

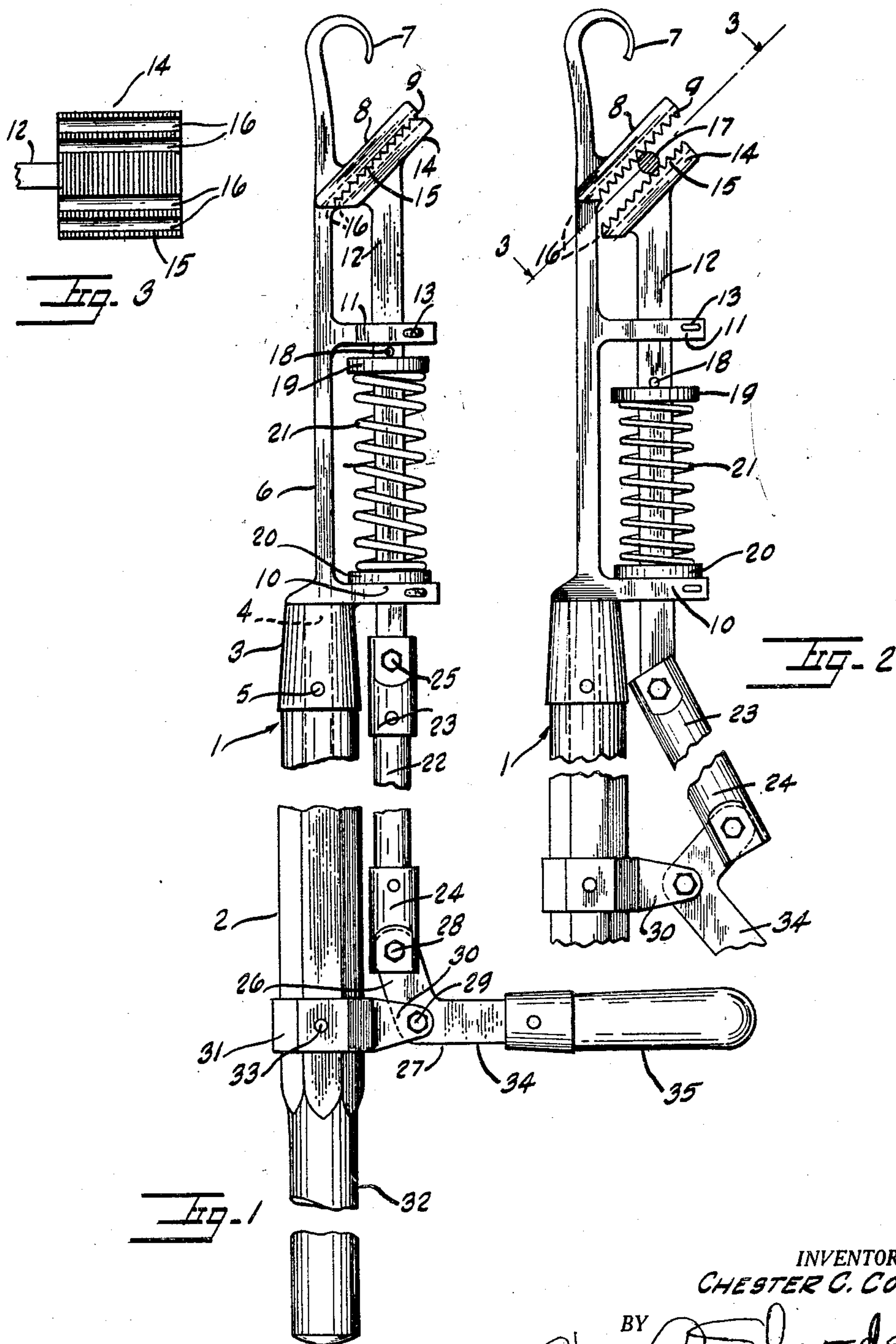
Oct. 7, 1930.

C. C. COON

1,777,395

WIRE CLAMP

Filed June 8, 1927



INVENTOR.
CHESTER C. COON

BY
Harry Schroeder
ATTORNEY

UNITED STATES PATENT OFFICE

CHESTER C. COON, OF OAKLAND, CALIFORNIA

WIRE CLAMP

Application filed June 8, 1927. Serial No. 197,412.

