(No Model.)

F. D. KNIGHT & G. E. WHITTAKER.

WIRE CUTTER.

No. 457,878. Patented Aug. 18, 1891.

Fig. 4.

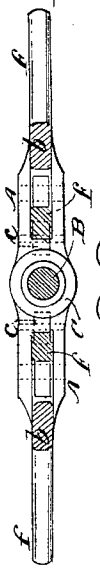


Fig. 3.

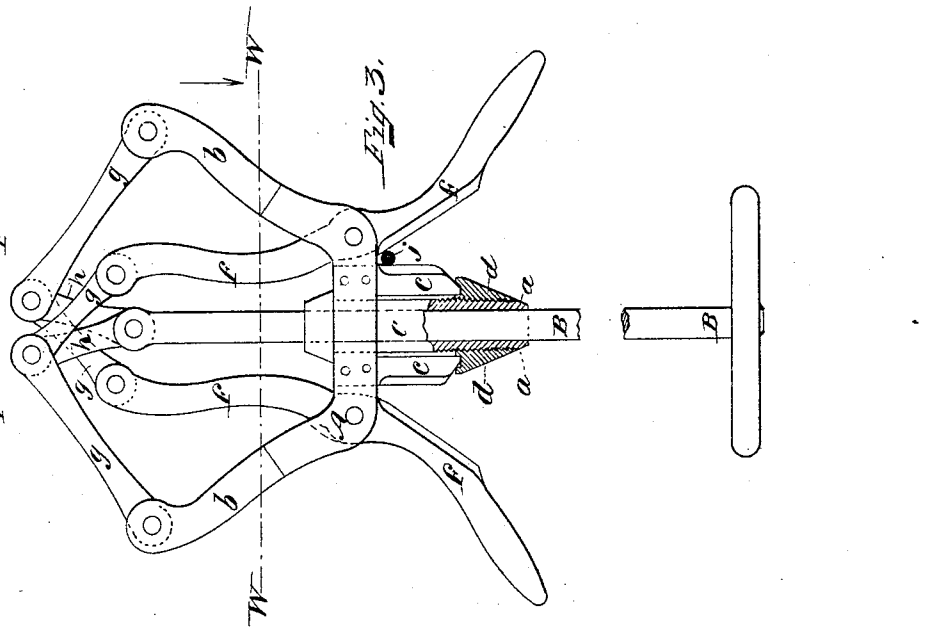


Fig. 2.

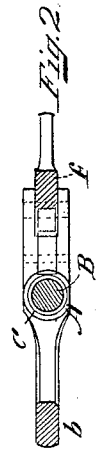
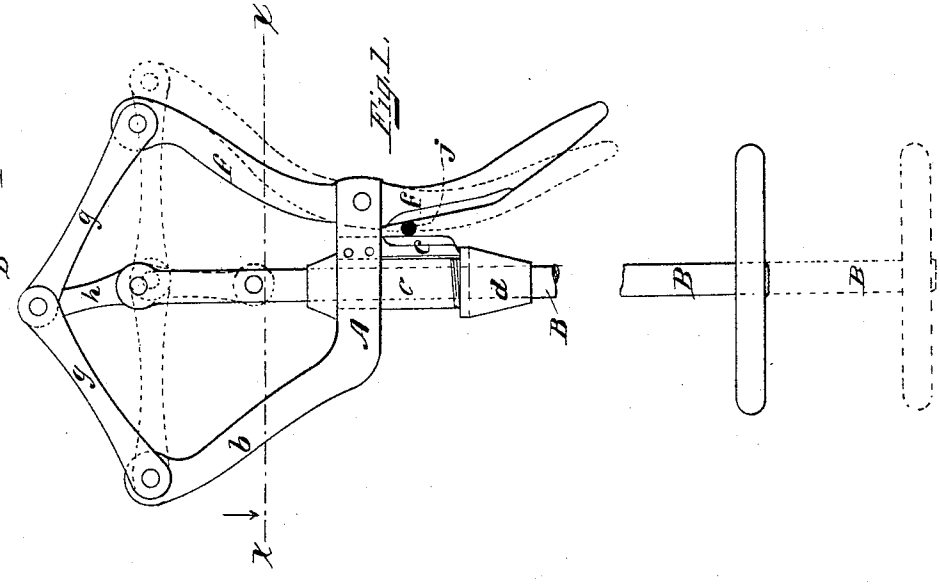


Fig. 1.



