W. H. PALMER & W. A. ROOT.

Wire or Rod Cutter.

No. 230,807. Patented Aug. 3, 1880.

Fig. 1

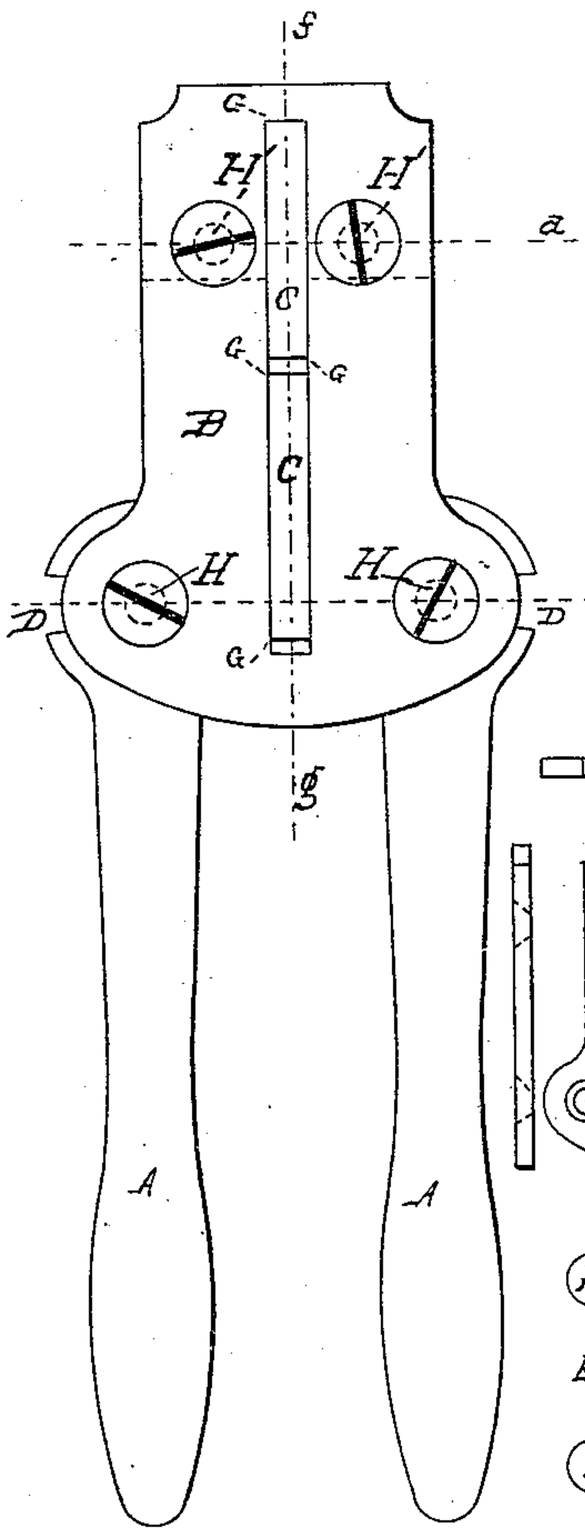


Fig. 2.

