

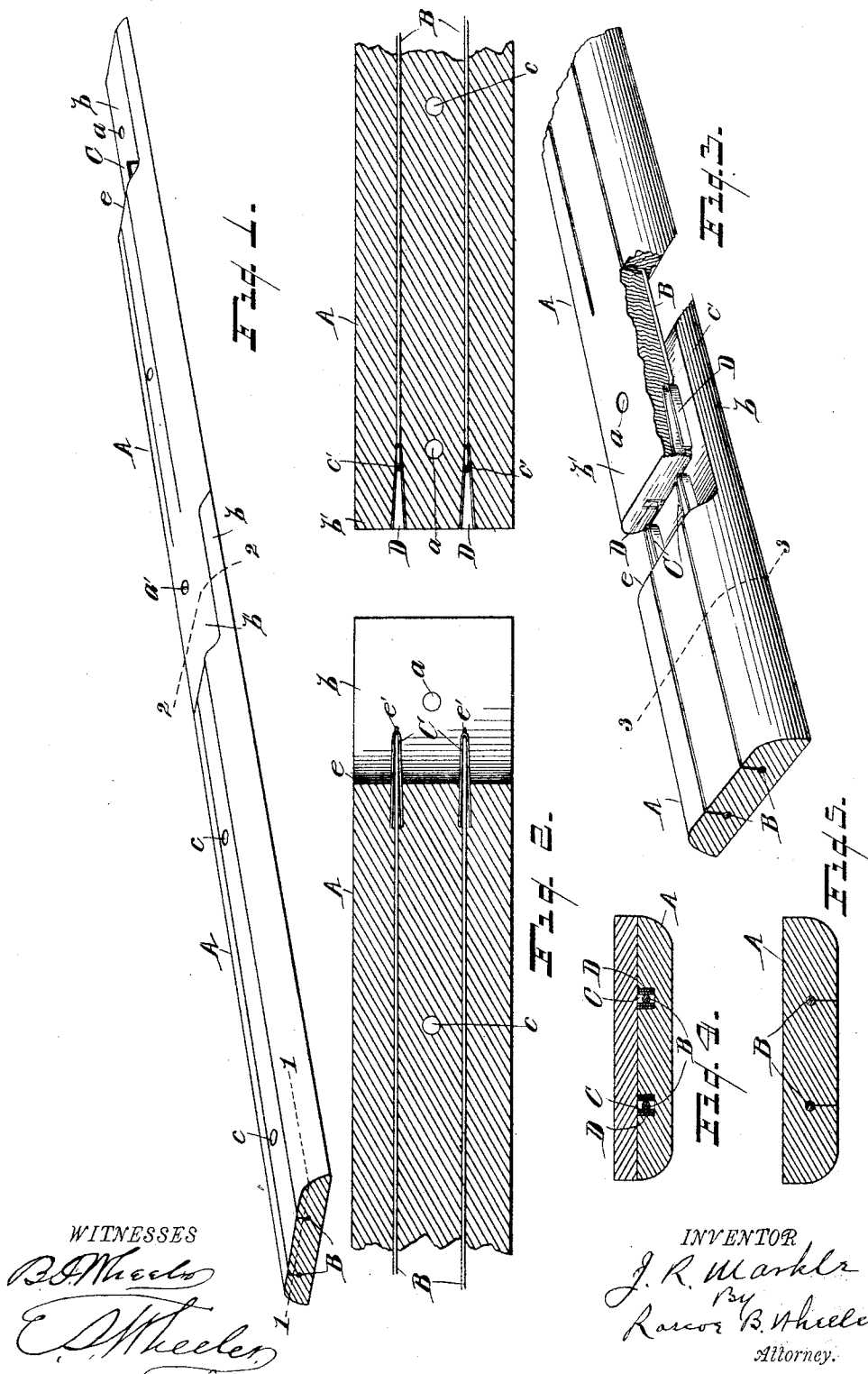
(No Model.)

2 Sheets—Sheet 1.

J. R. MARKLE.
INSULATION FOR ELECTRIC WIRES.

No. 460,725.

Patented Oct. 6, 1891.



(No Model.)

