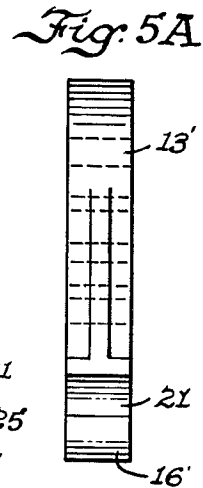
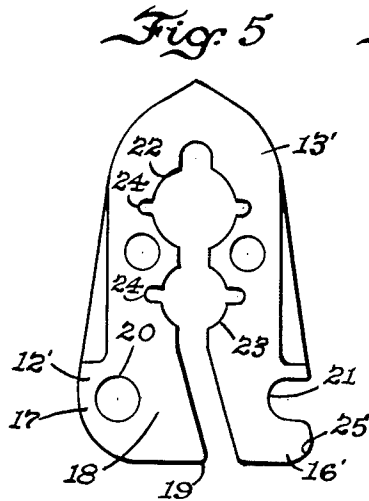
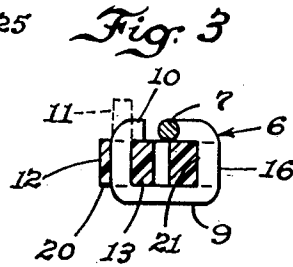


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## STANDOFF INSULATOR

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This invention relates to insulators especially designed for use with antenna lead-in wires for radio and television installations.

The principal object of my invention is to provide a standoff insulator in which the insulation insert is U-shaped and suitably profiled on the inner sides of the legs so as to accommodate interchangeably with equal facility lead-in wires of various shapes and different dimensions, the one leg of the insert being pivoted to one side of the loop on the end of the standoff bracket so that the installer can mount the standoff bracket where it belongs and leave the insert open until the lead-in wire or wires have been inserted therein, after which the other leg of the insert, in which a notch is provided to accommodate the other side of the loop on the standoff bracket, can be snapped into place in the loop. Heretofore, the inserts were separate and the installer had to first apply the insert to the wire or wires and then, with more or less difficulty, assemble the insert on the bracket, and inasmuch as these standoff insulators are frequently at difficult to reach locations, making it rather precarious for the installer to perform such difficult assembly operations, the importance of facilitating the operation can easily be appreciated.

The invention is illustrated in the accompanying drawing, in which—

Fig. 1 is a side view of the standoff insulator showing the insert in open position;

Fig. 2 is a side view showing the insert closed and having two lead-in wires inserted therein;

Fig. 3 is a cross section on the line 3-3 of Fig. 2;

Fig. 4 is a view like Fig. 2 showing a modified or alternative construction;

Fig. 4A is a section on line A-A of Fig. 4, and

Figs. 5 and 5A are an enlarged face view and side view, respectively, of an insert like that shown in Fig. 4.

Similar reference numerals are applied to corresponding parts throughout these views.

Referring to Figs. 1-3, the reference numeral 6 designates the standoff bracket which is formed from a single length of wire providing an elongated straight shank 7 that is threaded the major portion of its length for threaded engagement in the nut portion of a strap when the standoff insulator is to be applied to a mast, around which the strap is fastened, it being understood, however, that the portion 8 may be tapered and threaded as a wood screw where it is to be fastened into wood, as on the side of a house, or that the end may be given a taper and left smooth for driving into wood, like a nail. In some instances, the threaded portion 8 threads into a guy wire clamp or into a clamp applied to an eavestrough. In either event, a rectangular loop or collar 9 is formed on the other end of the shank 7, the extremity 10 of the wire defining the loop being first formed to define an outwardly projecting portion 11, as indicated in dotted lines in Fig. 3, until the perforated bearing portion 12 on the end of one leg of the U-shaped insert 13 has been assembled on the loop, after which the projecting por-

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tion 11 is bent inwardly at right angles to provide the insert retaining end portion 10, thereby eliminating any possibility of the insert 13 becoming disassembled from the bracket 6 while the insert is in the open position shown in Fig. 1 and lead-in wires like those shown at 14 and 15 are being inserted and before the insert has been moved to the closed position shown in Fig. 2 with the notched end portion 16 of the other leg of the U snapped into place in the loop 9.

