

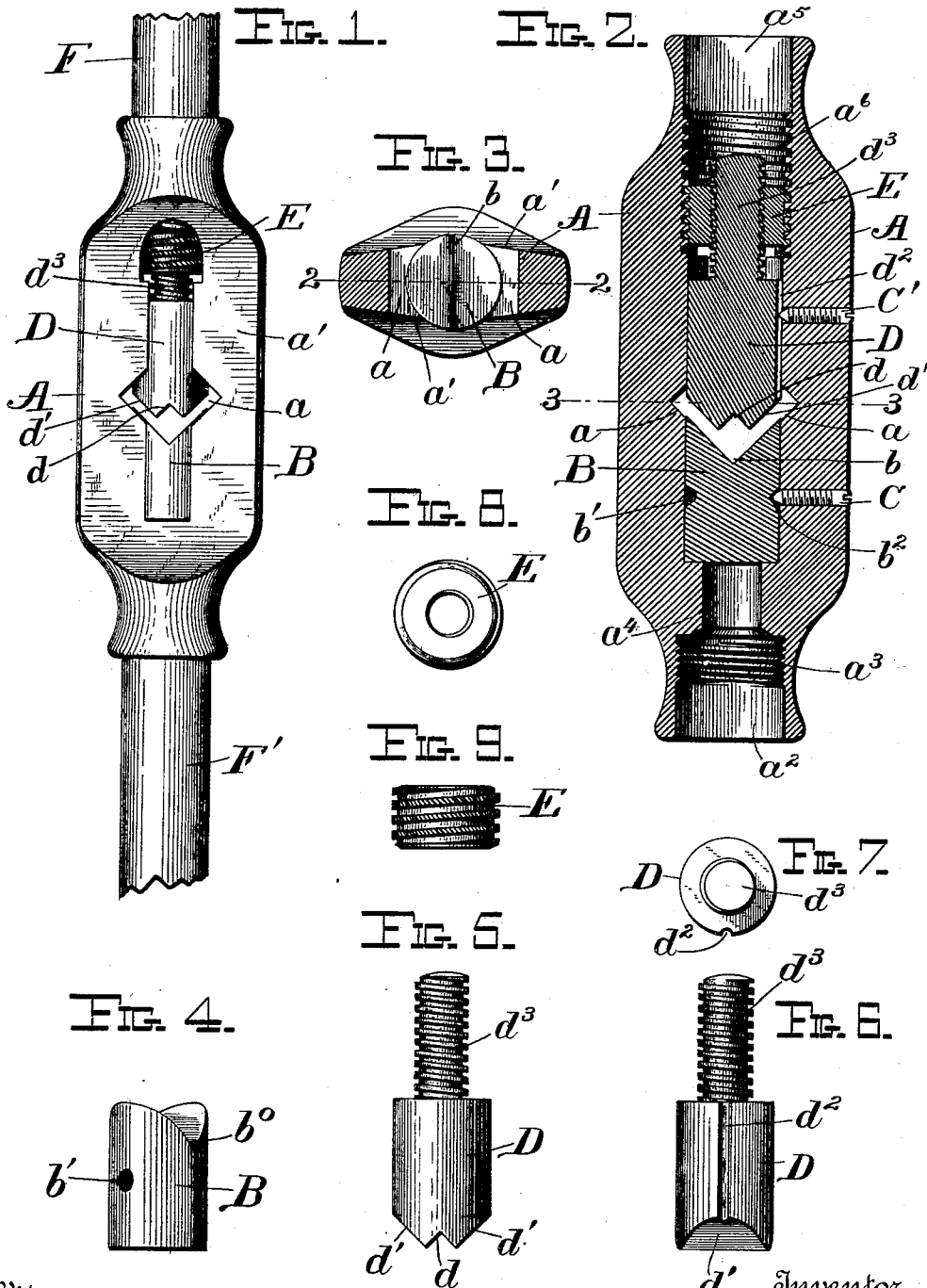
No. 623,435.

Patented Apr. 18, 1899.

A. J. SMART.
TAP WRENCH.

(Application filed Jan. 19, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT J. SMART, OF GREENFIELD, MASSACHUSETTS, ASSIGNOR TO THE
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TAP-WRENCH.

SPECIFICATION forming part of Letters Patent No. 623,435, dated April 18, 1899.

