity of a tag is influenced by the thickness of its walls, by its diameter and by the hardness of the fiber from which it is made. Hard fiber is preferred owing to its mechanical strength. For this reason and also to provide for the embossing, reasonably thick walls are desirable. The slot cut from the tag, must of course, be less than a semicircle so that the tag will grip the wire properly. A comparatively wide slot may be used with stiff tags but full advantage is taken of the fact that the rubber covering of the wire itself is elastic and can readily be forced into a slot smaller than its diameter.

It has been found that vulcanized fiber tubes made from layers wrapped on a mandrel are suitable for these tags, but any resilient insulating material in which the outer and inner fiber stresses are so arranged that they have no tendency to flatten out and which may be embossed, will be found suitable for these tags.

The tag should, preferably, be a snug fit for the wires and the edges of the slot 32, Figs. 2 and 5, should preferably, slope outwardly to facilitate attachment, this slope acting as an inclined plane when the tag is forced into position.

When the insulting material of the wire is liable to shrink with age, the tag may be dented as shown at 23, Figs. 1 and 3, a portion of the hard fiber of the tag being forced into the insulation. The tags may be dented before being placed on the wire or they may

be dented by special pliers after being placed. Tags dented in this manner cannot change their position on the wire.

Tags may be applied to wires of smaller diameter than the interior diameter of the tag and prevented from sliding thereon by the expedient shown in Fig. 4. Wire of the kind described is easily bent and by making a kink 28 in it as shown, the increased size of opening 27 is taken care of by engaging the wire on all sides.

Tags are most commonly used at the ends of wires where they connect to terminals or other wires. In this case the braiding of the wire is cut as at 15[a] and the insulation removed as at 14, Fig. 1, to make the connection. It has been found by experience that the end of the braiding has a tendency to fray, leaving the rubber insulation unprotected which cracks and falls away from the wire. The tag disclosed in this invention serves the double purpose of protecting the braiding and insulation at such points by incasing it in a mechanically strong insulating sleeve which prevents fraying of the end of the insulation and absorbs any mechanical jar that it may receive.

Fig. 5 shows a section where a wide embossing space is provided or a section that may be preferable for small tags where the flat space 31 is provided for the designation. Attention is called to the fact that these tags may readily be applied or removed without in any way disturbing the connections of the wire.

Having thus described my invention, I claim:

1. A marking system for electric wires consisting of a wire, an insulating covering for a portion of said wire, a one piece tubular sleeve of resilient insulating material and having a longitudinal slot, said sleeve placed on said wire by means of said slot near the end of said insulation and fitting it snugly.

2. A marking system for electric wires consisting of a wire, an insulating covering for said wire, a one piece tubular sleeve of resilient insulating material and having a longitudinal slot, said sleeve placed on said wire by means of said slot and containing an embossed designation to distinguish said wire.

3. A marking system for electric wires consisting of a wire, a soft rubber insulation for said wire, a one piece tubular sleeve of hard fiber having a longitudinal slot less than a semi-circle, said sleeve placed on said wire by means of said slot and having an embossed designation to distinguish said wire.

4. A marking system for electric wires consisting of a wire, an insulating covering for said wire, a one piece tubular sleeve of resilient insulating material and having a tapering longitudinal slot, said sleeve placed on and removed from said wire by means of said slot.

5. A marking system for electric wires consisting of a wire, an insulating covering for said wire, a one piece tubular sleeve of hard fiber fitting onto said wire, said fiber being dented into said insulating covering.

6. A marking system for electric wires consisting of a wire, an insulating covering for said wire, a one piece tubular tag embossed with a designation distinguishing said wire, said tag fitting onto said wire and being partially embedded in said insulating covering.

7. A marking system consisting of a cylindrical member, a one piece cylindrical tag having a longitudinal slot and made from vulcanized fiber, said fiber capable of being embossed and retaining its cylindrical form, said tag placed on said cylindrical member by means of said slot and fitting it snugly.

8. A marking system for electric wires consisting of a conductor, a comparatively soft insulating covering for said conductor, a comparatively strong tubular covering of insulating material for said insulation designed to fit it snugly, said covering provided with a longitudinal slot by means of which it may be placed on or removed from said insulated conductor.

9. A device for marking electrical wires consisting of a one piece cylindrical sleeve of insulating material and having a longitudinal slot, said sleeve marked with the designation of said wires and placed in position by means of said slot.

In testimony whereof I hereto subscribe my name in the presence of two witnesses.

MATTHEW H. LOUGHRIDGE.

Witnesses:
W. J. ECCLES,
TILLIE E. LOUGHRIDGE.