Aug. 31, 1943. O. H. JOHNSON 2,328,217

GUY TONGS

Filed July 10, 1942

Fig. 1

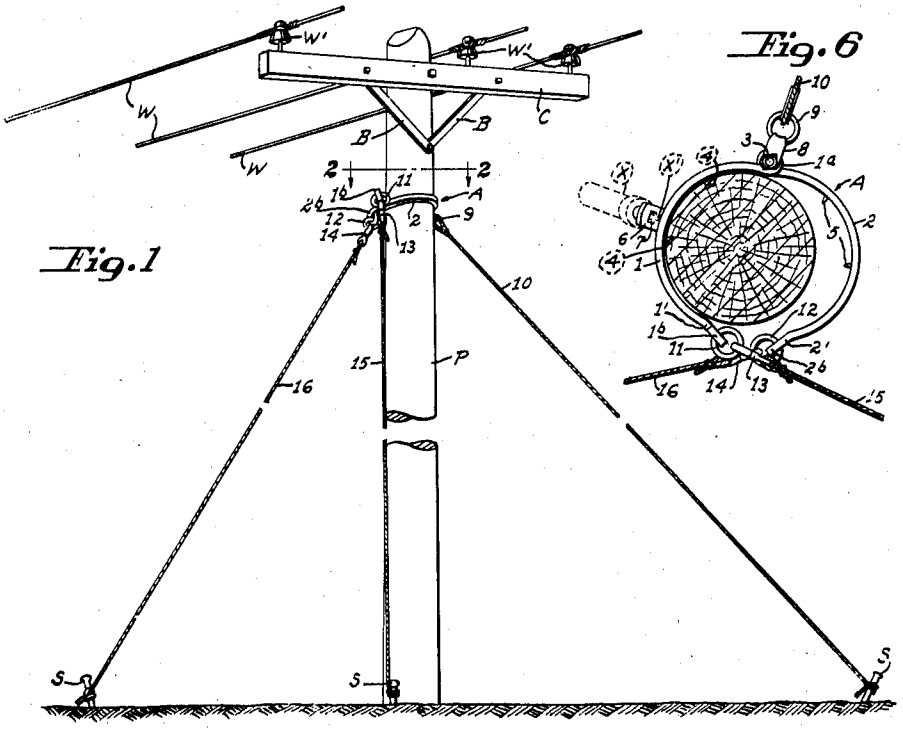


Fig. 6

Fig. 2

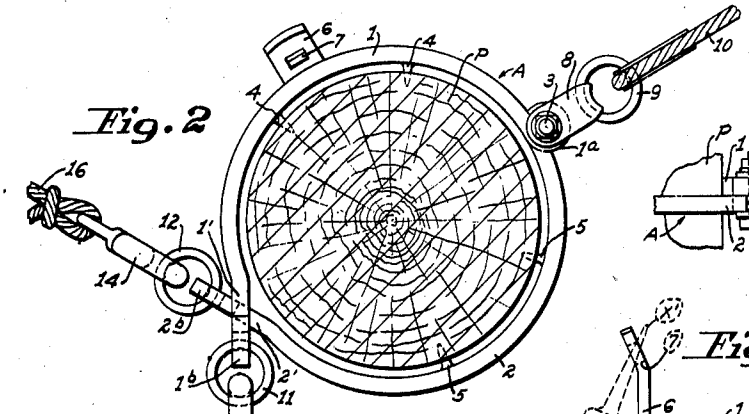


Fig. 4

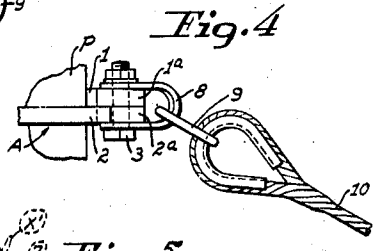


Fig. 5

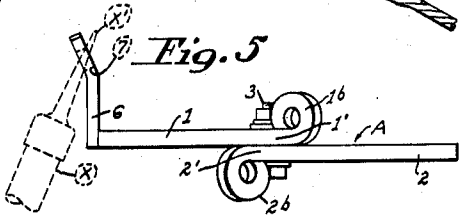
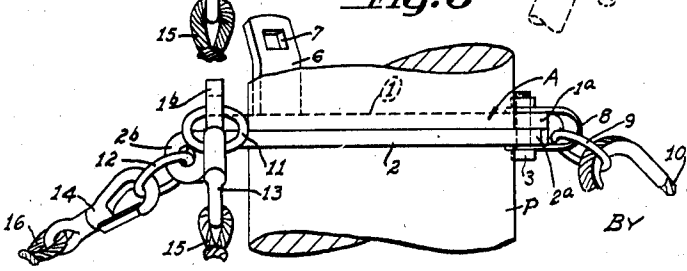


Fig. 3



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Patented Aug. 31, 1943

2,328,217

UNITED STATES PATENT OFFICE

2,328,217

GUY TONGS

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Application July 10, 1942, Serial No. 450,485

6 Claims. (Cl. 189—31.3)

This invention relates generally to guy tongs and more specifically to guy tongs which are particularly adapted for use in temporarily guying wood poles of the type frequently employed for supporting overhead electrical conductors, the predominant object of the invention being to provide a device of this type which is of such improved construction and arrangement that it is capable of performing its intended function in an improved and highly efficient manner.

In the maintenance of electrical distribution systems which include conductors supported by wood poles embedded in the ground and extended upwardly therefrom, it is frequently necessary to temporarily guy a pole when the conductors associated therewith are to be detached therefrom for replacement or repair of the conductors, or for replacement or repair of the crossarm of the pole, or when a pole is being removed or a new pole erected. Prior to this invention temporary guying of a pole was accomplished with the aid of pike poles in the hands of workmen or through the use of hand lines tied to the pole and anchored to stationary objects located some distance from the pole. However, both of these methods have been found to be faulty inasmuch as the use of pike poles tends to lift the pole and permit its lower end to shift when the pole in insecurely anchored with respect to the ground because of rotting of the lower portion of the pole or due to washing or cutting away of the ground at the base of the pole, while the hand line method of guying frequently requires that a man climb an insecurely supported pole to attach the hand lines thereto.

