

S. C. SWISHER.
WIRE AND CABLE CLAMP.
APPLICATION FILED JULY 31, 1920.

1,361,643.

Patented Dec. 7, 1920.
2 SHEETS—SHEET 1.

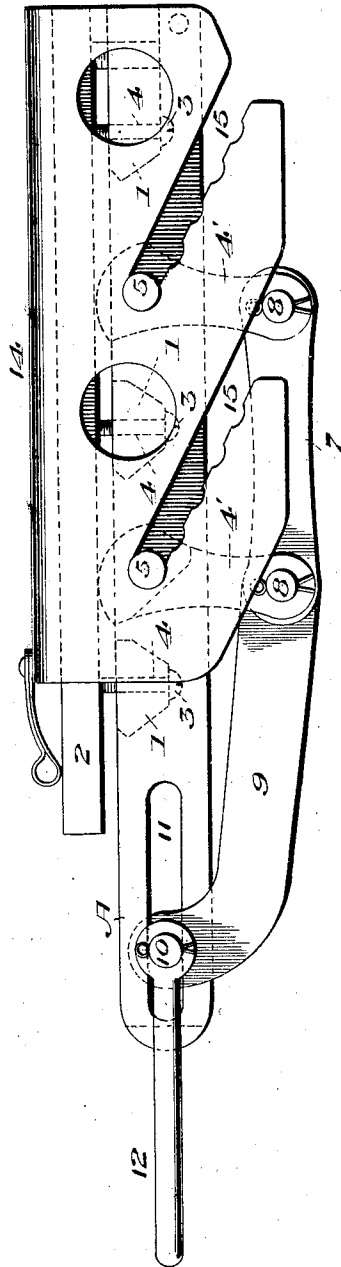


Fig. 1.

Witness
[Signature]

Inventor
Samuel C. Swisher.
By *[Signature]*
his attorney

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2 SHEETS—SHEET 2.

Fig. 2.

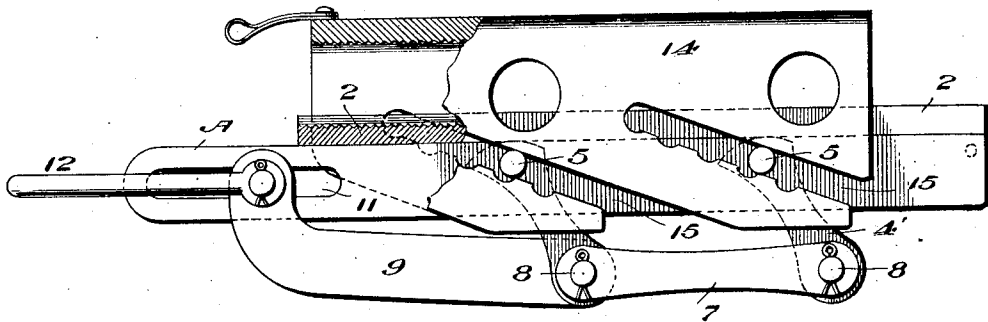
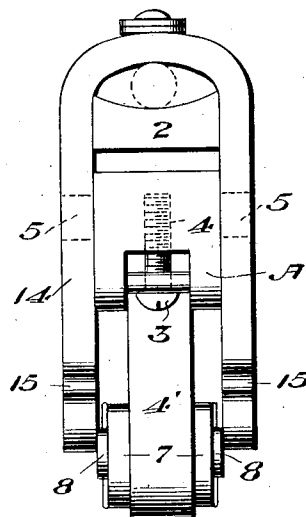


Fig. 3.



Witness

[Handwritten signature]

Inventor
Samuel C. Swisher
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UNITED STATES PATENT OFFICE.

SAMUEL C. SWISHER, OF SAN DIEGO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
NORMAN READ, OF DENVER, COLORADO.

WIRE AND CABLE CLAMP.

1,361,643.

Specification of Letters Patent.

Patented Dec. 7, 1920.

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To all whom it may concern:

Be it known that I, SAMUEL C. SWISHER, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Wire and Cable Clamps, of which the following is a specification.

