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SERVICE-CABLE SUPPORT AND COMBINATION OF  
SAME WITH MID-SPAN CONDUCTOR SPACER  
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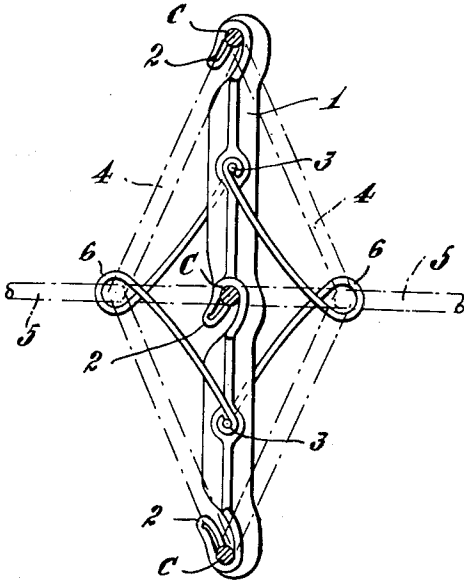


Fig. 1

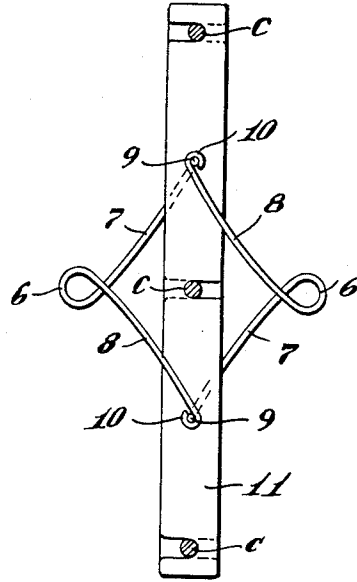


Fig. 2

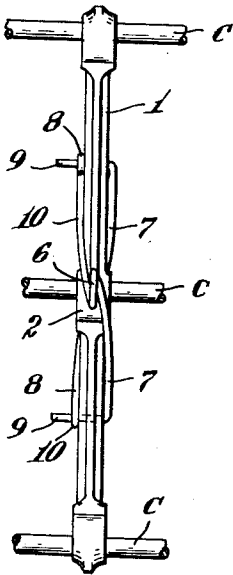


Fig. 3

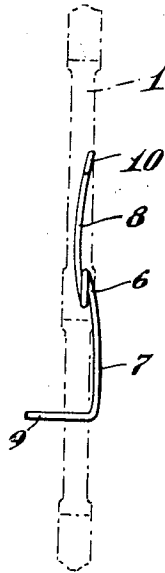


Fig. 5

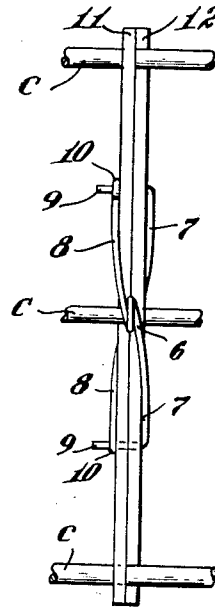


Fig. 4

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## SERVICE-CABLE SUPPORT AND COMBINATION OF SAME WITH MID-SPAN CONDUCTOR SPACER

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4 Claims. (Cl. 174-43)

In overhead conductor installations it is customary to keep the respective conductors of a set of conductors from swinging against each other by means of so-called mid-span spacers located at intervals between poles, the spacers comprising elongate strips having spaced openings to receive the conductors respectively. In the case of a three-conductor system the spacers have an opening at each end and one in the middle. Usually the openings are in the form of notches in the edges of the strips, the conductors being retained in the notches in various ways. One way is to form a resilient detent at one side of each notch. Another way is to use a pair of strips with the notches in opposite edges, the strips being applied to the cables from opposite sides and then bolted together face to face.

In attaching service wires to overhead conductors it is also customary to employ service supports which are attached to the aforesaid spacers and to which the service wires are attached near their ends. Ordinarily these supports involve a member of parts of different kinds, such as right-hand and left-hand brackets, bolts, nuts, etc., and they also require considerable time for installation.

Objects of the present invention are to provide an improved bracket which is simple and economical to produce, which involves parts of only one kind, which requires no bolts, nuts or other fasteners, which can be installed quickly and easily and which is durable and reliable in use.

For the purpose of illustration typical embodiments of the invention are shown in the accompanying drawings in which

Fig. 1 is a section through a span of three conductors showing in elevation a mid-span spacer and brackets according to the present invention;

Fig. 2 is a similar view of a modification;

Fig. 3 is a side view of the embodiment shown in Fig. 1;

Fig. 4 is a side view of the modification shown in Fig. 2; and

Fig. 5 is a side view similar to Figs. 3 and 4 showing a bracket according to the present invention in normal upsprung condition in relation to a spacer, shown in broken lines, with its bent end inserted through the spacer from one side but before its other end has been sprung to the other side of the spacer.

The mid-span spacer shown in Figs. 1, 3 and 5 comprises an elongate piece 1, preferably formed of molded plastic, which has notches in one edge to receive the three conductors C. At one side of each notch is a tongue 2 which holds the conductor in the notch, the diameter of the conductor being slightly greater than the width of the throat of the notch and the tongue being resilient to permit the conductor to snap past it. Between the notches are two openings 3 whose axes are parallel to the conductors. Wherever it is desirable to draw current from the conductors, service wires 4 from service cables 5 are connected to the conductors respec-

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tively. This mid-span spacer is described and claimed in my copending application, Ser. No. 508,699, filed herewith.