In the use of the improved guy tongs disclosed herein a pole temporarily guyed thereby is drawn downwardly by the guy lines associated with the guy tongs into contact with the ground whereby shifting of the lower portion of an insecurely anchored pole is not induced as might be the case when pike poles are used for temporarily guying such a pole. Also, because the improved guy tongs disclosed herein may be applied to a pole without the necessity for a man climbing the pole, the danger that an insecurely supported pole might give way under the weight of a man applying hand lines thereto is eliminated.

Fig. 1 is a perspective view of a conductor-supporting pole guyed in accordance with this invention.

Fig. 2 is an enlarged horizontal section taken on line 2—2 of Fig. 1, the pole being shown in section and the guy tongs and the guy lines associated therewith being shown in plan.

Fig. 3 is a side elevation of the assembly shown in Fig. 2, a short section only of the pole being illustrated.

Fig. 4 is a fragmentary elevation showing the manner in which the tong members of the improved guy tongs are pivotally attached together and illustrating the means for attaching a guy line to said guy members at the point of their pivotal connection, a fragment of a pole being shown in this view.

Fig. 5 is a front elevation of the improved guy tongs and illustrating the manner in which said guy tongs may be elevated in a horizontal position with the aid of a pike pole for application to a pole, the pike pole being shown by dotted lines.

Fig. 6 is a plan view illustrating the manner of applying the improved guy tongs to a pole with the aid of a pike pole.

In the drawing, wherein is shown for the purpose of illustration, merely, one embodiment of the invention, P designates a wood pole which is embedded in the ground and extends upwardly therefrom. The pole P supports a crossarm C adjacent to its upper end which is braced in the usual manner by braces B, said crossarm supporting insulators W' to which electrical conductors W are secured in order that said conductors may be supported by the pole P.

