J. BRADY.
Wire-Cutter.

No. 219,681. Patented Sept. 16, 1879.

Fig4

Fig5.

Fig1.

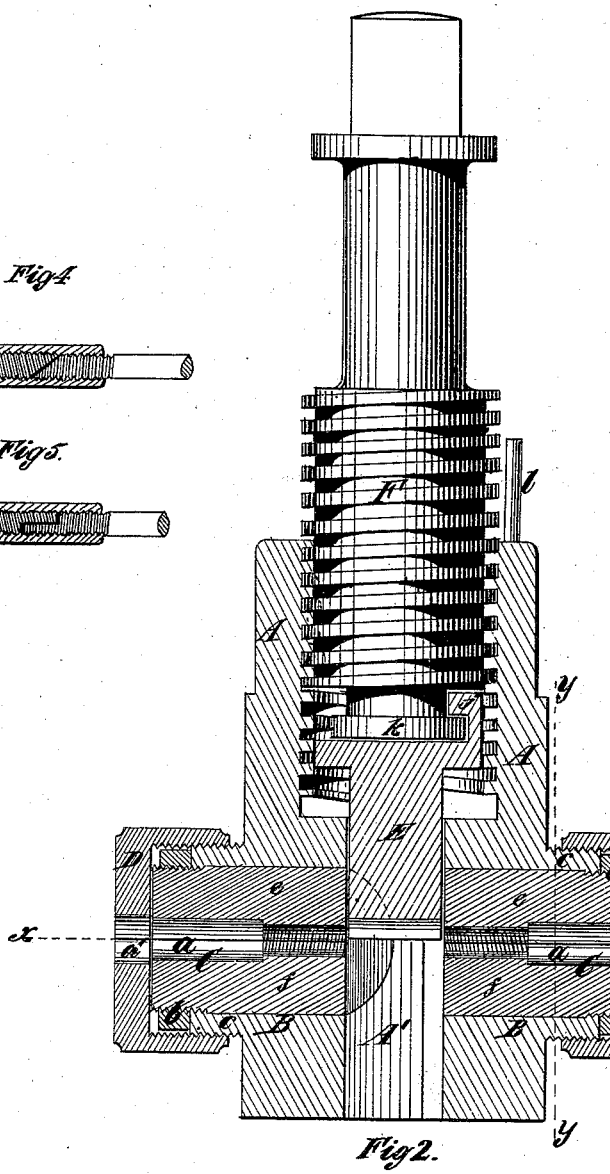


Fig3.

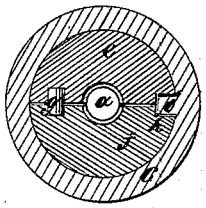
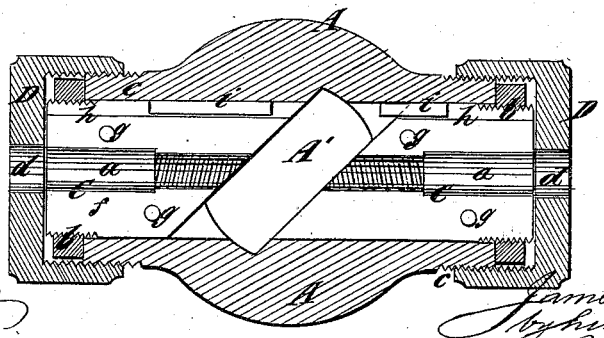


Fig2.



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UNITED STATES PATENT OFFICE.

JAMES BRADY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN WIRE-CUTTERS.

Specification forming part of Letters Patent No. **219,681**, dated September 16, 1879; application filed January 24, 1879.

To all whom it may concern:

Be it known that I, JAMES BRADY, of Brooklyn, in Kings county and State of New York, have invented certain new and useful Improvements in Instruments for Cutting Wire, of which the following is a description.

The object of my invention is more particularly to provide an instrument for cutting off simultaneously the ends of two wires, metal rods, &c., to produce correspondingly-inclined or otherwise matching faces, so that when the ends are placed together and united by a coupling provided with right and left hand screw-threads, a perfect scarf-joint is formed, which effectually precludes either of the wires from becoming unscrewed independently of the other. The joints thus formed are particularly applicable for uniting the ends of wire used in bridge-cables and like structures.

In the accompanying drawings, Figure 1 designates a central vertical section of an instrument embodying my improvements; Fig. 2, a transverse section on the dotted line *x x*, Fig. 1; Fig. 3, a transverse section of the dies for holding the wire, taken on the dotted line *y y*, Fig. 1; Fig. 4, a side view of two wires having inclined faces united by a coupling, and Fig. 5 a side view of two wires having faces formed to produce an angular lap united by a coupling.

