

(No Model.)

C. F. STACKPOLE.
ROD CUTTING INSTRUMENT.

No. 346,178.

Patented July 27, 1886.

Fig:1.

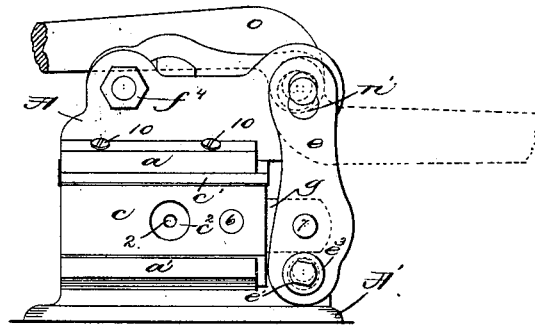


Fig:2.

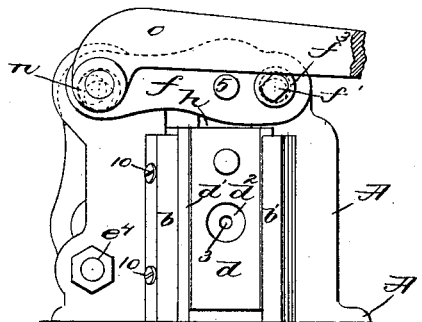


Fig:3.

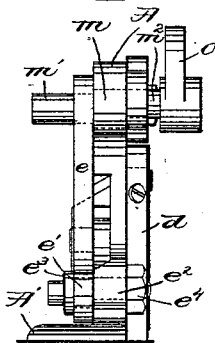


Fig:5.

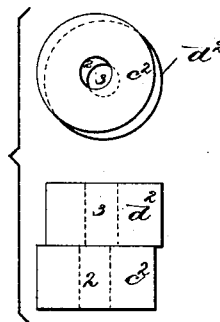
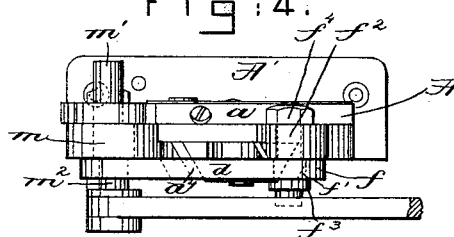


Fig:4.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES F. STACKPOLE, OF LYNN, MASSACHUSETTS.

ROD-CUTTING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 346,178, dated July 27, 1886.

Application filed September 26, 1885. Serial No. 178,211. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. STACKPOLE, of Lynn, county of Essex, and State of Massachusetts, have invented an Improvement in Rod-Cutting Instruments, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct a rod-cutting device of great leverage and power, whereby a rod or wire may be easily and quickly severed and the ends of the rod so severed left straight and smooth or devoid of ragged edges, the diameter not being appreciably changed, thereby obviating the necessity of subsequently finishing the severed ends of the rod, and enabling the rod to be immediately employed to fit a socket of the same diameter as the rod previous to the cutting. The invention consists of a frame, a pair of die-blocks moving substantially at right angles to each other in the said frame, provided with dies which register while the die-blocks are in a given position, and a pair of levers pivoted to the frame and connected, respectively, with the die-blocks, combined with a rotating shaft mounted within the frame, and wrist-pins projecting from the opposite ends of the said shaft, to which are connected the pair of pivoted levers, and by means of which the said levers are turned on their pivots to move the die-blocks, and means, substantially as will be described, for rotating the said shaft. The wrist-pins preferably project from the opposite ends of the shaft at different points in the circumference of a circle described by the said wrist-pins as the shaft is rotated, so that one commences to move its operating parts prior to the other.

Figure 1 represents in front elevation a rod or wire cutter constructed in accordance with this invention, the operating-lever being broken off; Fig. 2, a rear view thereof; Fig. 3, a right-hand end view of Fig. 1; Fig. 4, a top view, and Fig. 5 details of the die removed from the die-block.

The frame A, provided with a base, A', is of suitable shape to support the working parts. Integral with the frame A, and located upon each side thereof, are ribs a a', the pair a' extending longitudinally and the pair b b'

extending vertically with relation to the frame. The adjacent faces of the ribs a a' are cut away to present dovetailed recesses, in which slide dovetailed die-blocks c d, suitable gibs, c' d', being interposed and secured by screws 10 to the ribs a b to retain the die-blocks c d in position. The die-blocks c d are each provided with dies c' d', having holes 2 3, through which the rod or wire to be cut passes, the said dies being located about midway of the die-blocks, so that when moved into a given position the holes 2 3 will register.

