F. B. COOK.

MOUNTING STRUCTURES FOR ELECTRICAL CONDUCTORS.

APPLICATION FILED DEC. 26, 1914.

1,161,192. Patented Nov. 23, 1915.

Fig. 1.

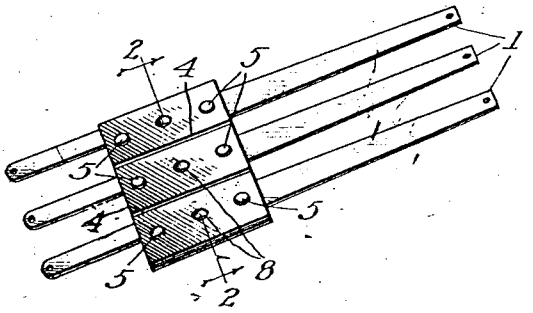


Fig. 2.



Fig. 3.

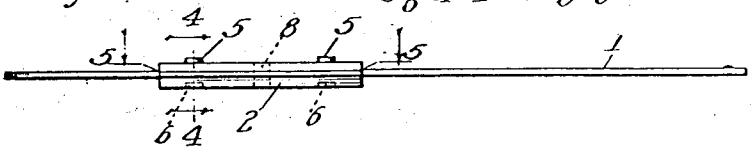


Fig. 6.

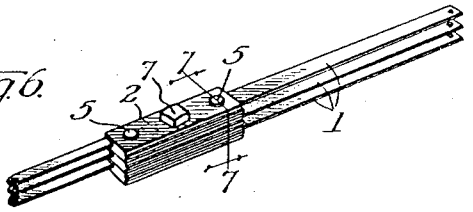


Fig. 4.

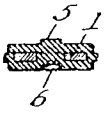


Fig. 7.

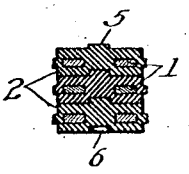
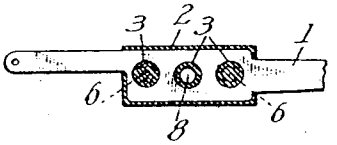


Fig. 5.



Witnesses:
Robert H. Weir
Arthur W. Colson

Inventor
Frank B. Cook
By G. L. Cragg
Atty

UNITED STATES PATENT OFFICE.

FRANK B. COOK, OF CHICAGO, ILLINOIS, ASSIGNOR TO FRANK B. COOK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

MOUNTING STRUCTURES FOR ELECTRICAL CONDUCTORS.

1,161,192. Specification of Letters Patent. Patented Nov. 23, 1915.

Application filed December 26, 1914. Serial No. 879,038.

To all whom it may concern:

Be it known that I, FRANK B. COOK, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Mounting Structures for Electrical Conductors, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to electrical conductors in combination with insulating mountings therefor and has for one of its objects the provision of an improved formation of the mountings whereby the conductors may very readily be assembled in sets, this result being accomplished by providing the mountings with interengaging formations for positioning the mountings in proper relation.

My invention has for another of its objects the provision of a construction whereby conductors may initially be mounted in a common strip of insulating material desirably applied thereto by being molded thereabout and which conductors, with portions of the strip individual thereto, may readily be separated to permit of the subsequent assembly of the conductors in intended relation. In accomplishing this object of my invention I weaken this strip of insulation between adjacent conductors so that the strip may readily be separated into sections each carrying a conductor, each section therefore constituting an insulating mounting for the conductor. The weakness in the strip of insulating material is desirably effected by locating weakened lines between adjacent conductors, these lines being desirably formed in the molding operation.

I will explain my invention more fully by reference to the accompanying drawing showing the preferred embodiment thereof and in which—

Figure 1 is a perspective view illustrating the invention; Fig. 2 is a sectional view on line 2 2 of Fig. 1; Fig. 3 is a side elevation; Fig. 4 is a view on line 4 4 of Fig. 3; Fig. 5 is a view on line 5 5 of Fig. 3; Fig. 6 is a perspective view; and Fig. 7 is a sectional view on line 7 7 of Fig. 6.

Like parts are indicated by similar characters of reference throughout the different figures.

The electrical conductors illustrated are in the form of similarly shaped contact springs 1 which may be assembled in switching mechanism, one form of switch being illustrated in Fig. 6. The invention, however, is not to be limited to the mounting of switch contacts nor to electrical conductors of similar formation. A row of these contact springs or other electrical conductors is located in a suitable molding machine which will enable the formation of a strip 2 of insulating material around base portions of the contact springs, which portions are provided with openings 3 therethrough whereby the insulating material not only surrounds the contact springs but is also passed therethrough to insure fixed relation of the insulation and metal. The mold in which the strip of insulation is formed produces weakened lines or slots 4 in each broad face of the strip, weakened lines upon one side of the strip being in the same planes with weakened lines upon the other side of the strip whereby the strip may readily be separated into sections each individual to a contact spring to constitute an individual mounting therefor. This separation may be effected merely by bending the strip at its weakened lines, there to break it, or a number of strips may be placed in a pile with the weakened lines in superposed relation whereupon a saw may readily be passed through the piles of strips at their weakened lines.

The sections of insulating material are provided with formations which will interengage when the sections are piled upon each other as indicated in Fig. 7, the interengagement of the individual mountings of the springs readily defining the relative positions of the springs and their individual mountings in the initial assembly of these parts into a switch structure whereafter such parts may readily be maintained in assembly by a suitable clamping device. Interengaging formations which I have illustrated are the short cylindrical projections 5 upon one side of each individual mounting and cylindrical recesses 6 upon the opposite side of such mounting that are of a depth and diameter equal to the height and diameter of the projections 5, these formations being desirably effected in the molding operation. I preferably employ two projections 5 and two recesses 6 for each individual mounting, one projection and one recess

being located in axial alinement at each end of the mounting. Inasmuch as all individual mountings are formed alike the conductors individually held thereby may readily be brought into suitable relation by piling the mountings upon each other with the projections 5 upon each mounting inserted within the recesses 6 of the adjacent mounting in the pile. The projections 5 upon the different mountings are similarly disposed with respect to each other and the recesses 6 in each mounting are similarly disposed. After such ready assembly of the parts has been effected a clamping device may be employed to hold them together, a clamping bolt 7 being preferred. Each individual mounting has an opening 8, these openings being similarly located in the different mountings and being alined when the individual mountings are assembled in piles to receive the bolt. The opening 8 in each mounting is desirably concentric with the middle opening 3 of the contact spring held by such mounting and as the opening 8 is smaller than such middle opening 3 sufficient insulation remains within such middle opening to take part in positioning the spring with respect to this mounting.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without departing from the spirit of my invention but

Having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

1. An article of manufacture comprising a plurality of conducting strips; and insulating material molded about portions of said strips, there being weakening slots in the insulating material between the conducting strips.

2. An article of manufacture comprising a row of conducting strips; and a strip of insulating material molded about portions of said conducting strips, there being weakening slots in said strip of insulating material between the conducting strips.

3. An article of manufacture comprising a row of conducting strips; and a strip of insulating material molded about portions of said conducting strips, there being weakening slots in said strip of insulating material on both sides thereof and between the conducting strips.

In witness whereof, I hereunto subscribe my name this twenty-fourth day of December, A. D. 1914.

FRANK B. COOK.

Witnesses:
C. C. NEWBURN,
JNO. F. TOMPKINS.