The improved guy tongs are designated generally by the reference character A, and said guy tongs comprise a pair of arcuate tong members 1 and 2 which are provided with vertically alined eyes 1a and 2a through which the shank of the bolt of a bolt and nut assembly 3 is extended so as to pivotally attach said tong members together. At the ends of the guy tong members 1 and 2 opposite to the ends thereof which are pivotally connected by the bolt and nut assembly 3, straight extensions 1' and 2' are provided and at the outer ends of these straight extensions said tong members 1 and 2 are provided with eyes 1b and 2b, the eye 1b of the guy tong member 1 being extended upwardly and the eye 2b of the tong member 2 being extended downwardly, as is shown to the best advantage in Fig. 5. When the guy tongs are in position on a pole the straight extensions 1' and 2' of the tong members 1 and 2 are in overlapping and underlapping relation, as shown in Fig. 2, said straight extensions contacting with each other and the straight extension of the tong member 1 being disposed above the straight extension of the tong member 2. The tong member 1 is provided with a pair of spaced, pointed prongs 4 which project inwardly

from the inner face thereof, and the tong member is provided with a pair of similar pointed prongs 5 which project inwardly from the inner face of said tong member 2. Also, the tong member 1 has welded or otherwise secured thereto, or formed thereon, an element 6 having a lower portion which is extended vertically and an upper portion which extends upwardly and outwardly at an angle with respect to said lower portion (Fig. 5), said upper, angular portion of said element having an opening 7 formed therethrough.

The improved guy tongs A include a yoke 8 which is pivotally secured to the tong members 1 and 2 by the bolt and nut assembly 3 at the point of pivotal connection of said tong members, and connected to said yoke by a ring 9 is a guy line 10. Also, the eyes 1b and 2b of the tong members 1 and 2 have rings 11 and 12 engaged therewith, and connected to these rings by suitable snaps 13 and 14, or otherwise, is a pair of guy lines 15 and 16.

In the use of the improved guy tongs A disclosed herein the pike of a pike pole is inserted through the opening 7 of the element 6 of the tong member 1 and said guy tongs are elevated with respect to a pole to be guyed to the proper elevation, the tong members of the guy tong at this time being disposed in their spread apart positions as shown in Fig. 6. During such elevation of the guy tongs the relationship between the pike pole and the guy tongs is as shown in Fig. 5, wherein the pike pole is designated by the reference character X and the pike thereof by the reference character X', the overhanging weight of the side portion of the guy tongs remote from the side thereof at which the element 6 is located causing upper and lower edge portions of the wall of said opening 7 to engage opposite sides of the pike of the pike pole to support the guy tongs in a horizontal position. When the opened guy tongs have been arranged about the pole as in shown in Fig. 6 and are held in that position by the pike pole in the hands of a workman on the ground, two other workmen grasp and cross the guy lines 15 and 16, as shown in Fig. 6, and said workmen walk in opposite directions to draw the tong members 1 and 2 into embracing relation with respect to the pole until the straight extensions 1' and 2' of said tong members have been drawn into their overlapping and underlapping relation as shown in Fig. 2 and until the pairs of pointed prongs 4 and 5 engage the pole. The workmen then pull hard on the guy lines 15 and 16 to deeply embed the pointed prongs 4 and 5 in the pole to secure the guy tongs to the pole whereupon the pike pole may be removed. The lower end portions of the guy lines 15 and 16 and the guy line 10 are then secured to suitably located, stationary objects, such, for instance, as the stakes S shown in Fig. 1, and the guying of the pole has been completed.

It is obvious, of course, that instead of applying the improved guy tongs to a pole by elevating same with the aid of a pike pole as described above, a workman may climb the pole and apply the guy tongs to the pole while he is supported by the pole, workmen on the ground manipulating the guy lines in the manner previously explained and anchoring the lower end portions of said guy lines to stationary objects.