My invention relates to such tools as are adapted to be used in connection with work required on high-voltage transmission lines, and it refers especially to a tool of this type, by means of which the linemen are assisted in performing their work with a minimum of hazard while the current is on and without interruption of the service.

It is proposed by my present invention to provide a tool of this character with clamping jaws, arranged and insulated so as to be operated at a safe distance from a workman, so that, for instance, by means of the tool, the workman may be able to hold a hot wire in place while the wire is being served; to hold a jumper in place while it is being connected with a hot wire; or to hold a hot wire while it is being cut.

Another object of my invention is to provide a tool of this character, which is simple in construction and operation and may be manufactured cheaply so as to be sold at a low price.

Other objects and advantages will appear from the following detailed description of a preferred embodiment of the invention, which is illustrated in the accompanying drawings, it being understood that I reserve the right to make such changes and modifications in the form shown as come within the scope of the appended claims.

In the drawings:

Figure 1 is a broken side elevation of a preferred embodiment of the wire clamp of my invention, the view showing the reciprocating clamping jaw in its normal position against the stationary jaw;

Figure 2 is a broken side elevation, similar to Figure 1, but showing sectionally a line wire clamped between the jaws; and

Figure 3 is a view of the reciprocating jaw, as taken in a plane indicated by the line 3—3 in Figure 2, the rod upon which the jaw is mounted being broken.

The wire clamp of my invention is indi-

cated in the drawings as a whole by the numeral 1 and comprises a supporting rod or handle 2, preferably of wood or some other suitable, light and strong insulating material having secured thereon at one end a ferrule 3 which has upwardly extending bracket 6 which is preferably made integral therewith. The bracket is provided with hook 7 at its upper extremity. The tapered shank 4 of handle 2 is secured within the ferrule by means of rivet 5. A clamping jaw 8 is formed on the bracket and extends at an angle thereto adjacent hook 7, the bracket being provided with teeth 9 extending transversely of the jaw, and the bracket has also thereon and extending from the same side thereof as the jaw, guide members 10 and 11, which are preferably forked in alignment with each other and with the jaw 8, the member 10 preferably being formed at the end of the ferrule 3, and the member 11 being formed between the jaw and the member 10, preferably somewhat nearer to the jaw than to the member 10. Within the forks of the members 10 and 11 and extending with its end therefrom is slidably fitted a rod 12, which is of non-circular shape so as to be prevented from rotating, cotters 13, which extend removably thru the respective members 10 and 11, are adapted to retain the rod within the forks of the members. The rod 12 is provided with a clamping member or jaw 14, arranged obliquely to the bracket 6 co-angular with the jaw 8, which is provided with teeth 15 adapted to register with the teeth 9 on the jaw 8.

Jaws 8 and 14 preferably have formed in their toothed faces the longitudinal grooves 16 adjacent the sides whereby a wire may be held or gripped either longitudinally or transversely of the jaws.

A pin 18 is fixed in the rod 12 and acts as a retaining and thrust member for washer 19 and is spaced below forked member 11 so as not to interfere with the complete closing

of the jaws. Washers 19 and 20 are freely mounted on rod 12 and the interposed compression spring is adapted to normally retain the jaws in closed position.

Rod 12 is provided with an eye at the lower end. Operating bar 22 has clevises 23 and 24 suitably affixed thereto, and is pivotally attached to the rod 12 by a bolt 25. The short arm 26 of a bell-crank lever 27 is similarly pivotally attached within the clevis 24 by a bolt 28. The bell-crank lever 27 is fulcrumed as indicated at 29 between ears 30 on a band 31 which encompasses handle 2 and is secured thereto adjacent the grip end 32 by any suitable means, and is indicated as having a rivet 33 passing through the handle and band. From the structure just described it will be seen that bar 22 and the short arm 26 of the bell-crank form a toggle intermediate the bar 31 and the jaw 8 for exerting pressure between jaws 8 and 14. Bell-crank lever 27 is provided with a handle 35, preferably of wood or other suitable insulating material. The spring 21 is adapted to firmly grip a wire 17, although additional pressure may be exerted on the wire between the jaws by means of manual pressure on handle 35.