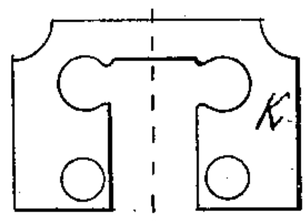


Fig. 3

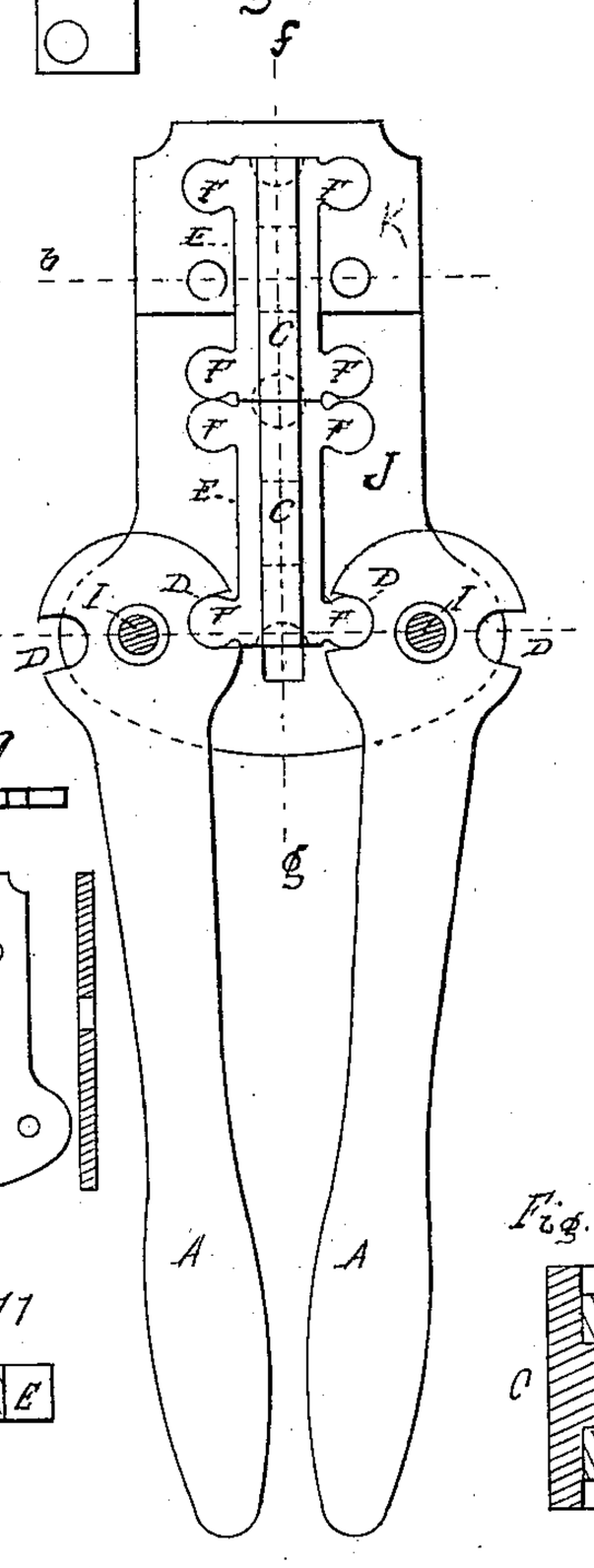


Fig. 8

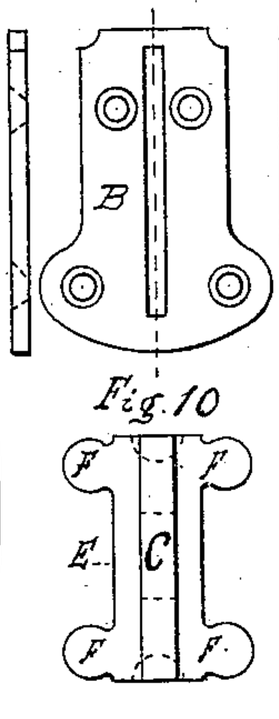


Fig. 9

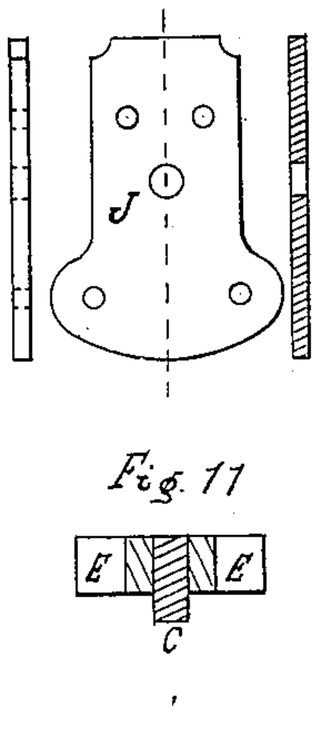


Fig. 10

Fig. 11

Fig. 12

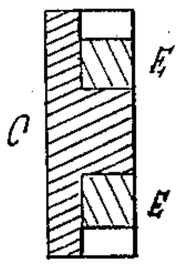


Fig. 4

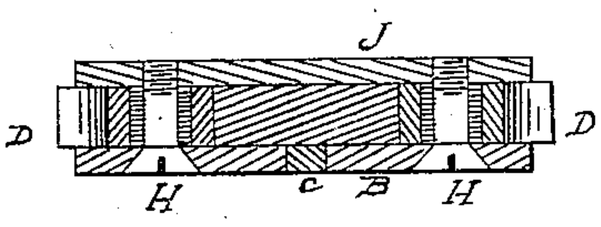


Fig. 5.

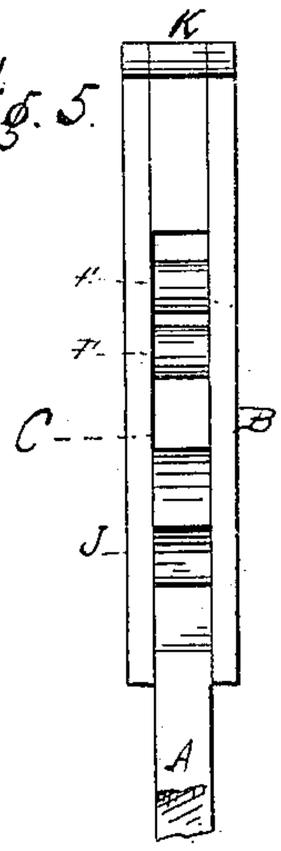
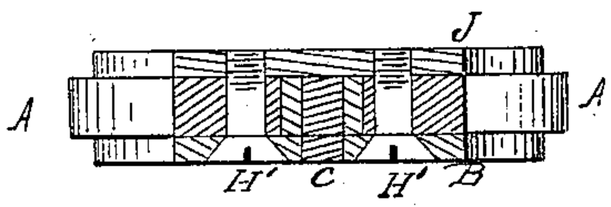


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM H. PALMER, OF ELIZABETHTOWN, AND WILLIAM A. ROOT, OF NEW YORK, ASSIGNORS OF ONE-THIRD OF THEIR RIGHT TO CHARLES N. WILLIAMS, OF ELIZABETHTOWN, N. Y.

WIRE OR ROD CUTTER.

SPECIFICATION forming part of Letters Patent No. 230,807, dated August 3, 1880.

Application filed December 12, 1879.

To all whom it may concern:

Be it known that we, WILLIAM H. PALMER, of Elizabethtown, in the county of Essex and State of New York, and WILLIAM A. ROOT, of the city, county, and State of New York, have invented a new and useful Improvement in Wire or Rod Cutters, of which the following is a specification.

The invention relates to hand tools or shears for use, where other than hand-power is not convenient, in cutting wire or metal rods and bars into desired lengths for rivets, &c., and for trimming the ends of same after burrs or washers are in position.