2 Sheets—Sheet 2.

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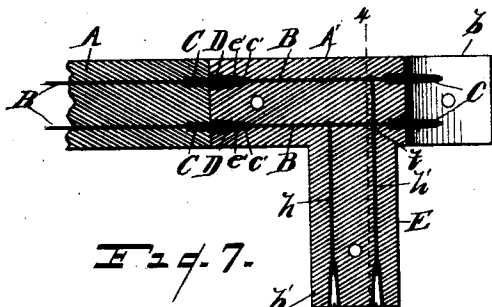
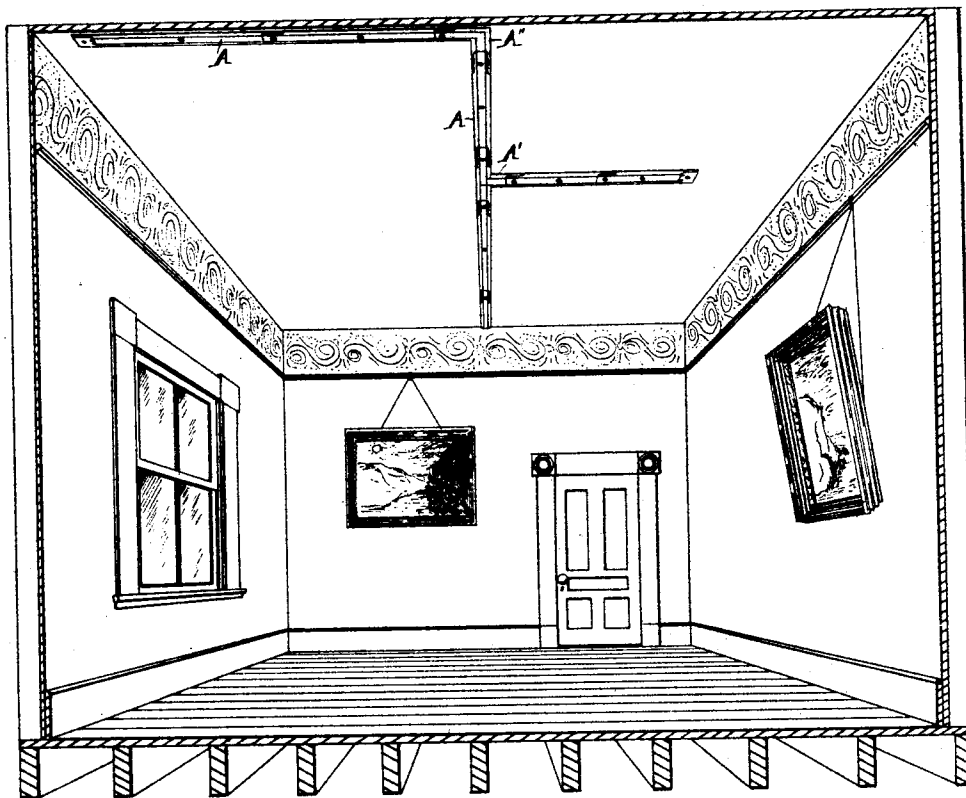


Fig. 6.

Fig. 7.

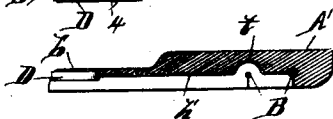


Fig. 8.

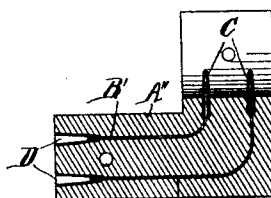


Fig. 9.

WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN R. MARKLE, OF DETROIT, MICHIGAN.

INSULATION FOR ELECTRIC WIRES.

SPECIFICATION forming part of Letters Patent No. 460,725, dated October 6, 1891.

Application filed November 24, 1890. Serial No. 372,512. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. MARKLE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Anchoring and Insulating Electric Wires; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and improved means for inserting succeeding sections of insulated electrical conductors to form a continuous or extended line or branches leading therefrom, being especially adapted for stringing an electric line in the interior of buildings for lighting purposes; and it consists in a certain construction and arrangement of parts, as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to provide sections of non-conducting strips provided with electric wires embedded therein, that form insulated electrical conductors, with contact-plates that will enable a "switching on" of a succession of said sections of insulated conductors to effect a continuity of the electric line or to form a branch therefrom, and in such manner as to obviate the "soldering and wrapping" of the wires, as commonly practiced, to form an insulated contact between said sections. This object is attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of two of the insulated electrical conducting sections coupled as when forming a continuous line. Fig. 2 is a horizontal section on dotted line 1 1 of Fig. 1, the sections being drawn apart to show the switch or contact plates. Fig. 3 is a perspective view of the coupling ends of two sections drawn slightly apart to show the relative position of the contact-plates, a portion of the end of one section being broken away, showing the wire therein connected with one of said plates. Fig. 4 is an enlarged inverted transverse section on dotted line 2 2

of the insulating-strip, substantially as shown in Fig. 1. Fig. 5 is an enlarged inverted transverse section on dotted line 3 3 of the insulating-strip, substantially as shown in Fig. 3. Fig. 6 is a perspective view of the interior of a room, showing a line and branch therefrom, formed of a series of my improved insulated electrical conducting sections secured to the ceiling thereof. Fig. 7 is a horizontal section through a T-section of the conductor, showing the manner of branching from the main line. Fig. 8 is a section on dotted line 4 4 of Fig. 7 inverted. Fig. 9 is a horizontal section through an L-shaped corner-block employed for making a turn in the line.