To use the clamp 1 for holding a wire 17 or to release the clamp from its engagement with a wire, the operator moves handle 35 and swings the long arm of the bell-crank lever toward the hand grip 32 for releasing the wire, thereby communicating the swinging motion of the lever thru the operating bar 22 to the rod 12 and thus moves the jaw 14 away from the jaw 8. The opposite movement of the handle 35 will also result in an opposite movement of the jaws. This movement, of course, is easily accomplished, since the arm 34 is considerably longer than the arm 26. It should also be observed that the clamp is easily guided into clamping engagement with the wire 17 on account of the oblique relation of the jaws 8 and 14 to the supporting handle 2. The wire clamp may be suspended on one of the line wires by means of hook 7 when not required. The hook, however, also serves for the purpose of holding a line wire in the groove of a pin-type insulator, while a tie wire is being served.

I claim as my invention:

1. A wire clamp comprising a supporting bar, a serrated clamping plate lying at angle to the axis of the supporting bar and integral therewith adjacent one of its ends, forked guides extending from the supporting bar in alignment with the center of the serrated plate and integral with the bar, a rod capable of reciprocal movement within the guides, a cooperating serrated plate carried by the upper end of the operating rod, a collar secured to the operating rod adjacent to and below one of the guides, a collar spaced from the first named collar and resting on the upper face of the

other of the guides and having a slidable relation to the bar, securing pins extending through the forks of the guides, a spring interposed between the collars and means for imparting reciprocal movement to the operating bar.

2. A wire clamp comprising a supporting bar, a serrated clamping plate lying at an angle to the axis of the supporting bar and integral therewith adjacent one of its ends, forked guides extending from the supporting bar in alignment with the center of the serrated plate and integral with the bar, a rod capable of reciprocal movement within the guides, a cooperating serrated plate carried by the upper end of the operating rod, a collar secured to the operating rod adjacent to and below one of the guides, a collar spaced from the first named collar and resting on the upper face of the other of the guides and having slidable relation to the bar, securing pins extending through the forks of the guides, a spring interposed between the collars, a bell crank pivotally related to the supporting bar below the guides, a link pivotally related at one end of its ends to the operating rod and at the other of its ends to the bell crank and means for rotating the bell crank about its pivot.

3. A wire clamp comprising a supporting bar, a clamping plate integral with the bar adjacent one of its ends, said clamping plate having a serrated face, and grooves extending at right angles to the serrations, guide members carried by the supporting bar for the reciprocal movement therein of an operating rod having a cooperating plate for contacting with the first named plate carried at the upper end thereof, means interposed between the guides for urging the plate of the operating bar into contact with the plate of the supporting rod, a collar having spaced apart ears secured to the supporting rod and spaced from the guides, a bell crank pivotally connected between the ears, a link pivotally connected to the operating bar at one of its ends and to the bell crank at the other of its ends and means for rocking the bell crank.

4. A wire clamp comprising a handle terminating in a bracket, a clamping jaw carried by the bracket, guides carried by the bracket, a bar for reciprocal movement within the guides, a clamping jaw carried by the bar for cooperation with the first named clamping jaw, a collar secured to the handle and terminating in outwardly extending ears, a bell crank pivoted between the ears and out of vertical alignment with the bar, and a link pivotally related to the bar and one arm of the bell crank at its respective ends.

5. A wire clamp comprising a handle, a bracket secured to the handle, said bracket terminating in a hook at its outer extremity, a clamping jaw having right angular grooves on its inner face affixed to the bracket, guides

carried by the bracket, a bar for reciprocal longitudinal movement within the guides, a jaw for clamping cooperation with the first named jaw carried by the reciprocating bar, an operating lever pivotally related to the handle, the pivotal point of the lever being out of vertical alignment with the axis of the reciprocating bar, and a toggle formed between the pivotal point of the lever and the reciprocating bar.

In testimony whereof I affix my signature.
CHESTER C. COON.