The object of our invention is to provide a tool or hand-machine that can be easily carried about, that can be applied to wire in the coil or straight, or iron in the bar or rod, and that will at one operation cut the same smooth and flush with the face of a gage or guide, or with the surface of anything through which the same may project.

The invention consists of two reversible and interchangeable cutting-dies placed opposite each other in a frame, one of which is held rigidly in position by means of a seat or recess in said frame, into which it fits, the other of which is actuated by two reversible and interchangeable levers or handles, which force it against said rigid cutting-die or draw it away therefrom.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a top view of our device. Fig. 2 is a longitudinal section on the line *f g*, Figs. 1 and 3. Fig. 3 is a view of our device with the top plate removed. Fig. 4 is a transverse section on the line *d e*, Figs. 1, 2, and 3. Fig. 5 is a side view of our device. Fig. 6 is a transverse section on the line *a b*, Figs. 1, 2, and 3. Fig. 7 is a side view of the end plate, K, Fig. 5. Fig. 8 are views of the top plate, B, in Fig. 1. Fig. 9 are views of the bottom plate, J, in Fig. 3. Fig. 10 is a view of one of the reversible and interchangeable cutting-dies as it appears when detached; they being both alike, but one is shown in the drawings. Fig. 11 is a transverse section of the cutting-die on the line *a b*, Fig. 3; and Fig. 12 is a longitudinal section of one of the cutting-dies on the line *f g*, Fig. 3.