In Figs. 4 and 4A is shown a modified or alternative construction in which the support or loop 9' formed on the outer end of the shank 7' is in a plane normal to the shank like the support or loop 9 but has the straight end 11' left straight, instead of having a right angle bend formed in it, as at 10 in Fig. 3. Also, it will be noticed that the straight extension 11' is disposed much closer to the end of the shank 7' than the end 11 is to shank 7, there being only enough room for the inner outer wall 17 of the eccentrically perforated bearing end 12' of the insert 13' to be slipped through when the insert is disposed in "Position C" indicated in dotted lines in Fig. 4 (corresponding to the dotted line position of the insert 13' in Fig. 4A) in assembling the insert 13' on the looped end 9' of the bracket 6'. The inner wall 18 of the bearing end 12' is much thicker than the outer wall 17 and cannot slip through the space between the shank 7' and the straight end portion 11' of the loop 9' when the insert 13' is in the inserted position—Position A of Fig. 4—nor even when it is in the open position—Position B of Fig. 4—the V-shaped downward and inward extension 19 insuring that enough of the inner wall 18 remains behind the bent end of the shank 7', where it joins the loop 9', to keep the insert 13' from slipping off the end portion 11'. Insert 13' is otherwise the same as insert 13. Both are preferably molded of flexible resilient plastic insulation material, such as polyethylene, to the generally U-shape shown, with the bearing hole 20 eccentrically located in the end portion of one leg, as shown, and half-round notch 21 in the outer side of the end portion of the other leg, and with the registering half-round notches 22 and 23 on opposed inner sides of the legs of the U intermediate the ends thereof in longitudinally spaced relation. The latter are of different diameters to accommodate tubular or oval shaped lead-in wires 14 of different sizes, as seen in Fig. 2, and have narrow grooves 24 formed in the troughs of the notches in which the edges of flat lead-in wires 15 can be entered, as also seen in Fig. 2.

The operation of both constructions is the same, in so far as inserting and holding lead-in wires is concerned. The inserts 13 and 13' are both swung to open position after the brackets 6 and 6' have been mounted where they belong, on a mast, side wall, eaves-trough, or wherever standoff insulators are needed, and the lead-in wire or wires are later inserted in the inserts and the inserts are closed by swinging the same inwardly and snapping their notched ends 16 and 16' into the loops 9 and 9'. The rounding or tapering of the lower corner 25 of these notched ends 16 and 16' enables easier wedging home of these ends in the loops 9 and 9'. The notches 22 and 23, and grooves 24 in the inserts 13 and 13' are designed to secure open wires or any standard sizes or shapes of insulated lead-in wires, namely, tubular, oval, or flat. Because the lead-in wires are in contact with only the insulation material of the inserts 13 and 13' and there is no contact of the wire or wires with any metal in the clamping thereof, there is nothing to interfere with good reception, whether it be in a radio or a television installation.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claims have been drawn to cover all legitimate modifications and adaptations.

I claim:

1. An insulator comprising a supporting bracket including a generally rectangular-shaped support loop and a generally U-shaped insert of flexible resilient insulation material having a pair of closely spaced substantially parallel legs between which a conductor wire is adapted to be clamped, the outer end of one of said legs being provided with a bearing opening, one side of said loop being located in said opening to establish a pivotal connection therebetween, and the distance between the pivot axis of said pivoted leg and the outer side of the other leg in the unstressed condition of said legs being slightly greater than the distance between said pivot axis and the opposite side of said loop thereby to receive and yieldingly confine said other leg within said loop.

2. An insulator as set forth in claim 1, wherein the outer side of said other leg of said insert is provided with a notch engageable with said opposite side of said loop.

3. An insulator as set forth in claim 1, wherein the outer side of said other leg of said insert is tapered to facilitate a wedging action between said other leg and said opposite side of said loop.

4. An insulator as set forth in claim 1, wherein the outer side of said other leg of said insert is tapered to facilitate a wedging action between said other leg and said opposite side of said loop and is also provided with a notch engageable with said opposite side of said loop.

5. An insulator as set forth in claim 1, wherein said support loop is formed at one end of a shank, the plane of said loop being perpendicular to the shank axis.

6. An insulator as set forth in claim 5, wherein the side of said loop located in said bearing opening constitutes the end of said loop and is spaced from said shank, and wherein the distance between the pivotal axis

of said pivoted leg and only the outer side of said pivoted leg is less than the distance between said pivotal axis and said shank, whereby to permit said pivoted leg of said insert to be disconnected from said loop only when said leg is so oriented that the outer side thereof is aligned with the space between said shank and the side of said loop located in said bearing opening.

7. In a standoff insulator for a lead-in cable for television receivers and the like comprising a metallic supporting bracket that includes a shank and a collar of generally rectangular form carried on the outer end thereof, said insulator also comprising a generally U-shaped insert for said collar of flexible resilient insulation material providing a pair of closely spaced substantially parallel legs between which the cable is received, said legs having notches on the inner side spaced from their free ends to receive the cable, one of said legs having an opening provided therein pivotally receiving one side of the aforesaid collar for pivotal support of said insert thereon and permanent assembly of said insert on said bracket, the other of said legs having on its outer side a notch in which the adjacent side of said collar is adapted to be received for releasably holding the insert in the collar against pivotal movement while clamping a cable in the aforesaid notches on the inner sides of said legs.

#### References Cited in the file of this patent

#### UNITED STATES PATENTS

|    |           |                    |               |
|----|-----------|--------------------|---------------|
| 30 | 756,627   | Hanson et al. .... | Apr. 5, 1904  |
|    | 1,653,584 | Peterson .....     | Dec. 20, 1927 |
|    | 1,810,950 | Earhart .....      | June 23, 1931 |
|    | 2,688,655 | Gross .....        | Sept. 7, 1954 |