My invention relates to an improvement in wire and cable clamps, and the primary object is to provide a simple and quick-acting grip for temporarily clamping a wire or cable, in the work of installing wires for electric distribution and transmission lines, and for stretching fence-wires and the like.

Among other features, this clamp entirely surrounds the wire or cable, thereby eliminating the danger of twisting and falling off. It is so constructed that after serving its purpose it may be removed by relieving the strain, whereupon a slight jar will separate the parts, and allow them to fall off. Again, this clamping device does not stick, and release of strain immediately releases the clamp.

This invention includes the following elements:—a frame, a clamping jaw or bar slidably connected therewith, cam levers pivoted to the frame in position to actuate the bar or jaw, an inverted U-shaped spanner which straddles the frame, a clamping jaw or bar, which is adapted to receive the wire or cable between it and the bar or jaw, means for adjustably securing the spanner in place, and means for simultaneously swinging the cam levers to pinch the wire or cable between the clamping-bar or jaw and the spanner, and apply tension to the wire or cable.

In the accompanying drawings:

Figure 1 is a side elevation showing the wire or cable clamp in clamped position;

Fig. 2 is a similar view showing the released position, with a portion of the frame broken away;

Fig. 3 is an end view.

A, represents the frame of the clamp, which is preferably composed of two bars spaced apart by means of blocks 1 at intervals and at the ends.

The numeral 2 is the clamping-bar or jaw, preferably the width of the frame, and normally resting thereon, where it is movably held and allowed a limited outward and inward movement by means of the dowel-

pins or screws 3 which extend loosely through the holes 4 in the spacing blocks 1. The outer surface of this clamping jaw or bar is preferably transversely concaved and toothed or roughened to form a gripping surface.

This clamping jaw or bar is actuated by means of the cam levers 4', pivoted within two of the spaces formed between the side bars of the frame and three of the spacing-blocks, by means of the studs or pins 5, the ends of which protrude some distance beyond the sides of the frame.

Links 7 are pivotally connected with the long ends of the cam levers by means of the pins 8, and a tongue 9 is pivotally connected with one of these pins. A pin 10 extends through the outer end of this tongue and through the elongated slots 11 in the end of the frame, and has a clevis 12 pivotally connected with its outer end, so that when a pulling strain is applied to the clevis, the pin 10 slides toward the outer ends of the slots, pulling the tongue, and transmitting motion to the cam levers, thereby moving the clamping jaw or bar.

An inverted U-shaped spanner 14 straddles the clamping-jaw or bar and the frame, its inner concave surface being toothed or roughened to cooperate with the clamping jaw or bar in clamping the cable or wire between the two. This spanner has inclined open slots 15 in the sides, and the lower edges of these slots have one or more notches 16 adapted to receive the protruding ends of the studs 5, the several notches being provided to accommodate different thicknesses of wires or cables.

Then when draft is applied to the clevis, the pulling strain is transmitted into a lateral movement of the clamping jaw or bar, and the cable or wire is gripped tighter as the pulling strain upon the tool increases.

With a wire or cable clamp of this type, the wire or cable is always inclosed, so that it cannot pull out laterally. It is quickly applied, as the spanner may be removed when placed over the wire or cable, holding the cable in position between the spanner and the clamping-jaw or bar, and when pushed in place with the studs 5 in the notches best adapted to receive them, then as draft is applied through the clevis the cam levers are swung outwardly, and the

clamping jaw or bar is crowded rigidly against the wire or cable uniformly throughout the entire length of the jaw or bar.

The removal or attachment and adjustment of the spanner is simple and instantaneous. It makes it possible to apply the device at any point throughout the length of the wire or cable, and precludes the possibility of failure of grip upon the wire or cable, or the escape of the latter from the tool by reason of the spanner and clamping jaw or bar entirely surrounding the wire or cable, thus eliminating also the danger of twisting off.

It will be observed that the parts are so constructed that after serving their purpose in pulling and stretching the wire or cable, the tool may be removed by relieving the pulling strain and applying a slight jar, whereby to separate the parts and allow them to fall off.

A clamping device of this form will not stick, and the release of strain immediately releases the clamp, so that the time consumed in either applying the clamp to the wire or cable or removing it is substantially negligible. At the same time, the grip is powerful and unerring, and, as previously mentioned, the greater the strain the more rigid and unyielding is the grip, due to the leverage of the cam levers and their connection with the pulling mechanism, which makes their gripping action simultaneous with the pulling or stretching of the wire or cable.

