T. S. WILD.

Screw-Tap.

No. 160,559. Patented March 9, 1875

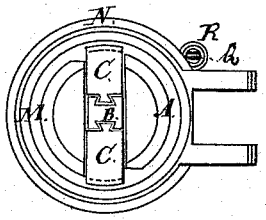

Fig. 3.

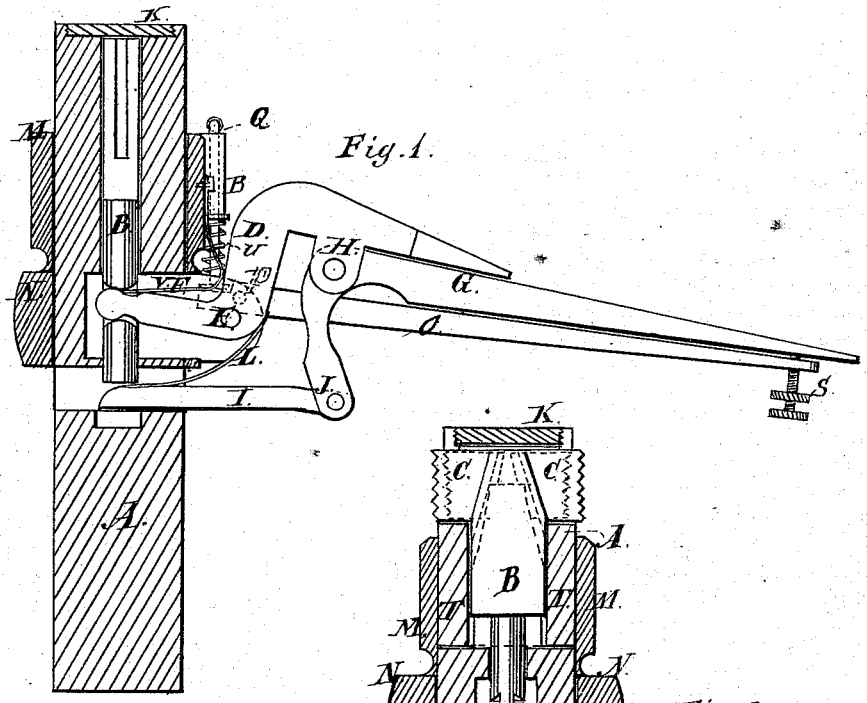

Fig. 1.

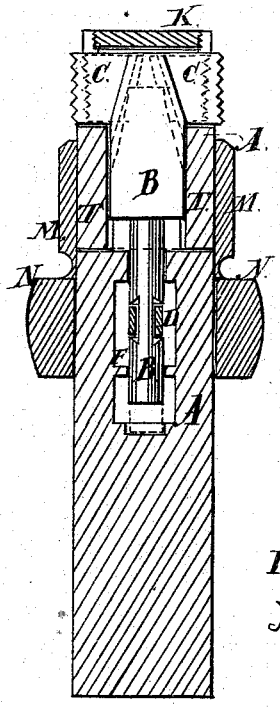

Fig. 2.

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UNITED STATES PATENT OFFICE.

THOMAS S. WILD, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SCREW-TAPS.

Specification forming part of Letters Patent No. **160,559**, dated March 9, 1875; application filed December 22, 1874.

To all whom it may concern:

Be it known that I, THOMAS SAMUEL WILD, of Chicago, county of Cook, State of Illinois, have invented an Improved Tap for Cutting Screw-Threads, of which the following is a specification, reference being had to the accompanying drawings which form a part thereof.

The object of my invention is to facilitate the adjustment of the dies which cut the screw-thread, so that the tap can be adjusted to any position or removed from its work.

The nature of my invention consists in the novel construction of the die-holder, in combination with the sliding piece I; and, also, in a sort of compound lever, with which the die-holder is operated; in combination with the same, the sliding stop, for operating the dies automatically; and in the novel construction of the tap-stock, as hereinafter more fully described.

In the annexed drawing, Figure 1 represents a longitudinal sectional view of the tap-stock, showing the compound lever and the edge of the die-holder. Fig. 2 represents a longitudinal section of the tap-stock, showing a side view of the die-holder and dies; and Fig. 3 shows an end view of the tap-stock with the levers and end plate removed.

A represents the tap-stock, slotted and bored out at its end to receive the die-holder B. C are the dies, having a dovetailed tenon on one edge, which fit and slide in a correspondingly-shaped groove in the slanting edge of the die-holder. D is a pointed lever, pivoted at E. The short end of the lever extends into the recess F in the tap-stock, and straddles the stem of the die-holder, in such a manner as to operate it, as hereinafter more fully described. G is a second hand-lever, pivoted to the long arm of the lever D at H; and I is a sliding piece, pivoted to the short arm of the lever G at J. This sliding piece passes beneath the stem of the die-holder B, and holds it thrust out when the tap is in operation, the stem of the tap resting upon the sliding piece I.

When it is desired to remove the tap from its work, by raising the lever G the slide piece I is first withdrawn from beneath the stem of the die-holder B, when the long arm of lever G strikes the long arm of the lever D, as shown in Fig. 1, and then the lever D vibrates upon its pivot E, and forces the die-holder to recede, as shown by dotted lines in Fig. 2. The dies C slide in the grooves in the edges of the die-holder as the die-holder recedes, as above described, and because of of the tapering form of the die-holder, as shown, the dies are drawn entirely within the tap-stock, as shown by dotted lines in Fig. 2. The tap can be instantly removed from its work by the operator adjusting the lever, as above described, which withdraws the dies from the thread.

K is a plate screwed into the end of the tap-stock, to hold the dies in place and to cover the working parts of the tap. L is a spring, attached to the lever D and resting upon the sliding piece I, to hold it in place. M is a strengthening-ring shrunk upon the tap-stock, to strengthen it; and N is also a ring or band attached to the tap-stock, to strengthen it and to make a bearing for the lever D. O is a lever, pivoted at P; and Q is a sliding rod, which is pivoted to the short arm of the lever O, and slides in the bearing or socket R. The long arm of the lever O extends beneath the lever G.

The object of this device is to set the sliding rod Q at such point, with reference to the cutters, that it will, at a certain point, strike the nut or other article being supplied and operate the lever O, which, striking against the lever G, will, through it, withdraw the dies into the position shown by the dotted lines in Fig. 2, as above described.

S is a thumb-screw, for gaging the sliding rod Q to have it stop the tap from cutting at the desired point. The end of the tap-stock A is slotted to the depth of the wide part of the stay of the die-holder B, and pieces T are put into this slot, to form guides for the die-holder B before the ring M is shrunk upon said tap-stock. U is a spring resting upon the top of the lever D; and V, a spring resting on the short arm of the lever O, to be held there in place.

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

1. The combination of the tap-stock A pro-

vided with a transverse recess or opening to receive the sliding piece I, the die-holder B, and the sliding piece I, substantially as and for the purposes specified.

2. The combination of the die-holder B, the compound levers D and G, and sliding piece I, substantially as described.

3. The combination of the sliding rod Q, the levers O and G, and sliding piece I, substantially as and for the purpose specified.

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