The plates B, Fig. 8, and J, Fig. 9, together with the end piece or plate, K, Fig. 7, constitute the frame-work or body of the tool. The said frame-work is securely held together by means of the screws H′ H′, Fig. 1, passing through the said plate B and into the plate J, threads having been cut in said plate J for the reception of the thread ends of said screws H′ H′, and the end piece or plate, K, Fig. 7, having been first placed between the smaller ends of the said plates B and J. The end piece or plate, K, is held in position between the plates B and J by means of the screws H′ H′ passing through suitable holes in the said plate K. The reversible and interchangeable cutting-dies C C, Figs. 1 and 3, one of which is also shown detached in Fig. 10, are placed opposite each other, between the plates B and J, (see Fig. 3,) and held in position by means of their base-plates E E, to which they are secured in any well-known manner. Said base-plates E E are of a larger surface than the cutting-dies C C, fastened thereto, thus also furnishing flanges for said cutting-dies C C. The base-plates E E are provided with circular projections F F F F, Figs. 3 and 10, upon each of their corners, which projections serve the following purpose, viz: to hold the upper of the two cutting-dies C C securely in position by fitting into recesses in the end plate, K, Fig. 7, by projecting slightly beyond the cutting-edges G G of the dies C C, (see Fig. 1,) thus preventing the said dies C C from quite meeting and dulling their said cutting-edges G G upon each other, and by fitting into recesses D D in the levers A A, Figs. 1 and 3, hereinafter described.

The cutting-dies C C, Fig. 1, are prevented from having a lateral movement by means of a slot in the upper plate, B, Figs. 1 and 8, into which they fit in such a manner that their faces coincide with the outer surface of the said plate B. This slot is of a length somewhat greater than that of the two cutting-dies C C combined, thus admitting of the lower of the two cutting-dies C C having a limited longitudinal movement. Each of the levers A A, Figs. 1 and 3, is formed with one of its ends circu-

lar-shaped, and provided with a pivot-hole, I, in said circular-shaped end, and a circular depression, D D, in each of its sides in said circular-shaped end, and in line with each other and the said pivot-hole I. (See Fig. 3.) The screws H H, Fig. 1, serve as pivots for the levers A A, Figs. 1 and 3, and also assist in fastening the tool together.

The screws H H and H′ H′, Fig. 1, may be either screws, (as represented,) bolts, or rivets.

The combination of the several parts to form the complete tool is effected as follows: The levers A A, the plates E E, to which the cutting-dies C C are securely and permanently attached, and the end plate, K, are all placed in position on the under plate, J. (See Fig. 3.) The plate B is then placed over them, and the screws H H and H′ H′ screwed down tight, thus combining and securing all the parts to form the tool, as shown in Fig. 1.

The operation of the tool is as follows: The levers A A are first moved outward in opposite directions or away from each other, thus opening the tool. The article to be severed is then placed between the cutting-dies C C; after which the levers A A are moved toward each other, thus forcing the lower of the two dies C C into contact with the said article to be cut, which is also, and at the same time, forced by the lower of said dies C C against the upper of said dies C C, thus bringing one of the cutting-edges of each of said dies C C into contact with the article to be severed, and upon opposite sides thereof.

What we claim is—

1. The combination of two reversible and interchangeable cutting-dies with actuating-levers, substantially as shown and described.

2. The reversible and interchangeable plates E E, having semicircular projections upon each of their corners, substantially as shown and described.

3. The reversible and interchangeable pivoted levers A A, in combination with the cutting-dies C C and plates E E, substantially as described.

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