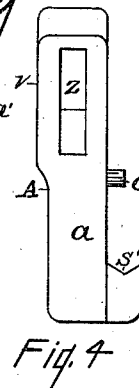
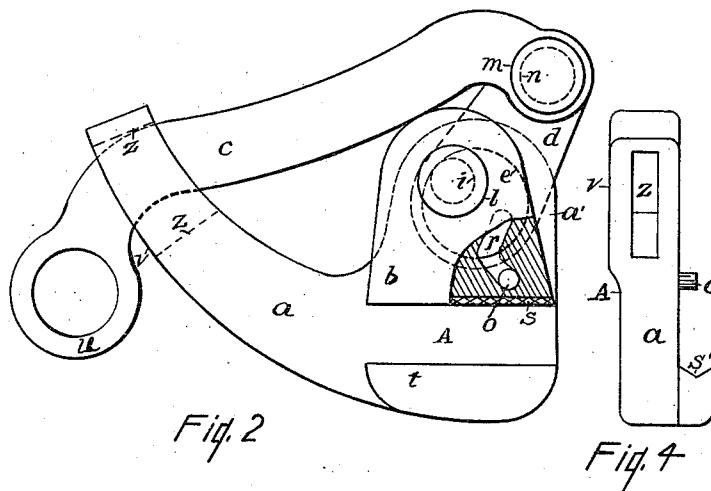
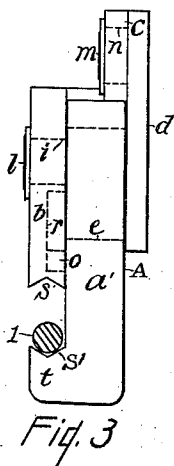
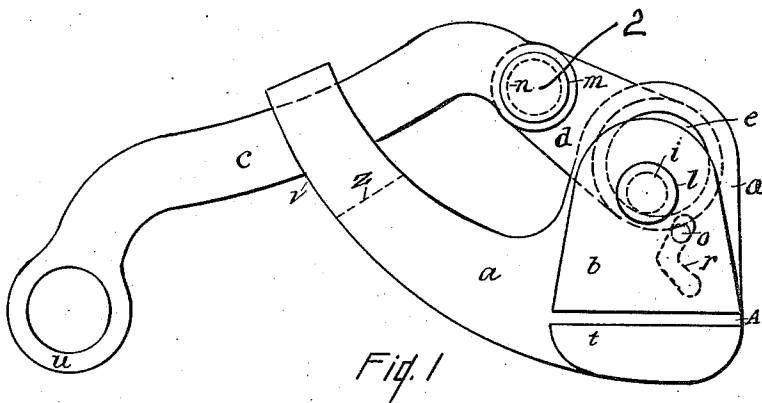


G. F. SWORTFINGER.
WIRE STRETCHER.
APPLICATION FILED JULY 9, 1912.

1,044,829.

Patented Nov. 19, 1912.



WITNESSES:
Geo. E. Mulelata
A. H. Taylor

INVENTOR
George Francis Swortfinger
BY
H. H. H. H.
ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE FRANCIS SWORTFINGER, OF EAST ORANGE, NEW JERSEY.

WIRE-STRETCHER.

1,044,829.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed July 9, 1912. Serial No. 708,472.

To all whom it may concern:

Be it known that I, GEORGE FRANCIS SWORTFINGER, a citizen of the United States, and resident of East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Wire-Stretchers, of which the following is a specification.

This invention relates to devices commonly called "come-alongs," used for stretching wires and cables. Its object is to provide a stretcher having not only a strong grip, but a grip that will not injure the wire or cable. One of the faults of such grips is, that their holding surfaces are so limited in area that they crush the parts held, and another and serious fault is, that the narrow gripping surfaces with the crushing force used kink the wire or cable at the point where the grip takes hold.

This stretcher affords a long gripping surface, holds securely without crushing, and does not kink or otherwise injure the wire or cable to be made taut.

The objects are attained by the means set forth in this specification and the accompanying drawings.

Referring to the drawings, in which like letters and numerals refer to similar parts in the several views, Figure 1 is a front elevation of the stretcher, showing the gripping jaws nearly closed. Fig. 2 is a front elevation of the stretcher showing the gripping jaws wide open. Fig. 3 is an end elevation of the stretcher, and Fig. 4 is an end elevation of the body piece of the stretcher.

A body A shown in all the figures, has an extended curved arm *a* which is slotted as at *z*, shown in Figs. 1, 2, 4, and a projection *a'*. The body is of steel and is plain upon its sides except a projecting lug *t* upon the front lower angle which constitutes one of the gripping jaws, and is thickened on one side as at *v* to allow for the slot *z*, these features being particularly shown in Fig. 4.

The projection *a'* is bored to receive a shaft *e*, Figs. 1, 2, 3, of a crank *e d*. The crank part *d* lies flush with the rear face of the body A, and the shaft *e* is provided with a wrist-pin *i* set eccentric to the center of the shaft, as in Figs. 1 and 2. A movable plate *b* is bored to sit upon the wrist-pin, and its lower face is parallel with and conforms to the face of the lug *t*. The plate is retained upon the wrist-pin and

against the part *a* by means of a head *l* on the pin. Vibrating the crank gives a reciprocating movement of the plate *b* to and from the lug *t*. To retain the plate in a position vertical with respect to the lug *t*, a groove *r* is provided in the side of the plate next the body A, and a pin *o* fast in the body projects into the said groove. By giving an angular shape to the groove as shown in Figs. 1 and 2, a nearly parallel movement is obtained of the face-edge of the plate to and from the lug *t*.

A lever *c* is passed through the slot *z* in the body projection *a'*. One end of the lever, as at 2, Figs. 1, 2, 3, is pivoted to the crank *d* at 2, by means of a pin *n* and head *m*. The outer end of the lever *c* is ring shaped as at *u*, for the attachment of pulling means. The lever is given a slight curve so that in its lateral movement the ring end will have a movement nearly parallel with the gripping faces of the parts *b t*.

The gripping faces of the parts *b t* are longitudinally grooved, as shown at *s s'*, Figs. 3 4, to enable them to grasp a wire or cable, a wire being represented at 1, Fig. 3. The faces of the grooves are roughened as at *s*, Fig. 2. In the Fig. 2 the plate *b* is shown as partly cut away to show the groove *r* and pin *o*.

In operation, pushing the ring end of the lever toward the body A opens the gripping jaws as shown in Fig. 2, and pulling upon the lever closes the jaws as in Fig. 1, and the long clamping surfaces of the gripping jaws gives a tight hold and covers so much surface of the wire or cable acted upon that no injury follows to the wire or cable; and as kinking is caused chiefly by crushing, this stretcher leaves no kinks in its operations.

Having described this invention, what I claim and desire to secure by Letters Patent, is—

The combination in a wire stretcher of a body, an arm extension on the body slotted in the end for a lever guide, a crank, the shaft of the crank having a bearing in the body, a wrist-pin in the crank shaft eccentric to the center of the shaft, a reciprocating gripping plate resting against the body and engaging with the wrist-pin, one edge of the plate constituting the gripping face, a lug on the body with a face at right angles to the body, the gripping face

of the gripping plate parallel with the face of the lug, the two faces grooved to close upon a wire, an angular groove in the plate and a pin in the body to engage with the groove, and a lever pivoted to the arm of the crank and extended through the slot in the arm extension of the body.

Signed at Newark in the county of Essex and State of New Jersey this 6th day of July A. D. 1912.

GEORGE FRANCIS SWORTFIGER.

Witnesses:

GEO. E. MUTCHLER,
A. H. TAYLOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
