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V. I. CRUSER

2,144,872

INSULATOR

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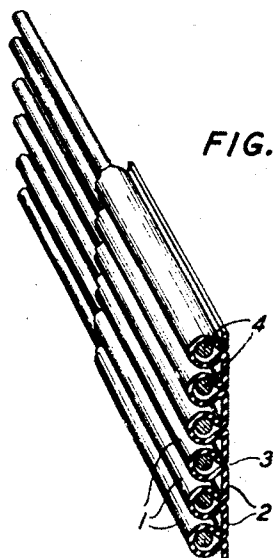
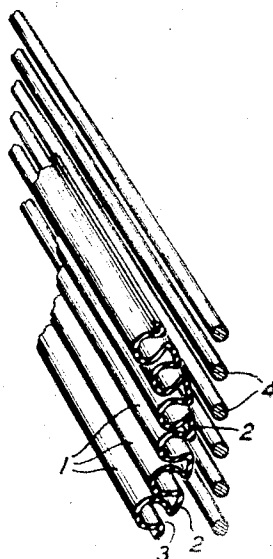


FIG. 2



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INSULATOR

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2 Claims. (Cl. 173—28)

This invention relates to telephone equipment and has for its object to simplify the erection of such equipment.

5 Cross-bar switches, for example such switches as are shown in the Patent 2,021,329 granted to J. N. Reynolds, November 19, 1935, are made up of comparatively small units and under certain conditions are mounted in rows with the sets of terminals occupying the same horizontal levels
10 across the row of switches. These terminals are multiplied together within the switch by means of bare wires and where the switches are also to be multiplied together the bare wires are strapped across the entire bank of switches. Between
15 switches there is a field of bare wires which although tightly drawn are exposed to a certain amount of mechanical and electrical injury. Heretofore the only method of protecting the bare wire multiples between switches was to apply
20 individual tubes of insulation to each wire, which required considerable manual effort and prevented the use of efficient methods of wiring the switch banks.

25 In accordance with the present invention, an insulating means is provided which may be readily applied to the multiple wiring after it is in place and which provides both mechanical and electrical protection for the wiring.

30 The invention will be more clearly understood from a consideration of the following description in connection with the drawing in which Fig. 1 shows the insulating structure in place, while Fig. 2 indicates how it may be applied to the multiple wiring.

35 The insulating spacer, forming the subject of the invention may be constructed of any desired semi-rigid insulating material in the form of a sheet of a width approximating the length of the bare wire multiple to be insulated. This
40 material is then corrugated to form a series of

parallel tubes 1 connected together at one side by the material, these connections 2 being preferably flat. If it is desired, the flat portions 2 could be of such width as to space the tubes at any desired distance.

5 When the insulating spacer is so formed, due to its semi-rigid nature, it may be bent as a whole as shown in Fig. 2, opening the slots 3 between the flat portions 2 sufficiently to permit the spacer to be slipped over the parallel wires 4 in the
10 multiple wiring. As soon as the pressure is released the slots reclose and the spacer completely encloses the wires 4 holding them at the desired distance, insulating them from electrical contacts and also protecting them from mechanical injury.
15

It is, of course, apparent that such a spacer is not restricted to use with cross-bar type switches, but may be used in any case where parallel wiring requires protection.

What is claimed is:

20 1. In combination, parallel multiple wiring for connecting switching devices, and an insulator and spacer therefor, comprising a sheet of semi-rigid insulating material corrugated to form a series of parallel adjacent tubes enclosing and
25 supported by said wiring.

2. An insulator and spacer for parallel multiple electric wiring, comprising a sheet of semi-rigid insulating material corrugated to form a series of parallel adjacent tubes, said tubes being joined
30 by flattened portions of said material and having openings between said flattened portions, said openings being normally closed, and said structure being sufficiently resilient so that when bent as a whole said openings spread sufficiently to
35 pass over said multiple wiring and when released said structure completely encloses said wiring and is supported thereby.

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