The die-blocks c d are moved longitudinally and vertically, respectively, by the levers e f, secured to eccentrics e' f', (shown in dotted lines,) the said eccentrics in turn being mounted upon shafts e' f', passing through and freely rotating within the frame A, said shafts having collars e' f', to prevent the removal of the levers e f, and screw-threaded and supplied with nuts e' f' at their opposite ends, to prevent the withdrawal of the shafts, the said levers e f herein consisting of flat pieces of metal, and thus pivoted are respectively connected loosely with the die-blocks c d by links g h, secured by studs 4 5 6 7.

The levers e f are moved upon their pivots as follows: The shaft m (see dotted lines, Figs. 3 and 4) is fitted to freely rotate within the upper portion of the frame A, and is provided with two wrist-pins, m' m'', projecting therefrom at the opposite ends, the said wrist-pins passing through and working in slots n n' in the end of the levers e f opposite their pivotal connections, so that as said shaft m is rotated the wrist-pins m' m'' rock the levers e f on their pivots, thereby moving the die-blocks c d.

As very little movement is required to cut off a rod or wire, the die-blocks need move only a short distance, and consequently the shaft m need only be partially rotated. Hence an operating-lever, o, is supplied, which is herein shown as splined to the wrist-pin m'', movement of the said lever o back and forth in the arc of a circle imparting to the shaft m a rotary reciprocating motion.

The wrist-pins m' m'' preferably extend from the opposite ends of the shaft m at a different point in the circumference of a circle which they describe as the said shaft m is rotated, so that one may commence to move its operat-

ing parts prior to the other, although it is obvious that this is not a necessity.

The interior of the frame A is cut away, permitting the dies $c^2 d^2$ to bear against each other, 5 or nearly so, as shown in Fig. 5.

Normally, the operating-lever o is in the position shown in Fig. 1, and in such position the holes 2 3 of the dies $c^2 d^2$ register. The rod or wire to be cut is then passed through both 10 holes, and the operating-lever is turned on its pivot into the dotted-line position, Fig. 1. During the first part of the movement of the said lever o the shaft m commences to rotate, the levers $e f$ are moved on their pivots, there- 15 by moving the die-blocks $c d$ longitudinally and vertically, respectively. The rod to be cut is thus acted upon by the die c^2 on oneside, while its opposite side is pressed against the die d^2 , and is also acted upon by the die d^2 at 20 the top, while its opposite side is pressed against the die c^2 , thereby acting upon the rod at four points to sever it.

As herein shown, the wrist-pins $m' m^2$ being differently located with relation to the shaft 25 m , as above described, the die c^2 is caused to act upon the rod to be cut before the die d^2 , which movement tends to produce a somewhat better result, although a simultaneous movement of the die-block gives a good result.

30 If desired to obtain a stronger bearing for the shaft m , a similar shaft may be employed, connected with the wrist-pin m' , and having its bearings in a supplemental bracket secured to the frame A.

35 The holes for the entrance of the rod to be cut may be made directly through the die-block, which would of necessity be made of hardened steel or similar material. It is also obvious that the shaft m may be arranged to 40 be rotated by power, if desired, without departing from this invention. It is also obvious that the die-block may be retained in position and made to slide by any other means than a dovetail connection.

45 If desired, the die-blocks may have a series of dies of varying diameters to compensate for rods of varying diameters.

I claim—

1. An improved rod or wire cutter consisting of a frame and a pair of die-blocks mov- 50 ing in said frame substantially at right angles to each other, said die-blocks having holes, through which the rod to be cut is passed, which register when the dies are in a given position, substantially as described. 55

2. An improved rod or wire cutter consisting of a frame and a pair of die-blocks moving in said frame substantially at right angles to each other, said die-blocks having holes, through which the rod to be cut is passed, 60 which register when the dies are in a given position, a rotating shaft, and means, substantially as described, connecting said die-blocks with said shaft, whereby the die-blocks are moved as the shaft is rotated, substantially as 65 described.

3. The frame and die-blocks moving therein, combined with the pivoted levers $e f$, for moving said die-blocks, the rotating shaft m , and wrist-pins $m' m^2$, leading therefrom, and 70 means, substantially as described, for rotating the said shaft m , as set forth.

4. The frame and the die-blocks moving therein, combined with the levers $e f$ and their eccentric pivots, the links $g h$, the rotating shaft m , and wrist-pins leading there- 75 from, and the operating-lever o , substantially as described.

5. The frame and the die-blocks moving therein, combined with the levers $e f$ and 80 connecting-links $g h$, the rotating shaft m , and the wrist-pins leading therefrom at different points in the circumference of the circle of which they describe, substantially as described. 85

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHAS. F. STACKPOLE.

Witnesses:

B. J. NOYES,
F. CUTTER.