

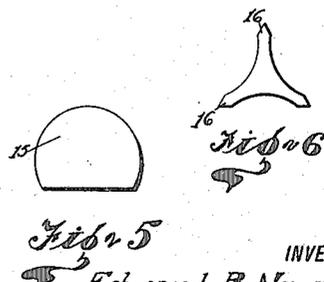
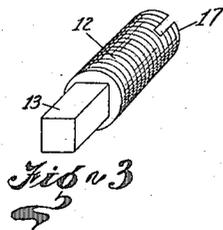
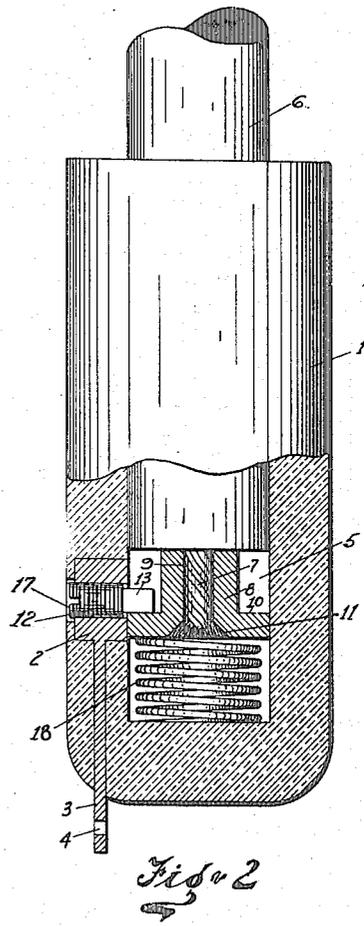
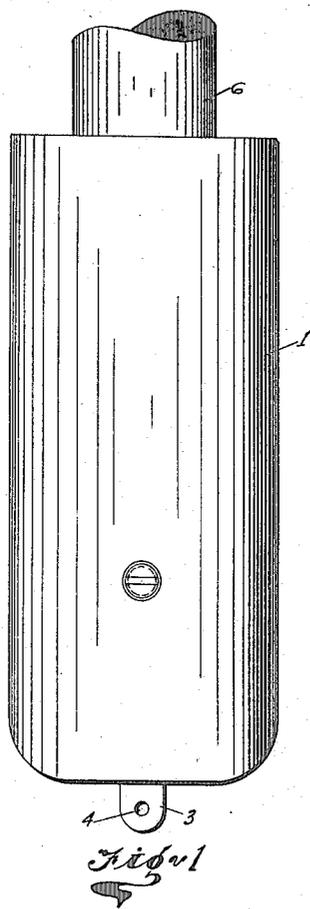
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CABLE RETAINING MEANS

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CABLE-RETAINING MEANS.

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To all whom it may concern:

Be it known that I, EDWARD B. NOWOSIELSKI, a citizen of the United States, residing at Bloomfield, in the county of Essex, State of New Jersey, have invented certain new and useful Improvements in Cable-Retaining Means, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

This invention relates to means for attaching cables to a terminal or connecting block and has for its object a means to electrically and mechanically secure the cable to the block in such a manner that the connection will not be loosened due to vibration to which the terminal block may be subjected.

Other and further objects will appear after reading the following specification and claims in connection with the accompanying drawings in which:

Figure 1 is a top view of my terminal block.

Figure 2 is a view thereof partly in section to expose the cable retaining devices.

Figure 3 is a perspective view of the screw which assists to retain the cable in place.

Figures 4 and 5 are end views of the shanks of modified forms of screws for retaining the cable in place, and

Figure 6 is a further modified plan view of the shank of a screw.

In the several drawings, 1 indicates a body of insulating material in which is embedded a metallic threaded collar 2 in electrical engagement with and preferably integral with a terminal plate 3, said plate projecting beyond the insulating material and having means such as an opening 4 for attachment with a wire in any suitable manner. The insulating material is provided with a bore 5 in which is adapted to be passed the cable 6 with which the plate 3 is to make electrical engagement.

