PICK-UP TONGS

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Application March 7, 1938, Serial No. 194,381

4 Claims. (Cl. 294—19)

This invention relates generally to pickup tongs intended for use in picking up energized electrical conductors, and more specifically to a handle device of this description which briefly includes a fixed jaw with which an insulating handle is associated, and a jaw movable into and out of gripping relation with respect to said fixed jaw which movable jaw has associated therewith a flexible element for moving said movable jaw into gripping position and holding it in such position, the predominant object of the invention being to provide a device of this type which is capable of performing its intended function in a highly efficient manner.

Fig. 1 is a side elevation of the improved device, portions of the device being broken away to permit the device to be illustrated on a slightly larger scale.

Fig. 2 is a fragmentary front elevation of the device shown in Fig. 1.

Fig. 3 is a view largely in elevation and partly in section taken on line 3—3 of Fig. 1.

Fig. 4 is a sectional elevation taken on the staggered line 4—4 of Fig. 2.

Fig. 5 is a fragmentary side elevation of the lower portion of the device illustrating the manner in which same is used.

Fig. 6 is a plan view of the device as it appears when in use.

Fig. 7 illustrates one manner of using the improved device.

In the drawings, wherein is shown for the purpose of illustration, merely, one embodiment of the invention, A designates the improved device generally. The device A comprises a jaw 1 which includes as a part thereof a socket portion 2 which receives an end portion of an elongated handle 3 which preferably, though not necessarily, is in the form of a wood pole, said handle being secured to the socket portion 2 by pins 2' or otherwise. When the handle is in the form of a wood pole said pole is suitably treated so that said pole may serve as an efficient electrical insulating medium. The fixed jaw 1 of the device includes transversely spaced legs 4, the space 5 between the legs being defined by the opposed inner faces of the legs and by an inclined face 6 at the upper end of said space 5 (Fig. 4). The legs 4 of the jaw 1 are strengthened by opposed, substantially L-shaped ribs 6 which extend downwardly from the socket portion 2 of the jaw and then project forwardly at a slight downward inclination from the lower end of said downwardly extended portions of said ribs (see Figs. 1 and 5). The ribs 6 are flattened at their lower, forward ends as indicated at 6d so that the fixed jaw may be supported evenly on the ground, and the top portions of the lower, forward ends of the ribs 6 are provided with downwardly and forwardly inclined faces 6d which provide the ribs with pointed toe portions. The legs 4 are provided with transversely aligned, curved recesses 7 which serve as seats for a conductor gripped by the device, which curved recesses merge into the inclined faces 6d previously mentioned. Also at the lower ends of the inner faces 6b of the spaced legs inclined faces 8 (Fig. 2) are provided which provide a flared entry to the lower portion of the space 5 between the legs 4, which facilitates passage into the lower part of the space 5 of the upper portion of a movable jaw to be hereinafter described.

Supported for pivotal movement in the space 5 between the legs 4 is a movable jaw 9, the pivotal support for the movable jaw being provided by a suitable bolt 10 which extends through aligned openings formed in the spaced legs and in the movable jaw. The movable jaw includes a downwardly extended nose portion 9a which is provided in its rear portion with a curved recess 9b which corresponds in shape to the recesses 7 of the legs 4 but is disposed in reverse relation with respect to said recesses 7. The movable jaw includes also an arm 11 which extends therefrom as seen to the best advantage in Figs. 1, 4, and 5, said arm being provided at its outer end with an eye portion 12. As will presently appear herein the movable jaw 9 is movable from the position in which it is shown by dotted and dash lines in Fig. 5. Movement of the movable jaw to the first mentioned position is arrested by contact of the upper edge of the arm 11 with the portion 9c of the fixed jaw 1 (Fig. 4), while movement to the second mentioned position is arrested when the legs 13 formed on the arm 11 of the movable jaw strike the abutments 14 formed on the fixed jaw 1. Thus means are provided which positively limit movement of the movable jaw in opposite directions.

