(No Model.)

E. LAVENS.

ART OF MAKING INTERIOR CONDUITS.

No. 570,256. Patented Oct. 27, 1896.

FIG. 1.

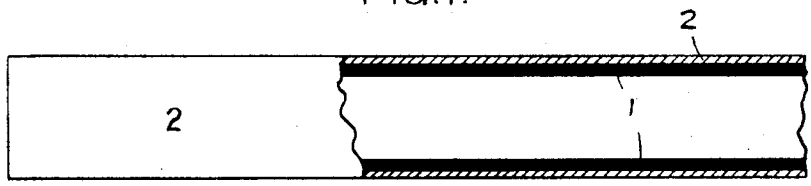


FIG. 2.

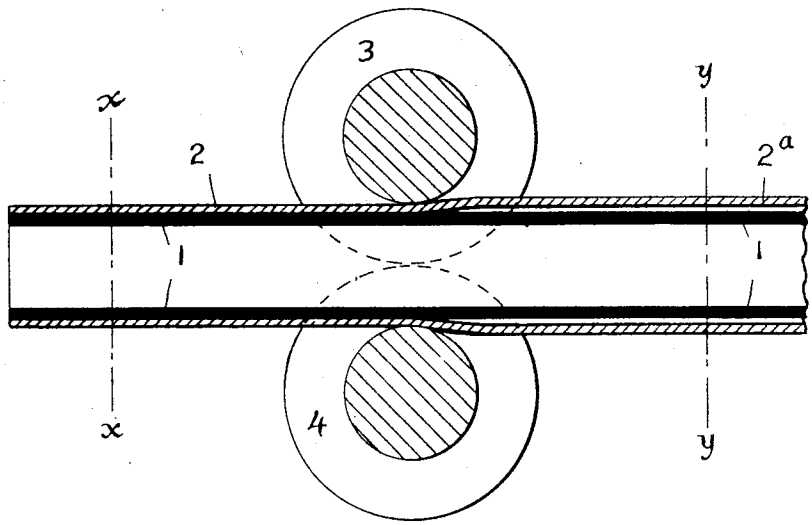


FIG. 3.

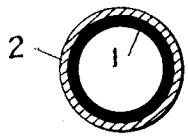
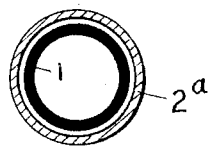


FIG. 4.



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ART OF MAKING INTERIOR CONDUITS.

SPECIFICATION forming part of Letters Patent No. 570,256, dated October 27, 1896.

Application filed March 16, 1896. Serial No. 583,488. (No model.)

To all whom it may concern:

Be it known that I, ERWIN LAVENS, a citizen of the United States, residing at Brooklyn, State of New York, have invented a new and useful Improvement in Interior Conduits and the Art of Making the Same, of which the following is a specification.

The object of this invention is to provide, by an improved method or process of manufacture, an efficient interior conduit for electric-wiring purposes which may be produced by unskilled labor at minimum expense and has every advantage of an exterior protective armor, preferably of iron or steel, and an inner lining of insulating material.

The invention will first be described, and will then be particularly defined in claims hereinafter set forth.

Reference is made to the accompanying drawings, forming part of this specification, and in which similar numerals indicate like parts in the several views.

Figure 1 is a side elevation, partly in longitudinal section, of a finished piece of conduit made in accordance with my invention. Fig. 2 is a longitudinal sectional view illustrating the process of making the conduit; and Figs. 3 and 4 are cross-sectional views taken on the lines x x and y y, respectively, in Fig. 2.

The improved conduit is made with an inner tubular lining 1, formed of any soft pliable and resilient insulating material, and an exterior tubular armor 2, of protective material, preferably iron or steel, commonly used for similar purpose.

Instead of expanding an interior insulating-lining outward against the inner wall of a protective armor, as has heretofore been done in various ways, I pass the insulating-lining within an armor-tube having an interior diameter slightly larger than the exterior diameter of the lining, and I then by external pressure applied in any approved manner draw or press the armor-tube down closely upon the entire outer surface of the insulating tubular lining, thus making a very close and approximately homogeneous joint between the armor and lining. The drawing or compression may be effected while the armor-tube is cold or while it is externally heated. When cold-drawn, the heat generated by compression of the armor-tube aids in effecting a very close union of the armor and lining of the conduit.

In practice I find that a conduit thus produced may be cut at any part of its length and into short pieces without disclosing looseness of the joint between the insulating-lining and the protective armor. Hence the lining will not move endwise in the armor. This close union of the armor and lining effected by external pressure on the armor makes the conduit especially desirable for use in vertical courses in wiring a building.

In Fig. 2 I show two opposing grooved rollers 3 4 in the act of compressing or drawing down the armor upon the insulating-lining. The uncompressed portion of the armor is indicated at 2^a in Figs. 2 and 4 of the drawings. Any approved apparatus may be employed for drawing or compressing the armor upon the insulating-lining, and this lining may have any desired construction, the ordinary paper tubes treated with carbonaceous substances being well adapted for use in practicing my invention.

I claim as my invention—

1. The herein-described improvement in the art of making interior conduits, consisting in inserting a tubular lining formed of soft pliable and resilient insulating material within a protective armor, and then effecting close union of the armor and insulating-lining by drawing down or otherwise reducing the diameter of the external tube.

2. The herein-described improvement in the art of making interior conduits, consisting in inserting a tubular lining formed of soft pliable and resilient insulating material within a protective armor-tube, and then effecting close union of the armor and insulating-lining, by externally compressing the armor.

In testimony whereof I affix my signature in the presence of two witnesses.

ERWIN LAVENS.

Witnesses:

PAUL U. TURNER,

J. E. PEARSON.