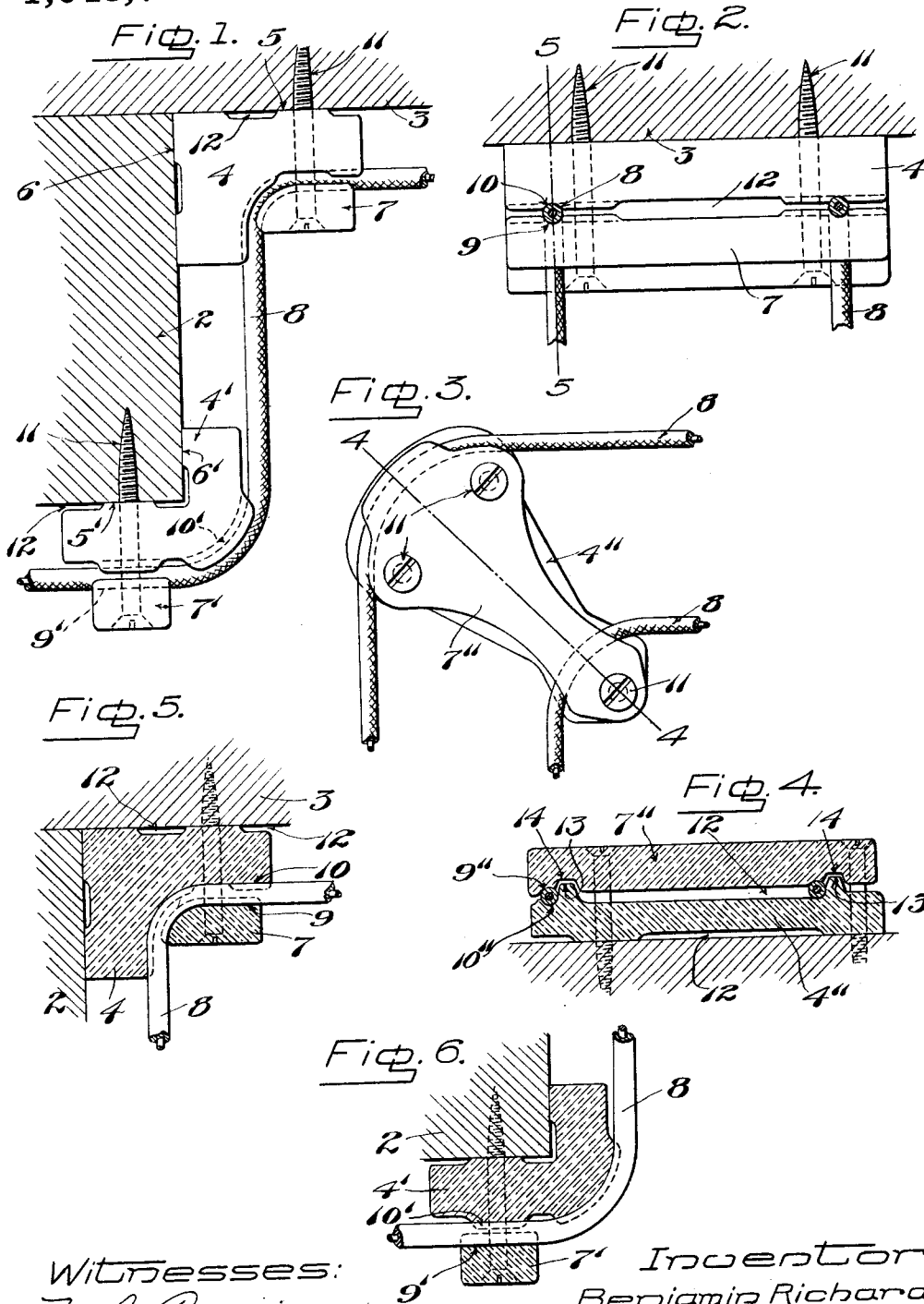


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INSULATING CLEAT.
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Patented Dec. 31, 1912.

1,048,736.



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UNITED STATES PATENT OFFICE.

BENJAMIN RICHARDS, OF CANTON, MASSACHUSETTS.

INSULATING-CLEAT.

1,048,736.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BENJAMIN RICHARDS, a citizen of the United States, and a resident of Canton, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Insulating-Cleats, of which the following is a specification.

This invention relates to cleats for supporting electric wires, and is particularly intended to improve upon the constructions and arrangements heretofore employed for carrying such wires around a turn.

In wiring buildings for electric lighting, for example, when a wire has been carried around an angle it has been customary to secure it in place by means of two cleats located close together and so arranged that the portions of the wire which are carried by these cleats respectively form the desired angle with each other, the portion of the wire between the cleats being bent accordingly and left unsupported. Thus in carrying a wire around a beam projecting downward from the ceiling of a room eight cleats have been required, two for each internal angle formed by the beam with the ceiling and two for each external angle at the lower corners of the beam, the two cleats of each pair being located respectively on the two surfaces which form the corresponding angle.

According to my invention but one cleat is employed at each angle or turn around which the wire is to be carried, so that only half as many cleats need be employed and the cost of the labor involved in securing the wires in place is largely reduced. This and other features of advantage of my invention are more fully set forth in the following description in connection with the accompanying drawing, in which—

Figure 1 represents in end elevation two forms of cleats embodying my invention, the parts to which the cleats are attached being shown in cross section; Fig. 2 shows the cleat represented at the upper portion of Fig. 1, as viewed from the right; Fig. 3 is a plan view of a somewhat different form of cleat; Fig. 4 is a cross section on the line 4—4 in Fig. 3; Fig. 5 is a cross section on the line 5—5 in Fig. 2; and Fig. 6 is a cross section through the cleat shown at the lower portion of Fig. 1.