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UNITED STATES PATENT OFFICE.

FRANK D. KNIGHT AND GEORGE E. WHITTAKER, OF HUDSON, MASSACHUSETTS.

WIRE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 457,878, dated August 18, 1891.

Application filed March 25, 1891. Serial No. 386,304. (No model.)

To all whom it may concern:

Be it known that we, FRANK D. KNIGHT and GEORGE E. WHITTAKER, of Hudson, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Wire-Cutters, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

In said drawings, Figure 1 is a side elevation of our wire-cutter as made with the cutting-jaws at one side only. Fig. 2 is a sectional plan view, the section being taken on line X, Fig. 1, and the view as from above that line. Fig. 3 is a view similar to Fig. 1, but with the cutting-jaws duplicated at the respective ends of the frame. Fig. 4 is a view similar to Fig. 2, but with the section on line W, Fig. 3.

The object of our invention is to provide a wire-cutter for severing overhead wires, which may be mounted upon and operated by a rod, pole, or handle of any desired length, and which engages the wire by a downward movement of the cutter, and after such engagement is caused will, by a still further forcible downward movement, sever the wire by the action of the cutting-jaws.

The invention consists in a frame having a transverse passage, in which is arranged the sliding handle or rod, with both a fixed and a pivoted vibrating jaw arranged in said frame at one or both sides of said handle, according as the cutter is single or double, and when so single a toggle-joint having its center connected with the head of the handle and one of its members or arms being pivoted to said vibrating jaw and the other to a rigid arm of the frame, is employed for vibrating the jaw by the sliding movement of the handle, while when the cutter has two pairs of cutters there are two pairs of toggle-joints, respectively, attached to the cutters and to the arms of the frame, with their meeting ends connected directly together, while connector-rods connect the head of the handle with the pivotal centers of said toggle-joints, as will be hereinafter pointed out.

Referring again to said drawings, A represents the frame, which is formed with a central boss *a*, through which the rod-like handle B slides freely, which handle may, as already stated, be of any desired length. A fixed cutting-jaw *c* is secured at its upper end in a central slot in frame A, while its lower end is seated and secured in a concentric groove formed in the upper face of nut *d*, threaded upon the lower end of boss *a*. The vibrating jaw is shown at *f*, and is pivoted in frame A adjacent to jaw *c*, as shown. A pair of arms *g g*, constituting a toggle-joint, are respectively pivoted at their outer ends to said jaw *f* and to an arm *b* of frame A, while the inner or meeting ends are pivoted together and are connected with the head of rod B by rod *h*, as shown in Fig. 1, where but one pair of jaws are employed. It will be obvious that when the rod B is held vertical the weight of the frame and coacting parts will depress the frame, thereby causing the knuckle-joint to open jaw *f* to admit the line-wire *j* between the jaws, when, after placing the jaws astride the wire to be cut by drawing down upon the handle, the arch of the knuckle-joint will be reduced, thereby forcing the cutting portion of jaw *f* inward and severing the wire. When two pairs of cutting-jaws are employed, as in Figs. 3 and 4, the arms *g g* and the cutting-jaws are duplicated, as shown in said figures, and the rods *h h* are connected with each toggle-joint and with rod B, as shown, either method embodying the essential nature of our invention; but we prefer the single pair of jaws as being less complex and equally effective in operation. Our cutter is, as will be apparent, especially designed to sever overhead line-wires which are held taut upon their supports.

We claim as our invention—

1. In a wire-cutter, the combination of a suitable frame, a rod-like handle arranged to

slide in said frame, a fixed and a vibrating jaw supported in the frame, and a toggle-joint connected at its center with said handle and at its ends with the frame and vibrating jaw, substantially as specified.

2. The combination of frame A, having one or more arms *b*, rod B, arranged to slide freely in said frame, the fixed jaw *c* and the vibrating jaw *f*, extended above and below the frame, and the toggle-joint pivoted to arm *b* and to the cutting-jaw and at its center connected to rod B, all substantially as specified.

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