Secured to the eye portion 12 of the arm 11 of the movable jaw 9 is a flexible connector 15 which may be in the form of a rope. The flexible connector extends along the handle 3 and passes through the eye portion 16 of an eye bolt 16 which is secured to the handle 3. Also the flexible connector 15 is suitably provided with a loop 17 at the end thereof remote from the eye portion 12 of the movable jaw 9.
When in the use of the improved device disclosed herein it is desired to pick up an energized electrical conductor, the handle of the device is grasped and the tapered toe portions of the fixed jaw are pushed beneath the conductor with the flat faces 8a of said fixed jaw contacting with the ground. At this time the flexible connector 15 is free and unrestrained and as a consequence thereof the weight of the extended arm 11 of the movable jaw will cause said arm to drop downwardly, thus moving the nose portion of the movable jaw to the elevated position in which it is shown by dot and dash lines in Fig. 5. When the conductor to be picked up is positioned properly with respect to the fixed jaw so that it is disposed in the recesses 7 thereof, the operator pulls the flexible connector 15 rearwardly. This moves the arm 11 of the movable jaw upwardly from the position in which it is shown by dot and dash lines in Fig. 5 to the position in which it is shown by full lines in Fig. 5. Such movement of the arm 11 of the movable jaw swings the nose portion of said movable jaw to a position where the conductor C (shown in Fig. 5) is gripped between the curved wall of the recess 9b of the movable jaw and the curved walls of the recesses 7 of the fixed jaw. The operator may then move the conductor about freely with the aid of the device while holding the flexible conductor taut.

One type of operation in which the improved device is particularly useful is that of raising to an elevated position an energized overhead wire which has parted and has fallen to the ground. Naturally the chief desire in such a case is to elevate the wire to a position where it cannot do damage and therefore as soon as notification is received of the fallen wire troubles men are sent out to temporarily take care of the emergency until the work crew arrives. In the use of the improved device disclosed herein the trouble men may pick up an end portion of the fallen wire with the aid of the device and with the aid of a hand line H (see Fig. 7) which is tied to the loop 17 of the flexible connector 15 of the device, the fallen wire may be drawn to an elevated position by a lineman on a pole from which the wire has fallen. When the fallen wire has been raised to the desired position the hand line H is tied to the pole or to a crossarm thereof to retain the wire in its elevated position until the work crew arrives and repairs and replaces it in its proper position. From the foregoing it is plain that with the aid of the improved device an energized fallen wire may be raised safely and quickly to a position where it is not a source of danger, and because the strain caused by the sag of the wire will cause the flexible connector 15 of the device to be drawn very taut the wire will be gripped securely by the jaws of the device.

I claim:
1. A pickup tong comprising a fixed jaw, an insulating handle secured to said fixed jaw, said fixed jaw being provided with a concave gripping seat and including a toe portion provided with a flat ground-contacting face and an inclined face which leads to said gripping seat, a movable jaw pivotally supported by said fixed jaw and provided with a concave gripping seat, and a flexible element attached to a part of said movable jaw for moving said movable jaw to a position where the gripping seat thereof cooperates with the gripping seat of said fixed jaw to receive and grip an article in said gripping seats.
2. A pickup tong comprising a fixed jaw having spaced apart portions provided with aligned concave gripping seats formed therein, said spaced apart portions of said fixed jaw being provided with toe portions having flat ground-contacting faces and inclined faces leading to said gripping seats, an insulating handle fixed to said fixed jaw, a movable jaw pivotally supported between said spaced apart portions of said fixed jaw and provided with a concave gripping seat, and a flexible element attached to a part of said movable jaw for moving said movable jaw to a position where where the gripping seat thereof cooperates with the gripping seats of the fixed jaw to receive and grip an article in said gripping seats.
3. A pickup tong comprising a fixed jaw having a socket portion and spaced apart portions provided with aligned concave gripping seats formed therein, said spaced apart portions of said fixed jaw being provided with toe portions having flat ground-contacting faces and inclined faces leading to said gripping seats, an insulating handle supported in the socket portion of said fixed jaw, a movable jaw pivotally supported between said spaced apart portions of said fixed jaw and provided with a concave gripping seat, and a flexible element attached to a part of said movable jaw for moving said movable jaw to a position where where the gripping seat thereof cooperates with the gripping seats of said fixed jaw to receive and grip an article in said gripping seats.
4. A pickup tong comprising a fixed jaw having a socket portion and spaced apart portions provided with aligned concave gripping seats formed therein, said spaced apart portions of said fixed jaw being provided with toe portions having flat ground-contacting faces and inclined faces leading to said gripping seats, an insulating handle supported in the socket portion of said fixed jaw, a movable jaw pivotally supported between said spaced apart portions of said fixed jaw and provided with a concave gripping seat, a flexible element attached to a part of said movable jaw for moving said movable jaw to a position where where the gripping seat thereof cooperates with the gripping seats of said fixed jaw to receive and grip an article in said gripping seats, said flexible element being provided with an eye formed at the end thereof opposite to the end which is attached to the movable jaw, and means for guiding movements of said flexible element relative to said insulating handle.

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