J. COOK.
Screw-Taps.

No. 196,879. Patented Nov. 6, 1877.

Fig.1.

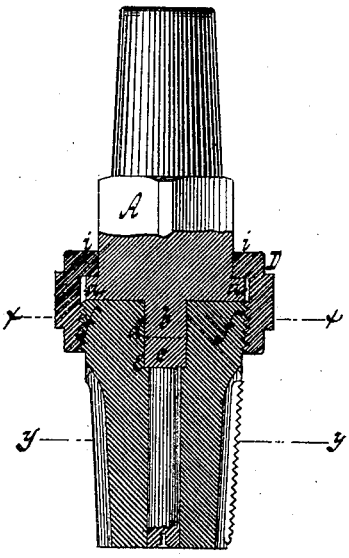

Fig.2.

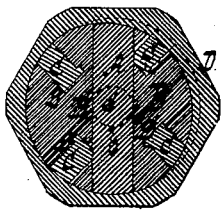

Fig.3.

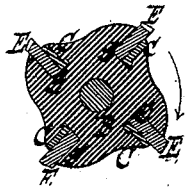

Fig.4.

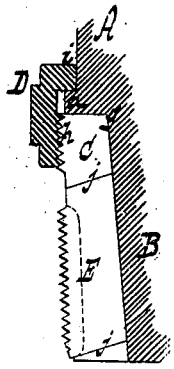

Fig.5.

Witnesses.
Otto Lupeland
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by
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his attorneys

UNITED STATES PATENT OFFICE.

JAMES COOK, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SCREW-TAPS.

Specification forming part of Letters Patent No. **196,879**, dated November 6, 1877; application filed July 19, 1877.

To all whom it may concern:

Be it known that I, JAMES COOK, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Screw-Taps, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a longitudinal central section. Fig. 2 is a transverse section in the plane *x x*, Fig. 1. Fig. 3 is a similar section in the plane *y y*, Fig. 1. Figs. 4 and 5 are details which will be referred to as the description progresses.

Similar letters indicate corresponding parts.

This invention consists in the combination, in a screw-tap, of a stock, a barrel provided with a screw-thread at its inner end, a series of frames fitting into recesses in the barrel, and provided with segmental screw-threads at their inner ends, detachable cutters which fit said frames, and a nut which catches over a flange on the stock, and which fits the screw-threads of the barrel and of the cutter-supporting frames, so that by means of this nut all the parts of the tap are firmly retained in the required position.

The cutters are fitted into oblique recesses in their frames, so that they are firmly retained in position, and that, by placing thin strips of metal, card-board, or other material behind their backs, the cutting-teeth can be set forward to any desired extent.

In the drawing, the letter A designates the stock of my tap, which is provided with a flange or shoulder, *a*, and with a transverse projection, *b*, from the center of which extends a short stud or pin, *c*.

The letter B designates the barrel, which is provided, at its inner or butt end, with a transverse recess, *d*, for the reception of the projection *b*, and with a socket, *e*, for the reception of the stud *c*. On the inner end of said barrel is formed a screw-thread, *f*, and in the barrel are four (more or less) longitudinal grooves, *g*, for the reception of the cutter-supporting frames C. These frames are made in the form shown in Figs. 4 and 5—Fig. 4 being a side view, and Fig. 5 a rear view, of one of said frames. Each of these frames is provided at its inner end with a segmental screw-thread, *h*, Fig. 4, which corresponds with the screw-thread *f* on the barrel, so that if the frames are placed into their recesses in the barrel, the screw-threads *h* form continuations of the screw-threads *f*.

D is a nut which drops loosely on the stock, and which is provided with a lip, *i*, that bears upon the flange or shoulder *a* of the stock. The thread of the nut fits the thread *f* on the barrel. When the nut is screwed up tight, the barrel is firmly drawn up against the stock, and the cutter-supporting frames are rigidly secured in position.

The cutters E are made detached from their frames, so that if one becomes broken or worn it can be readily replaced by another. They fit into oblique recesses *j*, Fig. 4, provided for their reception in the frames, said recesses being equal in depth to the thickness of the cutters, Fig. 5, so that when the cutters are placed into their frames, said frames can be readily inserted into the recesses provided for their reception in the barrel, and when the nut D has been applied, as above stated, the cutters, together with their frames, are firmly retained in position.

The ends of the recesses *j* are parallel to each other, so that the cutters can be set out by placing thin strips of sheet metal or other suitable material under them.

The frames C are slightly tapering, (see Fig. 5,) and the recesses *g* are made to correspond, so that when said frames are forced into their recesses they are firmly retained in position.

By these means a screw-tap is obtained the parts of which are easily and readily secured in position by means of one nut, and the cutters of which can be adjusted in the desired position with little trouble or loss of time, and at the same time, if one of the cutters becomes broken or worn, it can be readily replaced by another without disturbing either of the remaining cutters.

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

1. The combination, in a screw-tap, of a stock, a barrel provided with a screw-thread at its inner end, a series of frames fitting into recesses in the barrel, and provided with segmental screw-threads at their inner ends, detachable cutters which fit said frames, and a nut which

catches over a flange or shoulder on the stock, and which fits the screw-threads of the barrel and of the cutter-supporting frames, all constructed and operating substantially as shown and described.

2. The combination, with the stock A and barrel B, of cutter-supporting frames provided with oblique recesses for the reception of the cutters, the ends of said recesses being parallel to each other, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 17th day of July, 1877.

JAMES COOK. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.