G. A. Ohl,

Expanding Tap,

No. 52,068. Patented Jan. 16, 1866.

Fig. 1

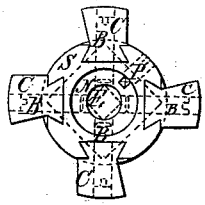


Fig. 2

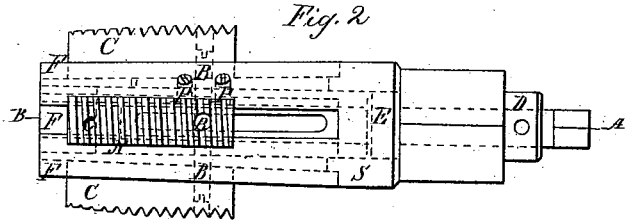


Fig. 4

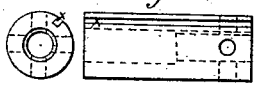


Fig. 3

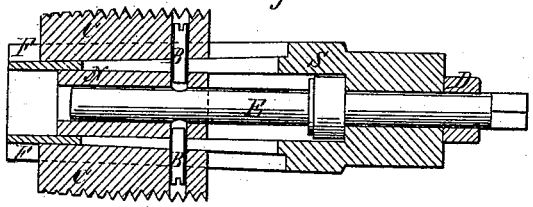


Fig. 6

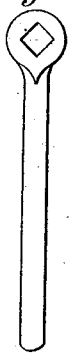


Fig. 5

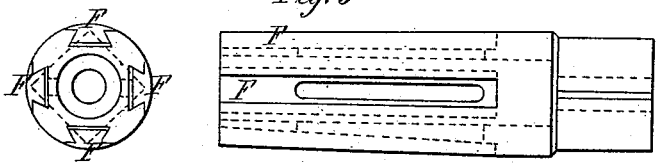
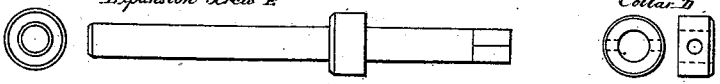


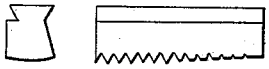
Fig. 7

Expansion Screw E



Collar D

Cutter C. Fig. 8



Witnesses.

Edel C. Collins
John E. Lyon

Inventor.
G. Adam Ohl

UNITED STATES PATENT OFFICE.

G. ADAM OHL, OF NEWARK, NEW JERSEY.

IMPROVED EXPANDING TAP.

Specification forming part of Letters Patent No. **52,068**, dated January 16, 1866.

To all whom it may concern:

Be it known that I, GEORGE ADAM OHL, of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Expanding Tap; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan or end view. Fig. 2 is a longitudinal or side elevation. Fig. 3 is a transverse section. Fig. 4 is the expanding-nut; Fig. 5, the stock or shank; Fig. 6, the wrench for expanding-screw; Fig. 7, the expanding-screw, and Fig. 8 the cutter or die.

My invention consists in providing means of moving the cutters C up and down in the dovetail slots F at will, thus enlarging or contracting the size of tap, which is often desirable, as when tapping a very thin tube or friable metal, which, with an ordinary tap, would be very liable to break, can be tapped with my improved tap with perfect safety by tapping at first with a light cut on the thread and gradually enlarging or expanding the cutters with each successive tapping until desired size is obtained.

A considerable advantage of my invention is found in the facility with which it can be used in fitting bolts of varying sizes but the same thread, as are often found in bolts cut in an engine-lathe by an incompetent or careless workman, and which oftentimes, but for my device, would have to be sent to be recut at great expense.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I drill through the shank S a hole for the reception of the expanding-screw E, and counterbore it for the reception of the expanding-nut N, which is moved longitudinally by means of the screw E. I also plane slab or mill dovetail slots F for the reception of the cutters C, which slots are at varying distances longitudinally from the axis of the shank, so that if the cutters C be moved up in these slots F the distance from edge of the cutters C to the axis of shank S is increased, thus enlarging or expanding the tap, and vice versa. These cutters are moved by means of the screws B passing through slots or openings in the shank and engaging the nut N, and thus moved up or down in the slots F as the nut N is drawn up or down by means of the screw E. The nut N is prevented from turning by means of the screws P passing through the shank and into the slot X in the nut N.

In taps of a small size the screw E takes the place of the nut N, and the nut is operated at the top, where the collar D is in the annexed drawings.

Another thing (not shown in the drawings) is a scale on shank to indicate the sizes of tap at different positions of cutters.

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

1. The peculiar form of shank and the arrangement of moving the cutters C by means of the internal screw E and nut N, or by any similar device.

2. The combination of the several parts described in specifications and annexed drawings.

J. ADAM OHL.

Witnesses:

C. C. COLLINS,

JOHN E. LYON.