Nov. 7, 1939. E. J. DE RIGHT ET AL 2,179,251

WIRE TONG SUPPORT

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Fig. 1

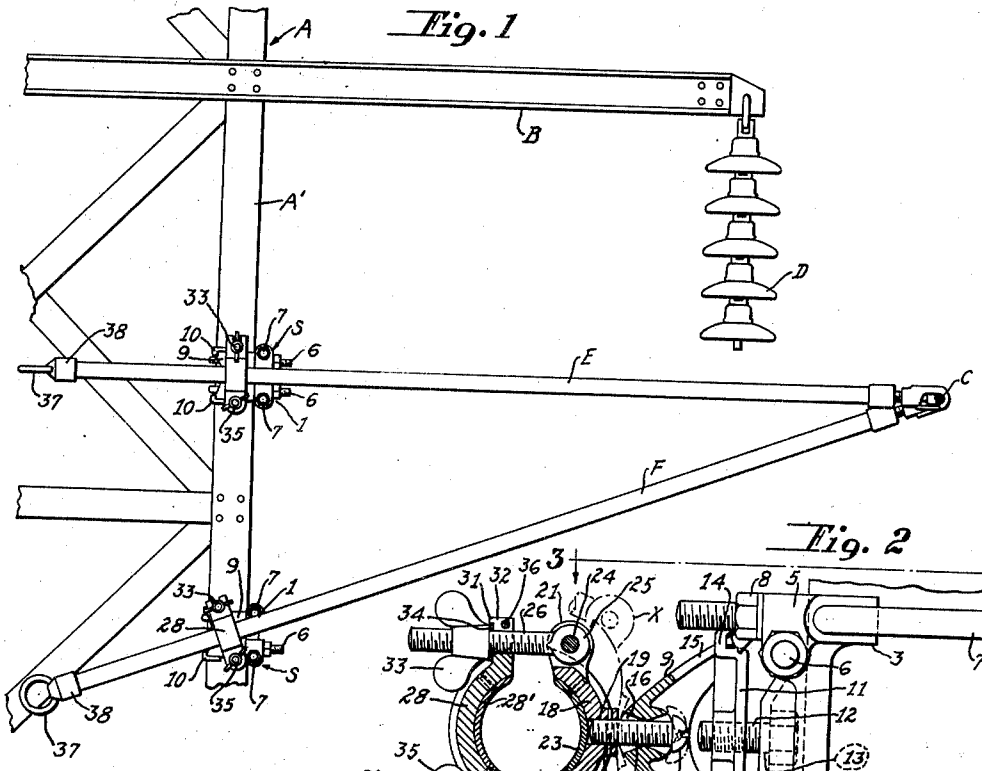


Fig. 2

Fig. 3

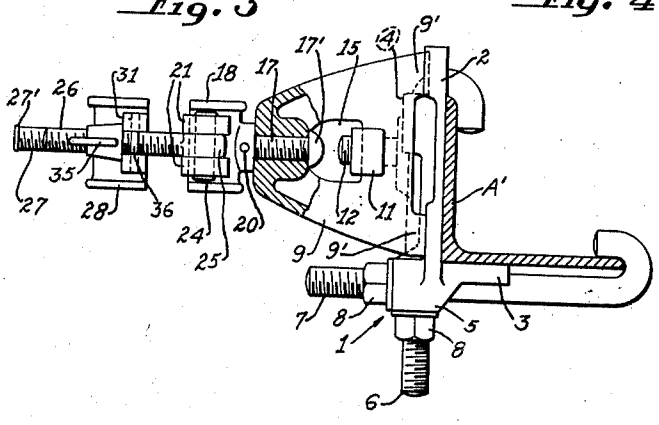
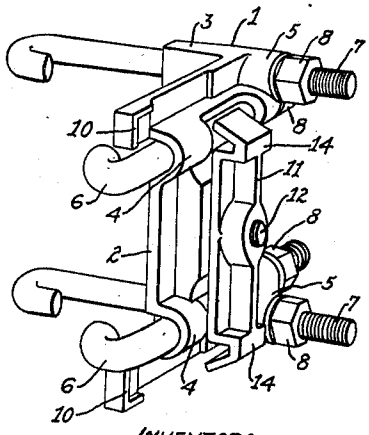


Fig. 4



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WIRE TONG SUPPORT

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5 Claims. (Cl. 248—226)

This invention relates generally to wire tong supports, and more specifically to tong supporting devices adapted particularly for use in attaching wire tongs to steel towers of the type employed for supporting overhead electrical conductors, the predominant object of the invention being to provide an improved wire tong support of this type which is of such simple construction that it may be conveniently attached to or detached from a tower and is capable, when so attached to a tower, of performing its intended function in a highly efficient manner.

Fig. 1 is a fragmentary elevation showing a pair of the improved wire tong supporting devices attached to a portion of a tower with wire tongs associated therewith.

Fig. 2 is an enlarged fragmentary elevation of one of the improved supporting devices showing same attached to a fragment of a tower.

Fig. 3 is a section taken on line 3—3 of Fig. 2 looking in the direction of the arrow.

