Mar. 20, 1923. 1,448,895

H. A. YOTTA

TOOL

Filed Feb. 5, 1921

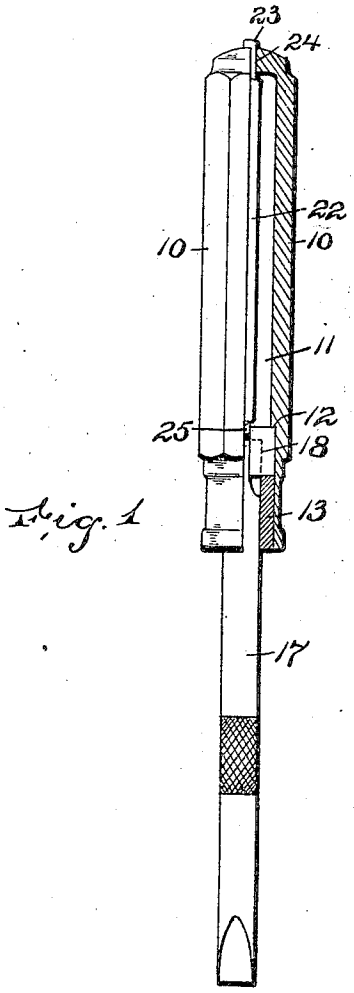


Fig. 1

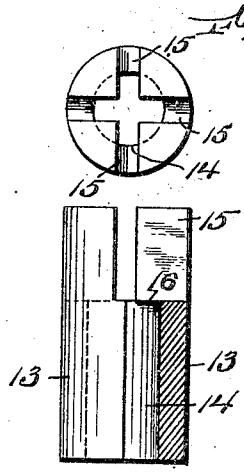


Fig. 2

Fig. 3

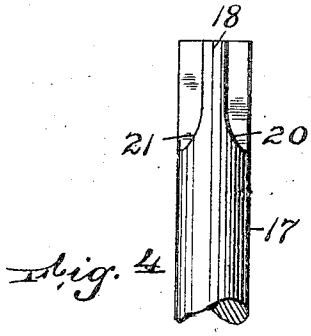


Fig. 4

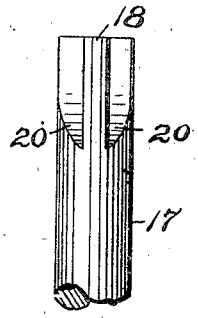


Fig. 5

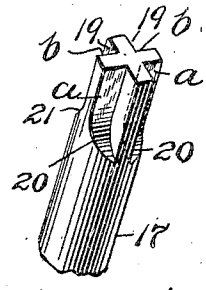


Fig. 6

INVENTOR
Hannibal A. Yotta,
BY
Wm. H. Campbell.
ATTORNEY

Patented Mar. 20, 1923. 1,448,895

UNITED STATES PATENT OFFICE.

HANNIBAL A. YOTTA, OF ELIZABETH, NEW JERSEY.

TOOL.

Application filed February 5, 1921. Serial No. 442,651.

To all whom it may concern:

Be it known that I, HANNIBAL A. YOTTA, a citizen of the United States, and a resident of Elizabeth, county of Union, and State of New Jersey, have invented certain new and useful Improvements in Tools, of which the following is a specification.

This invention relates to an improved tool in which the handle and the shank of the tool are readily connected or disconnected, being usually used so that one handle will accommodate several different forms of tools, the shank of the tool being placed into the handle or removed therefrom without the use of any manually operated fastening means.

The invention relates to certain details of construction which not only provide a successful means for seating the tool in the handle, but which permit an economical manufacture of the device.

The invention is illustrated in the accompanying drawing, in which Figure 1 is a side view of the tool with one-half of the handle being shown in section. Figure 2 is a top view and Figure 3 a part elevation and part section of a thimble secured in the bottom end of the handle. Figures 4 and 5 are side views, one at right angles to the other, of the top end of the shank which fits in the thimble, and Figure 6 is a perspective view of the top end of the shank.

The handle 10 is usually made of metal, and in order to make it lighter and to provide for the reception of associated parts it is provided with an opening 11, the bottom end of which is preferably enlarged slightly, thus forming a shoulder 12, such enlarged bottom end receiving a thimble 13. The thimble 13 is usually fastened in place by shrinking the handle on it, and is usually seated against longitudinal movement by reason of its abutting on the top end against the shoulder 12.

The thimble is drilled from the bottom to form a recess 14, this recess extending part way through the thimble, and then the thimble is cut so as to form slots, the preferred number being four, these slots, shown at 15, being usually crossed and milled in from the top end until they at least reach the end of the recess 14, so that they enter into the recess and the overhanging parts form shoulders 16 where the edges of the slots enter into the edge of the recess. It will thus be seen that the manufacture of these thimbles is simple, rapid and economical.

The shank 17 of the tool is provided with wings 18 disposed so that they can be placed in register with the slots 15, these wings being formed by milling, as at 19, this being usually done by using a pair of twin cutters spaced apart a distance equal to the thickness of one of the wings 18, and by means of these parallel cutters cutting out as at *a*, *a* in Figure 6, and when this cut terminates the curved or inclined parts 20 providing a widened bottom end of the opposed wings. A similar operation is then performed at the place marked *b*, *b* in Figure 6 and similarly widened parts 21 are formed, so that, as will be clearly seen from Figures 4 and 6, two of the opposed wings 18 are widened on both sides, so that when the tool is inserted in the recess and then the wings enter the slots 15, these widened parts engage the shoulders 16 and frictionally hold the tool in place. This construction is economically made.

I prefer to put a tapping rod 22 in the handle, this tapping rod having reduced ends, one end 23 projecting through the hole 24 in the end of the handle, and the other reduced end 25 being seated in the center of the top end of the thimble where the slots 15 cross. The distance between the reduced ends is less than the length of the opening through which the rod 22 reciprocates, so that there is a sufficient longitudinal movement of the rod 22 to allow the end 25 to force the tool from tight frictional engagement with the thimble when the tool is turned upside down and the end 23 tapped on a bench.

This form of tool handle can be easily assembled, since the tapping rod 22 is first put in place and the thimble is inserted until it abuts on the shouder 12, the thimble be-

ing secured in position usually by shrinking the lower part of the handle on it, and the handle is then complete.

I claim:

A tool comprising a hollow handle with one end open, a thimble closing said hollow handle, said thimble having its ends open by reason of a cylindical recess extending part way in from one end and crossed slots extending from the other end to the inner end of the recess, a shank to fit the recess and having wings to fit in the slots, the closed end of the handle having a hole therein, and a rod with reduced ends and engaged only at said ends, said rod at one end extending through the hole and at the other end entering the space where the slots cross.

In testimony that I claim the foregoing, I have hereto set my hand, this 4th day of February, 1921.

HANNIBAL A. YOTTA.