

C. H. MILLER.
FLEXIBLE CONDUIT FOR ELECTRIC WIRES.
APPLICATION FILED JULY 25, 1907.

942,790.

Patented Dec. 7, 1909.

Fig. 1.

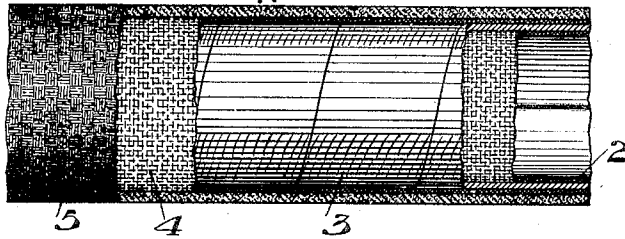


Fig. 2.

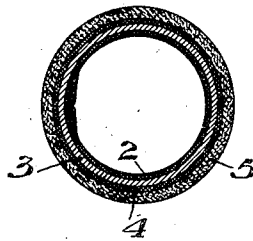


Fig. 3.

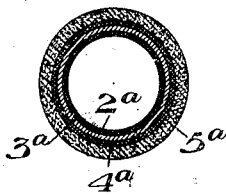
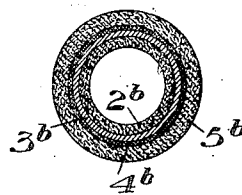


Fig. 4.



WITNESSES

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FLEXIBLE CONDUIT FOR ELECTRIC WIRES.

942,790.

Specification of Letters Patent.

Patented Dec. 7, 1909.

Application filed July 25, 1907. Serial No. 385,520.

To all whom it may concern:

Be it known that I, CHARLES H. MILLER, a citizen of the United States, of West Pittsburg, in the county of Lawrence, Pennsylvania, have invented a new and useful Flexible Conduit for Electric Wires, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation partly in section of my improved conduit; Fig. 2 is a cross section of the same; and Figs. 3 and 4 are sectional views of modified forms.

My invention relates to the class of flexible conduits which include a woven or braided tubular fabric, and is designed to provide a conduit of this character which will be rigid and yet may be bent or flexed; and which shall provide a smooth raceway for the wires fished through it.

In the form of Figs. 1 and 2, 2 represents an inner lining of composition fabric, such as a lining of oilcloth. This oilcloth is provided with a sewed or stitched longitudinal seam, giving it a tubular shape, the seam being made of such a nature as to render it air and water tight. 3 represents a helical winding of a paper strip or strips over the oilcloth. Where oil cloth or a composition lining is used, I preferably spread or sprinkle soapstone or a smooth powder or material over its inner surface to prevent any clinging tendency. Over the paper strip or strips 3 is placed a muslin wrapping 4 which is preferably impregnated with an adhesive composition, and may be either helically wound or provided with a longitudinal seam. 5 is a braided or woven tubular fabric which is formed over the wrapping; and this braiding is preferably saturated with a waterproofing compound. The cotton or material for braiding or weaving the tubular fabric may be treated to fireproof it before it is formed into the tube; and the winding may be formed of wooden or other strips instead of paper strips. On the surface of this tube while wet, mica or other non-inflammable material may be sprinkled, if desired, to render the tube more or less fireproof.

In Fig. 3, I have shown a form similar to that of Figs. 1 and 2, except that the oilcloth has a butt joint which is sewed to-

gether instead of being lapped or seamed in the manner shown in Fig. 1. In this case, parts similar to Fig. 1 are marked with similar numerals with the letter *a* applied.

In Fig. 4, I show a form similar to Fig. 1, except that the oilcloth is replaced by a woven or braided tubular center portion 2^b, which is preferably provided with an inner layer of composition, or a powder, such as soapstone, to give a smooth surface to be provided with a smoothing powder such as soapstone to facilitate the drawing in or out of wires, these wires having a tendency to cling to the ordinary woven center of conduits; the soapstone or other smooth material prevents such clinging or adhesion by reduction of friction, and renders installation of wires into the conduit more readily and easily made. In this figure, parts similar to Fig. 1 are marked with the same numerals with the letter *b* applied.

The advantages of my invention result from the simplicity and cheapness, strength and durability of the conduit, as well as from the smooth inner surface afforded.

Variations may be made in the form and arrangement of the conduit and its elements without departing from my invention.

I claim:—

1. A flexible non-metallic conduit for electric wires, consisting of an inner air and water-tight flexible tube, a helical winding of paper surrounding said tube, a muslin wrapper surrounding the paper winding and impregnated with an adhesive composition, and a braided or woven tubular fabric surrounding the muslin wrapping; substantially as described.

2. A flexible non-metallic conduit for electric wires, consisting of an inner air and water-tight flexible tube, a helical winding of paper surrounding said tube, a muslin wrapper surrounding the paper winding and impregnated with an adhesive composition, and a braided or woven tubular fabric surrounding the muslin wrapping, said fabric being treated with a fireproofing substance; substantially as described.

3. A flexible non-metallic conduit for electric wires, consisting of an inner air and water-tight flexible tube, a helical winding of paper surrounding said tube, a muslin wrapper surrounding the paper winding and impregnated with an adhesive composi-

tion, and a braided or woven tubular fabric surrounding the muslin wrapping, said fabric being treated with a fireproofing substance and having an outer coating of non-inflammable material; substantially as described.

4. A non-metallic flexible conduit for electric wires, comprising an inner fabric tube having a composition lining to form a smooth interior surface, a flexible strip wound spirally around said tube, a muslin wrapping for said strip, and a braided or woven tubular fabric surrounding the wrapping of a waterproof and non-inflammable character; substantially as described.

5. A flexible non-metallic conduit for elec-

tric wires, consisting of an inner fabric tube having a composition lining to form a smooth interior surface, a flexible stiffening strip wound spirally around said tube, a thin fabric wrapping for said strip and a braided or woven tubular fabric surrounding the wrapping, said fabric being treated with a protecting solution; substantially as described.

In testimony whereof, I have hereunto set my hand.

CHARLES H. MILLER.

Witnesses:

JOHN MILLER,
H. M. CORWIN