Fig. 4 is a perspective of a portion of the improved wire tong support.

In the drawing, wherein is shown for the purpose of illustration, merely, one embodiment of the invention, A designates generally a conductor-supporting tower which includes a crossarm B for supporting an electrical conductor C, said electrical conductor being normally suspended from the crossarm in spaced relation with respect thereto through the instrumentality of a suitable string of insulators D. The electrical conductor C is shown in Fig. 1 of the drawing as being moved outwardly from its normal position at the lower end of the string of insulators D by means of wire tongs E and F of suitable construction, and these wire tongs are attached to the tower A by a pair of the improved wire tong supporting devices, designated generally in the drawing by the reference character S.

The leg A' of the tower A to which the wire tong supports S are attached in Fig. 1 is of angular cross-section as shown in Fig. 3 and each wire tong support includes a base element 1 which is arranged in assembled relation with respect to the tower leg A'. The base element includes a plate portion 2 which is disposed in contact with the outer face of one angular extension of the leg A', and said base element includes also a pair of spaced portions 3 which are disposed at an approximate right angle with respect to the plate portion 2 and contact with the outer face of the other angular extension of the tower leg. The angular arrangement of the plate portion 2 and the spaced portions 3 of the base element gives to said base element an angular shape which corresponds to the cross-sectional shape of the tower leg A' as shown clearly in Fig. 3.

The base element 1 is provided with a pair of bolt sockets 4 whose openings extend parallel with respect to the plate portion 2, and said base element is provided with a second pair of bolt sockets 5 whose openings extend parallel with respect to the spaced portions 3 of the base element. Arranged in the bolt sockets 4 are bolts 6 and arranged in the bolt sockets 5 are bolts 7, each of said bolts being provided with a hook-shaped outer end and having a screwthreaded opposite end portion which receives a nut 8.

In order to secure the base element to the tower leg A' the plate portion 1 and the spaced portions 3 thereof are arranged in assembled relation with respect to said tower leg. The hook-shaped ends of the bolts are caused to engage the outer edges of the angular extensions of the tower leg as shown in Fig. 3 after which the nuts 8 on the bolts are rotated in a direction to cause the hook-shaped ends of the bolts to be drawn into tight gripping contact with said outer edges of the tower leg.

Associated with the base element 1 is a saddle element 9, said saddle element having opposed divergent leg portions and being provided with feet portions 9' that contact with the plate portion 2 of the base element. By referring to Fig. 1 it will be noted that the plate portion of the base element 1 of each wire tong support is provided with raised angular corner extensions 10 which serve to properly locate the feet portions of the saddle element with respect to said plate portion. In order to secure the saddle element 9 to the base element 1 a bar 11 is provided. This bar is secured to the base element by a bolt 12 which extends through an opening 13 formed through a wall portion of the base element and is secured into a screwthreaded opening formed in the bar 11. The bar 11 is provided with offset end portions 14 which extend into alined openings 15 formed in the opposed divergent legs of the saddle element as shown to the best advantage in Fig. 2, where said offset end portions engage walls of said alined openings in a manner to securely attach the saddle element to the base element.

The saddle element 9 of the structure is provided with an opening 16 formed through its forward portion through which a screwthreaded element 17 is extended, said screwthreaded ele-

ment being provided with a head 17' at one end thereof which contacts with a face of the saddle element located at the inner end of the opening 16. At the outer end of the screwthreaded element 17 a jaw member 18 is mounted thereon, said jaw member being provided with a boss having a screwthreaded opening 19 that receives a portion of the screwthreaded element 17. In order to prevent unintended relative rotary movement between the screwthreaded element 17 and the jaw member 18, a pin 20 is extended through alined openings formed through the boss of the jaw member and the screwthreaded element. The jaw member includes an arcuate portion at one end of which a pair of spaced apart, outwardly extending ears 21 is arranged. At the opposite end of said arcuate portion of the jaw member 18 is arranged an outwardly extended wing 22. The arcuate portion of the jaw member 18 is provided at its concave face with a lining element 23 formed of suitable yieldable material which is riveted or otherwise secured in place.

Pivoted between the spaced apart ears 21 of the jaw member 18 by a pivot pin 24 is the head portion 25 of an outwardly extended, screwthreaded stud 26, and rigidly fixed to and extended outwardly from the wing 22 of said jaw member is a screwthreaded stud 27. Mounted on the screwthreaded stud 27 is a second jaw member 28 which includes an arcuate portion provided with an outwardly extended wing 29 at one end, said wing being provided with a tapered opening 30 through which the screwthreaded stud 27 extends. At its opposite end the jaw member 28 is provided with an outwardly extended wing 31, in which a slot 32 is formed which is open at the outer end of said wing, the screwthreaded stud 26 being extended through said slot. The screwthreaded stud 26 has mounted thereon a wing nut 33, and the wing 31 is provided with a depression that receives a washer 34 with which said wing nut contacts. Also, the screwthreaded stud 27 has mounted thereon a wing nut 35 which is adapted to contact with the wing 29 of the jaw member 28, said stud being peaned over at its outer end as indicated at 27' in order to prevent accidental displacement of the wing nut 35 from said stud. The arcuate portion of the jaw member 28 has suitably fixed to it at its concave face a lining element 28' formed of suitable yieldable material.