To effect this engagement, the cable is bared at its end to expose the conductor 7 shown as stranded in this instance, and a thimble 8 provided with a bore 9 and a flanged head 10 is slipped over the bared end of the conductor and is soldered or otherwise secured thereto. If desired, the flanged head may be countersunk as at 11 and the strands of the conductor may be spread out in this countersunk portion, so

that when soldered, the chances of the conductor pulling out of the thimble may be minimized. Through the collar 2 is adapted to be threaded a screw 12, said screw having a squared shank 13, the sides of which are adapted to come in contact with the inner side of the flange 10 when the conductor and thimble are inserted into the bore. To maintain the flange and screw in good contactual engagement, a coil spring 18 is inserted into the bore to constantly urge the flange into engagement with the screw.

Although, I have shown the shank of the screw as being rectangular in cross section, it is to be understood that the screw shank may be triangular in section, as shown at 14 in Figure 4, or be provided with a single flat side as for example shown at 15 in Figure 5. If a double knife edge contact only is desired, the shank may be hollowed out as shown in Figure 6, leaving only two edges 16 for contactual engagement with the flange. Due to the shape of the shank of the screw, there is resistance offered to any tendency on the part of the screw to turn loose when subjected to vibration and it is not necessary to employ any lock nuts, etc., to retain the screw in place.

To connect the cable to the block, it is merely necessary to drop the spring in place and then push the cable and thimble into the bore beyond the threaded opening in the collar 2, against the compression of the spring. The screw 12 is then threaded through the collar until the shank is in the path of movement of the flange of the thimble; and preferably until the slotted end 17 is below the edge of the insulation; thereafter the cable may be released so that the spring 18 may force the flange into engagement with the shank of the screw. If the plane face of the shank is not parallel to the flange, any vibration to which the block will be subjected will tend to so position the screw that these parts will align themselves with respect to one another.

Although I have chosen, for the sake of convenience, to illustrate my invention in connection with a terminal block, it will be understood that the subject matter of my invention as pointed out in the appended claims, may be utilized in other apparatus, as for example in ignition distributor blocks for internal combustion engines, in panel connecting blocks, etc.

Having thus described my invention, what I claim is:

1. In combination; a connecting block of insulating material having a bore, a cable having an annular flanged member attached thereto and extending within the bore of the block and a member in the block extending transversely into the bore, said member and annular flange having cooperative means to restrain the member against turning movement, said member preventing the cable and flanged member thereon from being withdrawn from the block until said transverse member has been independently withdrawn beyond the periphery of the flange.

2. In combination; a connecting block of insulating material having a bore, a cable having an annular flanged member attached thereto and extending within the bore of the block, and a member positioned in the side wall of the block and extending transversely into the bore and having a non-circular portion, whereof at least two edges are in contact with the cable side of said annular flange, and a spring in the end of the bore for holding the flange against said transverse member.

3. In combination; a connecting block of insulating material having a bore, a cable having an annular flanged member attached thereto and extending within the bore of the block, and a flat faced member positioned in the side wall of the block and extending transversely into the bore for engagement

with the annular flange on the side toward the cable so that said cable cannot be withdrawn until said flat faced member is independently removed out of engagement with said flange.

4. In combination; a connecting block of insulating material having a bore, a cable having an annular flanged member attached thereto and extending in the bore of the block, a flat faced member in the block extending transversely into the bore and engaging the face of the annular flange toward the cable, and resilient means seated at the bottom of the bore and engaging the flange to force the same against the flat faced member.

5. In combination; a connecting block of insulating material having a bore, a cable having an annular flanged metallic thimble attached to a bared end thereof, a collar embedded in the block, a terminal plate fastened thereto, a screw threaded through the collar and adapted to engage the annular flange, said screw having a non-circular portion, whereof at least two edges are in engagement with the one face of the flange to retain the same within the bore after the flange has been inserted therewithin and a resilient member urging the flange from its opposite face into contact with the shank of the screw.

In testimony whereof, I affix my signature.

EDWARD B. NOWOSIELSKI.