Referring to the letters of reference, A indicates sectional strips of any suitable non-conducting material, preferably a soft-wood molding, in which are anchored or embedded the electric wires B, which are located some distance apart and run longitudinally of said molding, as shown in Figs. 2 and 3, said molding also having the screw-holes *c*, that afford means for attaching it to the wall or ceiling. The joined ends of the sections A are united by a scarf-joint and secured with a screw *a'*, passing through the holes *a* in the scarfed ends of said sections, as shown in Figs. 1 and 2.

The conducting-wires B do not pass through the entire length of the sections A, but terminate at and are secured in the V-shaped male and female switch-plates C and D, anchored, respectively, in the opposite scarfed ends *b b'* of each section. The male plates C project about one-half their length from the shoulder *e* of the scarfed end *b* of the section, as clearly shown in Figs. 2 and 3. The ends of the wires B pass into said plates and extend slightly through the outer ends thereof and are secured therein, as shown at *e'* in Fig. 2. By locating the projecting male plates C in the shoulder *e* of the section the extending scarfed end *b* thereof forms a guard for said plates and prevents them from being broken off in handling and transportation. The female plates D, adapted to receive the male plates C, are secured in the under face of the opposite scarfed end *b'* of the section, their open ends standing flush with the outer end thereof, as shown in Fig. 2. The ends of the wires B ex-

tend some distance into the plates D, through the inner ends thereof, and are secured therein, as shown at *c'* in Figs. 2 and 3. By this arrangement of parts when the corresponding ends of the sections A are placed together the contact-plates C will enter and tightly fill the contact-plates D, thus making a secure and positive connection between said sections, thereby effecting an unbroken continuation of the line.

When it is desired to branch from the main line, a T-section A', Fig. 7, is employed, the right-angle portion E of said section being provided with the wires *h h'*, the outer ends of which are secured, as before described, in the female plates D, their opposite ends being coupled, respectively, to each of the wires B. The wire *h'*, which crosses one of the wires B, is arched at that point, as shown at *t* in Fig. 8, so as to carry it free of the wire B and prevent a "short circuit." The right-angle portion E of the T-section, being provided with the female plate D in the scarfed end *b'* thereof, permits of the switching on of succeeding sections to extend the branch line to any desired point, as shown in Fig. 6. In making a right-angle turn in the line the L-shaped corner-block A'' is employed, (see Fig. 9,) the respective ends of which are scarfed to correspond with the scarfed ends of the straight sections, and are provided with the male and female plates C D, that are connected by the curved wires B', anchored in said block. By means of this block A'' a turn at right angles may be made in the line at any desired point, as shown in Fig. 6. It will now be apparent that by the employment of these sections of insulated electrical conducting-strips an electrical line of any length may be formed and extended to any point desired, and by the manner of inserting the succeeding sections of the conductor through the junction of the male and female plates a continuity of the line is effected and a positive and insulated contact formed between said sections, and instead of the unsightly wires that are exposed to view in the ordinary manner of running an electric line these improved insulated conducting-sections may form part of the ornamental trimming of a room. It is designed to make these sections in various lengths to accommodate the different sizes of rooms and enable the forming of different lengths of lines and branches. Before securing the scarf-joint between the

sections the contiguous faces of said joint are coated with a substance impervious to moisture, so as to exclude dampness from the contact-plates, and where wood molding is used the body thereof is given a water-proof coating to prevent dampness from penetrating to the wires.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with an insulating-base having scarfed end projections, a pair of wires extending longitudinally of said base and at some distance from each other, female contact-plates located in the projecting scarfed end of the base and communicating with the parallel wires, and the male contact-plates projecting from the shoulder of the opposite scarfed end of said base, said male contact-plates having communication with the ends of the wires opposite the female contacts, substantially as specified.

2. A wooden molding having scarfed end projections, in conjunction with a pair of wires sunk therein, said wires running parallel with each other and at some distance from each other, a pair of contact-plates being embedded in the projecting end portion of the molding, said plates having communication with the embedded wires of the molding, and a pair of contact-plates projecting from the shoulder of the opposite scarfed end of the molding, said contact-plates being attached to the opposite ends of the wires carrying the female contacts, for the purposes specified.

3. A molding of wood, combined with a set of wires embedded therein and at some distance from each other, said wires extending lengthwise of the molding, each of said wires having a male and female contact-plate attached to the opposite ends thereof, substantially as specified.

4. A base of insulating material, combined with one or more wires embedded therein and having on their ends male and female contact-plates, the female contact-plate being embedded in said insulating-base, substantially as specified.

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

JOHN R. MARKLE.

Witnesses:

E. S. WHEELER,
B. I. WHEELER.