I claim:

1. A wire and cable clamp including a frame, cam levers pivoted thereto, a spanner detachably locked to the frame, a clamping-jaw or bar slidably connected with the frame, and in position to be actuated by the cam levers, and means for swinging the levers, whereby to pinch the wire or cable between the spanner and clamping-jaw or bar, and apply pulling strain thereto.

2. In a wire or cable clamp, the combination with a frame, a clamping jaw or bar slidably connected therewith, cam levers pivoted to the frame and in position to force the clamping-bar or jaw outwardly, means for swinging said levers and applying a pulling strain to the entire clamp, and a spanner detachably and adjustably lockable to the frame, between which and the clamping-jaw or bar the cable or wire to be pulled is rigidly clamped.

3. In a wire or cable clamp, the combination with a frame, pins extending therethrough and protruding at their ends, cam levers pivoted to said pins, means slidably connected with the frame and connected with the levers for simultaneously actuating said levers, and a clamping jaw or bar slidably connected with the frame, and having a roughened outer surface, of an inverted U-shaped spanner adapted to straddle the

frame and clamping-jaw or bar, said spanner having inclined notched open slots, said notches adapted to receive and have detachable locking engagement with the pins, the spanner having an internal roughened surface which cooperates with the roughened surface of the clamping-jaw or bar to receive and hold the wire or cable to be clamped and stretched.

4. In a wire or cable clamp, the combination with a frame having elongated slots at one end, a clamping-bar or jaw slidably connected with the frame, cam levers pivoted to the frame, studs forming the pivots therefor, the ends of which protrude beyond the sides of the frame, links pivotally connecting the levers, a tongue pivotally connected with one of the levers and the links, a pin slidably extending through one end of the tongue and the slots, and slidably connected with the frame, and draft means connected with said slidable pin, of a spanner which is adapted to straddle the clamping-jaw or bar and frame and be detachably fastened to the protruding ends of the studs, and to receive the wire or cable between it and the clamping jaw or bar and cooperate with the latter in gripping and pulling the wire or cable as draft is applied to the sliding pin in the tongue and slots in the frame.

5. The combination with a frame and a jaw or bar movably connected therewith, of a spanner straddling and embracing the jaw or bar and the frame, and adjustably connected with the latter, and means for applying endwise pulling strain to the frame and lateral clamping strain to the jaw or bar, whereby the wire or cable held between the latter and the spanner may be both clamped and stretched.

6. The combination with a frame, of a jaw or bar movably connected therewith, a spanner detachably locked to the frame, and straddling the latter and the clamping-jaw or bar, the wire or cable to be pulled receivable between the spanner and clamping-jaw or bar, and means for simultaneously applying both clamping and endwise strain to the wire or cable.

7. The combination with a frame, cam levers pivoted thereto, a clamping-jaw or bar movably connected with the frame and in position to be actuated by the cam levers, studs protruding from the frame, and means for swinging said cam levers, of a spanner between which and the clamping jaw or bar the wire or cable to be operated upon is held, said spanner of inverted U-shape and provided with inclining open slots which have notches therein to receive the studs.

8. The combination with a frame made of two plates spaced apart and having elongated slots in one end, the spacing means

having holes therethrough, a clamping jaw
or bar extending parallel with the frame,
screws extending through the holes in the
spacing-blocks and into the jaw or bar, cam
5 levers fulcrumed between the plates of the
frame, studs forming the pivots for the
levers with their ends protruding from the
sides of the frame, links connecting the
levers, a tongue pivotally connected with
10 the links and levers, a pin extending
through one end of the tongue and the slots

in the frame, a clevis pivotally connected
with the pin, a spanner adapted to straddle
the frame and clamping-jaw or bar, and
having inclined open slots with notches 15
therein, whereby to be detachably locked to
the studs, and between which and the clamp-
ing-jaw or bar the cable or wire to be
stretched is gripped as pulling strain is ap-
plied to the clevis. 20

In testimony whereof I affix my signature.
SAMUEL C. SWISHER.