It is important to note that the opening 16 of the saddle element 9 of the improved structure tapers in opposite directions from a smaller width at the approximate longitudinal center of the opening to a larger width at the opposite ends of the opening. This permits the assembly comprised of the jaw members 18 and 28, the studs 26 and 27, and the screwthreaded element 17 to be swung to the positions X or Y designated by dotted lines in Fig. 2, or positions intermediate of such dotted line positions.

In the use of the improved wire tong support, said device is attached to a tower, the tower A of Fig. 1, for instance, in the manner already explained. The jaw member 28 is then moved away from the jaw member 18 to permit the wire tong to be inserted between said jaw members, said wire tong having been previously clamped to the electrical conductor C. The jaw members are then arranged in such spaced relation that the wire tong H may be moved slidingly between said jaw members. With the jaw members so positioned, the wire tong is moved longitudinally of its major axis between the jaw members 18 and 28 to move the electrical conductor F outwardly from its normal position at the lower end of the string of insulators D, and when the desired displaced position of the conductor has been attained the wing nuts 33 and 35 are screwed inwardly on the studs 26 and 27 to cause the wire tong to be securely clamped between said jaw members. The jaw member 28 is capable of being entirely detached from the stud 26 by raising said stud 26 upwardly out of the slot 32. This permits said jaw member 28 to swing about the stud 27 to entirely displace said jaw member 28 from its operative position with respect to the jaw member 18. However, to prevent unintended detachment of the stud 26 from the jaw member 28 in the manner described, a pin 36 is provided which extends transversely of the upper part of the slot 32 and is seated in apertures formed in the wing 31 at opposite sides of said slot.

If desired sets of blocks (not shown) may be employed in moving the wire tongs E and F outwardly to displace the electrical conductor C. When this is done one end of the set of blocks is attached to an eye 37 forming a part of an end cap 38 associated with the wire tong to be moved, and the other end of the set of blocks is attached to a suitable part of the tower. When the set of blocks has been operated to move the wire tong to the desired conductor-displacing position, the wire tong is clamped in place as already explained herein.

While we have shown and described herein a particular type of means for guiding a wire tong during movement thereof and clamping said wire tong in positions to which it may be adjusted, it is to be understood that the invention may be employed with tong guiding and clamping means other than that shown and described herein.

This application is a continuation in part of an application filed in our names September 23, 1935, and bearing Serial No. 41,731.

We claim:

1. A supporting device adapted for attachment to a support of angular cross-sectional shape, comprising a base element of angular formation adapted to be arranged in assembled relation with respect to said support, means comprising bolts supported by said base portion in crossed relation with respect to each other for securing said base element in such assembled relation with respect to said support, said bolts being provided with end portions which engage portions of said support, a member associated with said base element, and means for connecting said member and said base element together, said means including an element connected intermediate its ends to said base element and extended at its opposite ends through openings formed in said member.

2. A supporting device adapted for attachment to a support of angular cross-sectional shape, comprising a base element of angular formation adapted to be arranged in assembled relation with respect to said support, means comprising bolts supported by said base portion in angular relation with respect to each other for securing said base element in such assembled relation with respect to said support, said bolts being provided with end portions which engage portions of said support, a member associated with said base element, and means for connecting said member and said base element together, said means including an element connected intermediate its

ends to said base element and having offset opposite end portions which extend through openings formed in said member.

3. A supporting device adapted for attachment to a support of angular cross-sectional shape, comprising a base element of angular formation adapted to be arranged in assembled relation with respect to said support, means comprising bolts supported by said base portion in crossed relation with respect to each other for securing said base element in such assembled relation with respect to said support, said bolts being provided with hook-shaped end portions which engage portions of said support, a member associated with said base element, and means for connecting said member and said base element, said means including an element connected intermediate its ends to said base element and having offset opposite end portions which extend through openings formed in said member.

4. A supporting device adapted for attachment to a support of angular cross-sectional shape, comprising a base element of angular formation adapted to be arranged in assembled relation with respect to said support, means comprising pairs of bolts supported by said base portion for securing said base element in such assembled relation with respect to said support, the bolts of each pair of bolts being disposed in crossed relation and said bolts being provided with hook-shaped end portions which engage portions of said support, a member associated with said base element, and means for connecting said member and said base element together, said means including an element connected intermediate its ends to said base element and having offset opposite end portions which extend through openings formed in said member.

5. A supporting device adapted for attachment to a support of angular cross-sectional shape, comprising a base element of angular formation adapted to be arranged in assembled relation with respect to said support, means comprising bolts supported by said base portion in crossed relation with respect to each other for securing said base element in such assembled relation with respect to said support, said bolts being provided with end portions which engage portions of said support, a member associated with said base element, and means for connecting said member and said base element together, said means including an element connected intermediate its ends to said base element and having its opposite ends in engagement with said member.

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