My cleat may have various forms, according to the nature of the particular situa-

tion in which it is to be used, but may be briefly described as characterized by the employment of a base and a clamping member by which the wire is gripped and supported at a bend or turn formed therein in such manner that the two portions of the wire which passes through the cleat extend from the same at the desired angle with each other.

The form of cleat shown at the upper portion of Fig. 1 and in Figs. 2 and 5 is adapted to be employed at an internal angle, such, for example, as is formed at the junction of a beam 2 and a ceiling 3, the base 4 of the cleat being provided with faces 5 and 6 which form the same angle with each other and bear against said ceiling and beam respectively when the base is placed in position. The clamping member of the cleat is indicated at 7, and the opposed faces of said clamping member and base are formed on curved lines adapted to carry a wire 8 around a right angle without forming a sharp bend therein and are provided respectively with grooves 9 and 10 extending in the direction in which the wire is to be carried and having such a depth that when the wire 8 is located in these grooves the base and clamping member will be held out of contact with each other, so that by forcing the same together the wire will be tightly clamped between them. By preference the clamping pressure is applied by means of screws 11 which also serve for securing the cleat in place, said screws being passed through the clamping member 7 and base 4 and into the ceiling or other structure to which the cleat is attached. These screws emerge on one of the flat inner faces of the base 4, so that they may be inserted into either of the supporting parts 2 and 3 by suitably positioning the cleat thereon, this being advantageous in case one of the parts 2 and 3 is not well adapted to support the strain imposed upon the cleat.

The form of cleat shown at the lower portion of Fig. 1 and in Fig. 6 is adapted to be applied to an external angle, as at the lower corner of the beam 2, for example, and in this case the base 4' is provided with flat faces 5' and 6' forming a corresponding internal angle with each other, so that the cleat receives support from both of the adjacent faces of the beam. The clamping member is shown at 7', and it and the base 4' are provided respectively with shallow

grooves 9' and 10' to receive the wire, as in the form of the cleat already described, except that in this case the curved portion of the groove 10' which receives the bend of the wire may be formed on the base only, as shown. The attaching screws 11 pass through the base and clamping member and serve to apply the clamping pressure as already described.

10 The form of cleat shown in Figs. 3 and 4 is adapted to carry a wire around a turn on a plane surface, and comprises the base 4'' and the clamping member 7'' provided with the grooves 9'' and 10'' shaped to carry the wire around the desired turn and support the bend formed therein, the cleat being attached in place and the clamping pressure applied by means of the screws 11 as in the case of the other forms of cleat.

20 In each of the forms of cleat illustrated grooves are provided to receive two wires 8, as such wires are usually employed in pairs, but the cleat may readily be adapted to carry a greater or less number of wires, the clamping pressure being applied to all the wires simultaneously. Open spaces or recesses 12 are preferably provided between the base and the clamping member and also between the base and the surface or surfaces against which it rests, in order to provide for a circulation of air between these parts. They also define the bearing surface of the cleat, and reduce the amount of material required for making the same.

35 Lateral motion of the clamping member upon the base may be prevented by providing one of said parts with ribs 13 adapted to enter recesses 14 formed in the other part when the clamping pressure is applied, as shown in Fig. 4, and in the construction shown in this figure said ribs are located on the inside of the bends formed in the wires 8 and serve as supports therefor, whereby any tendency to straighten the bend is resisted independently of the clamping action on the wires. In the other forms of cleat illustrated the wire is supported on the inside of the bend either by the clamping member 7, as in Fig. 5, or by the base 4', as in Fig. 6, so that in each case the wire is effectively prevented from becoming slack by the straightening of the bend at which it is secured to the cleat. The wire will therefore be held throughout its length at a fixed distance from the surface of the structure

to which the cleats are attached, according to the thickness of the base portions of the cleats.

The base and the clamping member of my cleat are usually made of porcelain or like material, in which case the cleat serves as an insulator as well as a support for the wire, but any other suitable material may be employed, and the details of construction may be variously modified without departing from my invention.

I claim as my invention:

1. A cleat comprising a base and a clamping member adapted to receive and grip a wire between them, and means for forcing said parts together, one of said parts being provided with a curved wire-supporting surface adapted to carry the wire around an angle and extending transversely across the wire on the inside of the curve formed therein.

2. A cleat comprising a base having bearing faces forming an angle with each other, a clamping member, and means for forcing said parts together, said cleat being provided with a curved wire-supporting surface adapted to carry a wire around the angle formed by said bearing faces.

3. A cleat comprising a base having bearing faces forming an angle with each other, a clamping member, and means for forcing said parts together to clamp a wire between them, said cleat being provided with a curved wire-supporting surface located in a plane perpendicular to both of said bearing faces and adapted to carry the wire around said angle.

4. A cleat comprising a base having bearing faces forming an angle with each other, a clamping member, and attaching screws passing through said clamping member and base and emerging on one of the bearing faces of the latter, said cleat being provided with a curved wire-supporting surface located in a plane perpendicular to both of said bearing faces and adapted to carry the wire around said angle.

In testimony whereof, I have hereunto subscribed my name this twenty-sixth day of March, 1910.

BENJAMIN RICHARDS.

Witnesses:

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