(No Model.)

F. C. WILLIAMS.

TAP WRENCH.

No. 506,961. Patented Oct. 17, 1893.

Fig: 1.

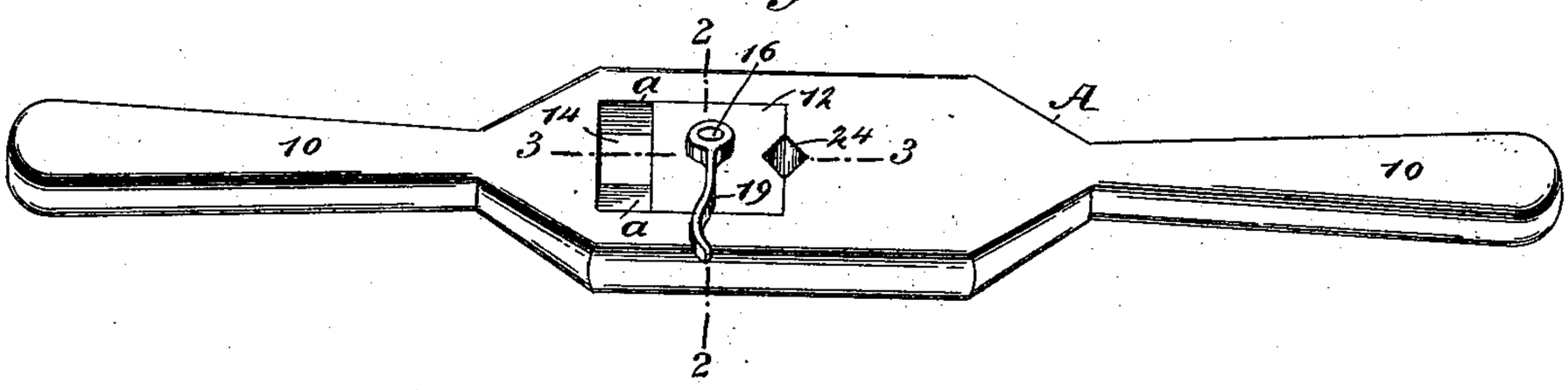


Fig: 2.

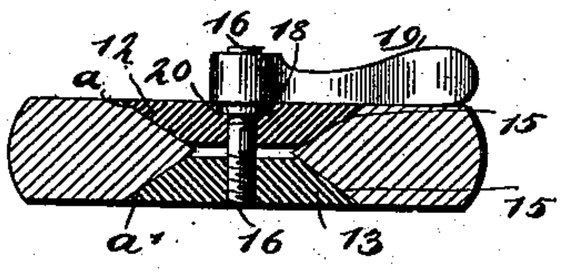


Fig: 3.

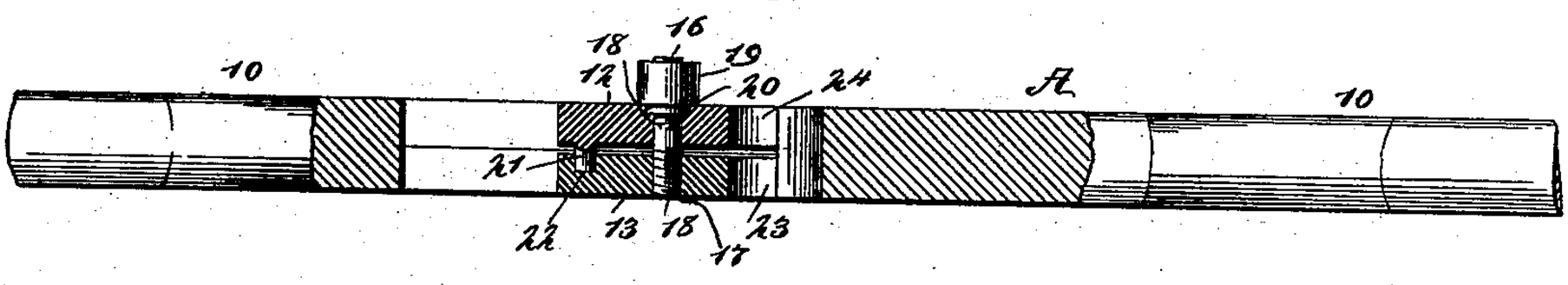
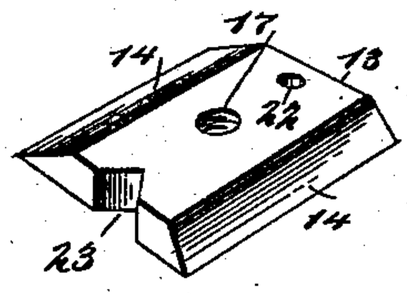


Fig: 4.



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TAP-WRENCH.

SPECIFICATION forming part of Letters Patent No. 506,961, dated October 17, 1893.

Application filed March 21, 1893. Serial No. 467,010. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. WILLIAMS, of Yonkers, in the county of Westchester and State of New York, have invented a new and Improved Tap-Wrench, of which the following is a full, clear, and exact description.