Similar letters of reference designate corresponding parts in all the figures.

A designates the body of my instrument, which is, preferably, formed of wrought-iron or steel. It is provided with a mortise or opening, A′, represented as of rectangular form, extending longitudinally through it, and with one or more transverse openings, B, intersecting the mortise A′, as clearly represented in Fig. 2.

The transverse openings B are preferably made sufficiently large to receive bushes or dies C, which are preferably of hardened steel, and have holes *a*, through which wires to be cut may be inserted. The inner ends of the bushes or dies C are represented as slanted or inclined correspondingly to each other.

In order to hold the bushes or dies accurately, so that their inner ends are kept flush with the sides of the mortise or opening A′, I form screw-threads upon their outer ends and provide them with adjustable collars *b*, whereby the said bushes or dies are held securely against inward displacement. To preclude outward displacement of said bushes or dies, I employ caps D, which are preferably provided with internal screw-threads, engaging with external screw-threads upon bosses or hubs *c*, projecting from the body of the instrument.

d designates holes through the caps D, through which wires may be inserted.

In order the better to hold wires while being cut, the bushes or dies C are provided with internal screw-threads through a portion of their length, the screw-thread in one bush or die being right-handed, and that in the other bush or die being preferably left-handed.

In order to better remove pieces of wire which might be broken off in the bushes or dies, I form them in two or more sections, *e f*, (see particularly Fig. 3,) and provide their faces with steady-pins *g*.

By unscrewing either of the caps D, one bush or die may be withdrawn from its openings in the body A, and after the collar *b* is unscrewed, the two sections *e f* may be separated, allowing the pieces of broken wire to fall out.

To prevent the bushes or dies from turning in the openings in the body A, I have shown them as furnished with longitudinal grooves *h*, (see particularly Fig. 3,) and the body as provided with feathers or splines *i*, projecting into the grooves *h*.

It is very desirable to have the bushes or dies C internally screw-threaded, as in that case the burr left upon the end of the wire after cutting will be removed in unscrewing the wire from the bush or die.

E designates a cutter, corresponding in shape to the mortise or opening A′, and fitting snugly therein.

F designates a screw, to which the cutter may be attached, and by which it may be actuated. This screw is held in a screw-threaded socket in the body A, and the cutter is attached thereto by means of a projecting flange, *j*, which overlaps a collar, *k*, upon the end of the screw. One side of the flange *j* is left open, so that the cutter may be removed laterally from the screw after the latter is detached from the body A.

A pin, *l*, fixed to the body, forms a gage for the movement of the screw.

I will now proceed to describe the operation of my invention. The wires to be cut are, preferably, first provided with right and left handed screw-threads, and their ends introduced into the bushes or dies C. The whole instrument is then revolved about the axis of the bushes or dies C, and the wires are drawn inward into said dies or bushes by the action of the right and left hand screw-threads in the bushes or dies C. When the ends of the wire protrude sufficiently into the mortise or opening A′, the cutter E is forced down by means of the screw F, which may be turned by a wrench applied to its upper end, and the two wires are cut simultaneously.

The form and arrangement of the dies C C and cutter E represented are for cutting wires to form a joint with oblique faces, as shown in Fig. 4; but the dies may be suitably formed and arranged to cut off the ends of the wires square or of any other form—as, for instance, of a form to produce an angular lap, as illustrated by the joint represented in Fig. 5.

By my invention I produce an instrument by which the ends of two wires may be cut off simultaneously, having correspondingly-formed ends, so that when secured by a coupling having a right and left hand thread, they will form a perfect scarf-joint.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a body provided with a mortise or opening extending longitudinally through it, and two transverse openings intersecting said longitudinal mortise or opening upon opposite sides, of bushes or dies for said transverse openings, collars adjustably secured to said bushes or dies to prevent inward displacement, and caps adjustably secured to said body to prevent outward displacement, and conjointly providing for the adjustment of said bushes or dies, substantially as specified.

2. The combination, with a body provided with a mortise or opening extending longitudinally through it, and two transverse openings intersecting said longitudinal mortise or opening upon opposite sides of female screw-threaded bushes or dies fitted to said transverse openings and formed in sections, substantially as and for the purpose specified.

3. The combination of the body A, with its mortise or opening A′ and transverse openings B, bushes or dies C, collars *b*, caps D, cutter E, and screw F, substantially as and for the purpose specified.

JAMES BRADY.

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