Application filed January 19, 1899. Serial No. 702,750. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. SMART, a citizen of the United States, residing at Greenfield, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Tap-Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in tap-wrenches; and it consists in providing a light, compact, simple, and effective wrench, which will be hereinafter more fully described and claimed.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a plan view of the improved tap-wrench, the handles being broken away. Fig. 2 represents a central section through the stock of the tap-wrench, showing the parts in the position indicated in Fig. 1, the section being along the line 2 2 of Fig. 3. Fig. 3 represents a transverse section along the line 3 3 of Fig. 2. Fig. 4 is a perspective view of the fixed jaw detached from the wrench. Fig. 5 is an elevation of the sliding jaw as detached from the wrench. Fig. 6 is a view of the sliding jaw shown in Fig. 5 and seen from the left of said figure. Fig. 7 is a plan view of the sliding jaw shown in Figs. 5 and 6; and Figs. 8 and 9 are a plan view and side elevation, respectively, of the knurled nut for adjusting the sliding jaw.

A represents the stock of the tool, which is provided with rectangular recesses a on opposite sides, the distance between which recesses indicates the maximum diameter of the shank of the tap, which can be inserted in the tool. The opposite sides of the stock are curved out, as at a' , while the hollow handles F and F' are inserted in the sockets a^2 and a^3 in the ends of the stock. The handle F' may screw onto the thread a^3 , and the hollow handle F may fit snugly in the socket a^3 or may be caught in the ends of the screw-threads a^6 , or may be held in place in any desired way.

The fixed jaw B rests on shoulders above

the hollow portion a^4 of the stock and is provided with a rectangular groove b to hold the tap and with the indentations b' and b^2 to receive the end of the locking-screw C. I preferably provide two of these indentations, so that the jaw B may be revolved through one hundred and eighty degrees in case one side should wear more than the other, although one would be sufficient.

The sliding jaw D is provided with a rectangular groove d opposite the groove b and with cut-away faces d' to register with the sides of the groove b when the sliding jaw is screwed down to hold the smallest-sized tap. This sliding jaw D is cylindrical, like the fixed jaw B, and is held against rotation by means of the spline-screw C' , which projects into the longitudinal groove d^2 , parallel to the axes of the sliding jaw D. This sliding jaw D is provided with an outwardly-projected screw-threaded tail d^3 , which engages the corresponding screw-threads in the nut E. The outer surface of this nut E is screw-threaded to engage in the screw-threads a^6 , the screw-threads a^6 and d^3 being in opposite directions, and thus a compound screw effect and quick adjustment are secured.

The nut E is knurled on the outside of its outer screw-threads, so that it may be conveniently turned by hand. This compound screw effect not only gives a rapid and convenient adjustment, but is also strong enough to bear the pressure of the tap, which is very great.

By making the jaws cylindrical and fitting in a cylindrical chamber in the stock they are readily inserted from the end a^5 of the stock, and the parts are at all times kept securely in place against possible dropping out, and the tool is made lighter and more compact, and a neater appearance is secured than with the old style of rectangular jaws now most commonly in use in tap-wrenches.

It will be obvious that various modifications in the herein-described device might be made which could be used without departing from the spirit of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a tap-wrench, the combination with a hollow stock provided with a cylindrical cham-

ber therein, and screw-threads at the end of said chamber, of a cylindrical jaw fixed in one end of said chamber, a sliding jaw provided with a screw-threaded tailpiece mounted in the opposite end of said chamber, and a knurled nut having external screw-threads engaging the screw-threads in the stock, and internal screw-threads engaging the screw-threads on the tailpiece of the sliding jaw, substantially as described.

2. In a tap-wrench, the combination with a hollow stock with a cylindrical chamber therein, and a jaw fixed in one end of said chamber, of a sliding jaw mounted in the opposite end of said chamber, and provided with a screw-threaded tailpiece and a longitudinal slot, of a nut mounted in the stock and engaging the screw-threads on said tailpiece, and a spline-screw projecting into said longitudinal slot and holding the said jaw against turning, substantially as described.

3. In a tap-wrench, the combination with a hollow stock provided with a cylindrical chamber therein and screw-threads near one end of said chamber, of a cylindrical jaw fixed in said stock opposite said screw-threads, a sliding jaw mounted in the opposite end of said stock and provided with a longitudinal slot in the side thereof and with a screw-threaded tailpiece, of a spline-screw projecting into said slot, and a knurled nut provided with external screw-threads engaging the screw-threads in the stock, and also the screw-threads on the tailpiece of the sliding jaw, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT J. SMART.

Witnesses:

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