My invention relates to an improvement in tap wrenches, and it has for its object to provide a wrench of exceedingly simple and durable construction, in which the jaws may be expeditiously and conveniently manipulated to receive the dies, and furthermore when the jaws have been fixed in the wrench they may be held firmly in place, the clamping of the jaws being accomplished by a short turn of a lever.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the wrench. Fig. 2 is a transverse section taken practically on the line 2—2 of Fig. 1. Fig. 3 is a longitudinal section taken essentially on the line 3—3 of Fig. 1; and Fig. 4 is a detail perspective view of the lower or under jaw of the wrench.

The wrench consists of a body A, a handle 10 at each end of the body, and two jaws 12 and 13, having sliding movement in the body. The body of the wrench is provided with an opening 14, extending through from top to bottom, and from a point at or near the center of the body to a point near one of its ends. The side walls of the opening 14, are angular, being beveled at top and bottom producing thereby upper inclined surfaces *a*, as shown in Fig. 2, and lower inclined surfaces *a'*. One jaw is adapted to slide upon the upper inclined surfaces *a* of the body, while the other jaw slides upon the lower inclined surfaces *a'*. Both jaws 12 and 13, are made of the same size and shape, the under face of the lower jaw and the upper face of the upper jaw being perfectly flat, and the inner central portions of the jaws are flat, while their sides are inclined as shown at 15, in Fig. 2. The two jaws are held a slight distance apart, as is likewise shown in Fig. 2, and when they are in position in the body the upper face of the upper jaw is flush with the upper face of the body, as is likewise the lower face of the lower jaw flush with the lower face of the body.

The lower jaw is provided preferably at its center with a pin 16, firmly secured therein; in the drawings the pin is represented as being secured in an aperture 17 made in the lower jaw for that purpose, a plain opening being made in the upper jaw through which the pin passes, and the pin extends some distance above the upper face of the upper jaw. The pin is provided with a threaded upper surface designated as 18, and upon the upper surface of the pin one end of the lever 19, is secured. The head of the lever which is located upon the pin, is provided with a boss 20 upon its under face, and the upper face of the upper jaw is recessed in order to receive the boss. Thus when the lever is turned to force the boss downward to frictional engagement with the walls of the recess in the upper jaw, the under surface proper of the lever head will engage with the upper face of the upper jaw, and thus the lever will have two quite large bearing surfaces.

In order that both of the jaws shall work together, the upper jaw is provided upon its lower face with a stud 21, and this stud is made to enter a recess 22, produced in the upper face of the lower jaw. It will be understood that the length of the jaws is less than the length of the opening 14 in which they slide, and in the edge of both jaws which faces the inner end wall of the opening 14, an annular recess 23, is produced, and a corresponding recess is made in the said inner end wall of the body opening, whereby when the recesses in the jaws are opposite the recess in the inner end wall of the opening 14, a rectangular or polygonal opening or socket 24, is formed, in which the dies are to be placed when dies are used.

The operation of the tap wrench is exceedingly simple, as in order to insert a die of proper size the lever is manipulated in such a manner as to carry it upward upon its pin, relieving thereby the jaws from pressure, and

the jaws may then be slid to any point desired within the body opening. When the dies have been placed in the socket 24, the jaws are carried up to the dies to clamp them in place, and the lever is then manipulated in a manner to carry its head down to a firm frictional engagement with the upper jaw. By this means the two jaws will be drawn in direction of each other and will be made to clamp firmly against the beveled surfaces *a* and *a'* in the side walls of the body opening 14.

A wrench constructed as is above described is not only simple and economic in its construction, but it is likewise exceedingly durable and is capable of being manipulated conveniently and in an expeditious manner, and may be employed wherever it is possible to use an ordinary tap wrench.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improved article of manufacture, a tap wrench, the same comprising a body having an opening therein, the opposite walls of which are beveled at top and bottom, jaws held to slide upon the beveled surfaces of the walls and within the opening, and a lock lever connected with the jaws, whereby they may be locked at any point in the opening, as and for the purpose set forth.

2. A tap wrench, consisting of a body having an opening therein, the side walls of which are beveled in direction of the center at the top and at the bottom of the body, jaws held to slide in the opening, the opposite sides of which jaws have their inner faces beveled to rest upon the beveled surfaces of the opening, a pin secured in one jaw and extending upward through the other jaw, and a lock lever carried by the said pin and having frictional engagement with one of the jaws, as and for the purpose specified.

3. In a tap wrench, the combination, with a body having an opening produced therein, the sides of the opening being oppositely beveled at top and bottom, the bevels extending in direction of the center of the opening, upper and lower jaws held to slide in the opening, having beveled side surfaces engaging with the beveled surfaces of the opening, a pin secured in the lower jaw and extending through the upper jaw, and a lever the head of which is screwed upon the pin, the said lever being provided with a boss which is adapted to enter a countersink in one of the jaws, whereby the two jaws by a slight movement of the lever may be locked in any position in the opening, as and for the purpose specified.

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