According to the present invention the ends of the service cables are supported on the spacer 1 by means of brackets each comprising a central loop 6 for attachment to the service conductors, arms 7 and 8 which cross each other, the free end 9 of arm 7 being bent at approximately right angles to the plane of the bracket and the free end of arm 8 being bent to form an eye 10 whose axis extends transversely of the aforesaid plane. To mount a pair of brackets on a spacer the bent ends 9 of the two brackets are inserted through the two openings 3 from the same side of the spacer with the projecting end of each bracket extending through the eye of the other bracket on the opposite side of the spacer. As shown in Fig. 5 each bracket is so shaped that it must be sprung to locate the ends of the two arms on opposite sides of the spacer. Thus when the parts are assembled as aforesaid the resiliency of the bracket holds the ends of the bracket against the opposite sides of the spacer so that the ends 9 do not tend to pull out of the openings 3 and the eyes 10 do not tend to slide off the projecting ends 9. As shown in Fig. 5 each arm 8 should be bent transversely of the plane of the bracket so that, after the bracket is sprung to place the free ends of the arms on opposite sides of the spacer, the axis of the eye 10 is substantially parallel to the bent end 9 and perpendicular to the spacer so that the eye will bear on the spacer flatwise instead of obliquely.

The modification shown in Figs. 2 and 4 differs from the first embodiment in that the spacer is formed of two strips having their cable notches facing in opposite directions so that when applied to the set of conductors from opposite sides, they hold the conductors in position. In this modification the brackets not only support the ends of the service cables but they hold the two parts 11 and 12 together by virtue of their resiliency.

From the foregoing it will be understood that the brackets of each pair are identical and no bolts or other fasteners are required to attach them to a spacer or to interconnect the parts of a two-part spacer such as shown in Figs. 2 and 4.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. For supporting service cables, a mid-span spacer having conductor openings and spaced holes extending through the spacer in the direction of the openings, a pair of brackets of elongate stiff resilient material each having a central portion for connection to service cables and two arms extending from said portion transversely of each other, the free end of one arm of each bracket being bent crosswise of the bracket and the free end of the other arm having an eye whose axis is approximately perpendicular to the plane of the arms, the bent end of each bracket being bent to the same side of said plane, the bent end of one bracket being inserted through one of said holes from one side of the spacer with the bracket extending from one edge of the spacer and the bent end of the other bracket being inserted through the other hole from the same side of the spacer with the bracket extending from the other edge of the spacer, the eye of each bracket being engaged over the end of the other bracket which projects through the spacer.

2. For supporting service cables, a mid-span spacer having conductor openings and spaced holes extending through the spacer in the direction of the openings, a pair of brackets of elongate stiff resilient material each having a central portion for connection to service cables and two arms extending from said portion transversely of

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each other, the free end of one arm of each bracket being bent crosswise of the bracket and the free end of the other arm having an eye whose axis is approximately perpendicular to the plane of the arms, the bent end of each bracket being bent to the same side of said plane, the bent end of one bracket being inserted through one of said holes from one side of the spacer with the bracket extending from one edge of the spacer and the bent end of the other bracket being inserted through the other hole from the same side of the spacer with the bracket extending from the other edge of the spacer, the eye of each bracket being engaged over the end of the other bracket which projects through the spacer, each bracket having its bent end approximately perpendicular to its plane so that when the eyes are engaged over the projecting ends on opposite sides of the spacer the resilient brackets are tensioned to hold the eyes on the ends.

3. For supporting service cables, a mid-span spacer having conductor openings and spaced holes extending through the spacer in the direction of the openings, a pair of brackets of elongate stiff resilient material each having a central portion for connection to service cables and two arms extending from said portion transversely of each other, the free end of one arm of each bracket being bent crosswise of the bracket and the free end of the other arm having an eye whose axis is approximately perpendicular to the plane of the arms, the bent end of each bracket being bent to the same side of said plane, the bent end of one bracket being inserted through one of said holes from one side of the spacer with the bracket extending from one edge of the spacer and the bent end of the other bracket being inserted through the other hole from the same side of the spacer with the bracket extending from the other edge of the spacer, the eye of each bracket being engaged over the end of the other bracket which projects through the spacer, each bracket having its bent end approximately perpendicular to its plane so that when the eyes are engaged over the

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projecting ends on opposite sides of the spacer the resilient brackets are tensioned to hold the eyes on the ends, the eye arm of each bracket bent transversely of said plane so that after the brackets are sprung to plane the arms of each bracket on opposite sides of the spacer the axis of the eyes are approximately parallel to the bent ends.

4. For supporting service cables, a mid-span spacer comprising two strips having notches on opposite edges to form registering conductor openings when laid face to face and also having registering holes extending there-through in the same direction as the openings, a pair of brackets of elongate stiff resilient material each having a central portion for connection to service cables and two arms extending from said portion transversely of each other, the free end of one arm of each bracket being bent crosswise of the bracket and the free end of the other arm having an eye whose axis is approximately perpendicular to the plane of the arms, the bent end of each bracket being bent to the same side of said plane, the bent end of one bracket being inserted through one of said holes from one side of the spacer with the bracket extending from one edge of the spacer and the bent end of the other bracket being inserted through the other hole from the same side of the spacer with the bracket extending from the other edge of the spacer, the eye of each bracket being engaged over the end of the other bracket which projects through the spacer, whereby the brackets hold said strips together and also hold each other on the spacer.

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