I claim:

1. Guy tongs comprising a pair of tong members, means for pivotally connecting said tong members together at corresponding ends thereof, said tong members being provided with portions adapted for disposition in overlapping and underlapping relation, and a plurality of guy lines attached to said tong members, one of said guy lines being attached to said tong members at the point of pivotal connection thereof and a pair of said guy lines being attached to the outer end portions of said overlapping and underlapping portions of the tong members respectively, said tong members being adapted to be drawn to a contracted condition where they closely embrace a support to which the guy tongs are to be applied by pulling said pair of guy lines in different directions.

2. Guy tongs comprising a pair of tong members of arcuate shape, means for pivotally connecting said tong members together at corresponding ends thereof, said tong members being provided with portions adapted for disposition in overlapping and underlapping relation, and a plurality of guy lines attached to said tong members, one of said guy lines being attached to said tong members at the point of pivotal connection thereof and a pair of said guy lines being attached to the outer end portions of said overlapping and underlapping portions of the tong members respectively, said tong members being adapted to be drawn to a contracted condition where they closely embrace a support to which the guy tongs are to be applied by pulling said pair of guy lines in different directions.

3. Guy tongs comprising a pair of tong members, means for pivotally connecting said tong members together at corresponding ends thereof, said tong members being provided with portions adapted for disposition in overlapping and underlapping relation, and a plurality of guy lines attached to said tong members, one of said guy lines being attached to said tong members at the point of pivotal connection thereof and a pair of said guy lines being attached to the outer end portions of said overlapping and underlapping portions of the tong members respectively, said tong members being adapted to be drawn to a contracted condition where they closely embrace a support to which the guy tongs are to be applied by pulling said pair of guy lines in different directions, and a tool-receiving element associated with one of said tong members, said tool-receiving element being adapted to be engaged by a tool which aids in the elevation of the guy tongs relative to a support to which said guy tongs are to be applied.

4. Guy tongs comprising a pair of tong members, means for pivotally connecting said tong members together at corresponding ends thereof, said tong members being provided with portions adapted for disposition in overlapping and underlapping relation, and a plurality of guy lines attached to said tong members, one of said guy lines being attached to said tong members at the point of pivotal connection thereof and a pair of said guy lines being attached to the outer end portions of said overlapping and underlapping portions of the tong members respectively, said tong members being adapted to be drawn to a contracted condition where they closely embrace a support to which the guy tongs are to be applied by pulling said pair of guy lines in different directions and a tool-receiving element associated with one of said tong members, said tool-receiving element being provided with an angularly extended apertured portion and being adapted to be engaged by a tool which aids in the elevation

of the guy tongs relative to a support to which said guy tongs are to be applied.

5. Guy tongs comprising a pair of tong members, means for pivotally connecting said tong members together at corresponding ends thereof, said tong member being provided with substantially straight portions adapted for disposition in overlapping and underlapping relation, and a plurality of guy lines attached to said tong members, one of said guy lines being attached to said tong members at the point of pivotal connection thereof and a pair of said guy lines being attached to the outer end portions of said overlapping and underlapping portions of the tong members respectively, said tong members being adapted to be drawn to a contracted condition where they closely embrace a support to which the guy tongs are to be applied by pulling said pair of guy lines in different directions.

6. Guy tongs comprising a pair of tong members, means for pivotally connecting said tong members together at corresponding ends thereof, said tong members being provided with portions adapted for disposition in overlapping and underlapping relation, a plurality of guy lines attached to said tong members, one of said guy lines being attached to said tong members at the point of pivotal connection thereof and a pair of said guy lines being attached to the outer end portions of said overlapping and underlapping portions of the tong members respectively, said tong members being adapted to be drawn to a contracted condition where they closely embrace a support to which the guy tongs are to be applied by pulling said pair of guy lines in different directions, and prongs on said tong members adapted to be embedded in the material of a support to which the guy tongs are applied when said tong members are contracted closely about said support.

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