Sept. 10, 1929. W. O. THEWES 1,727,623

WRENCH

Filed Jan. 11, 1928

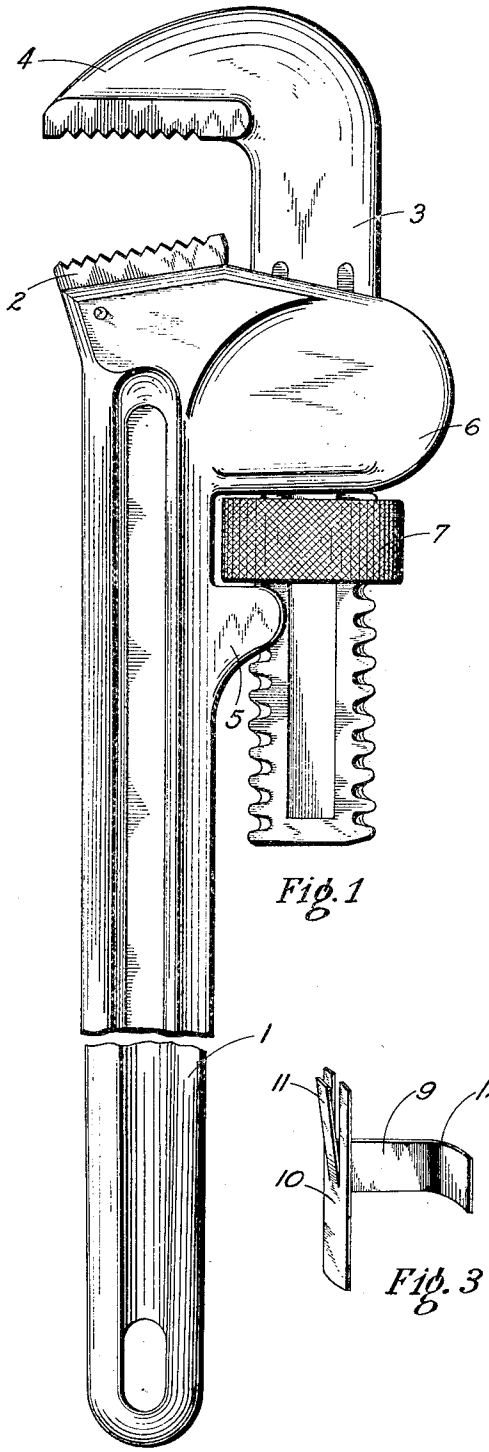


Fig. 1

Fig. 3

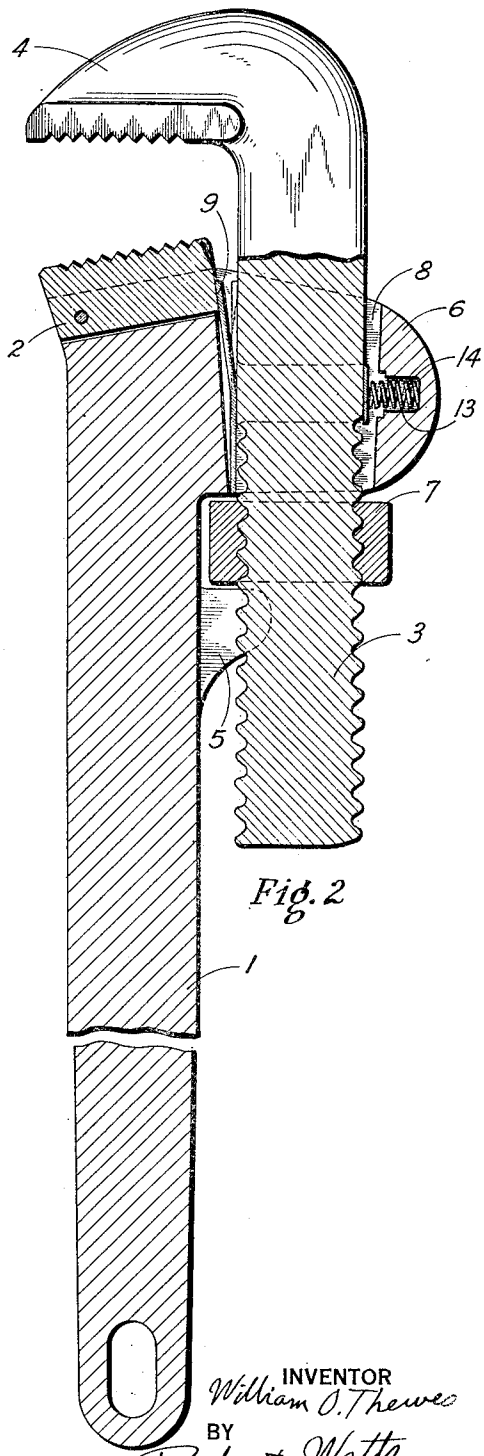


Fig. 2

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UNITED STATES PATENT OFFICE.

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WRENCH.

Application filed January 11, 1928. Serial No. 245,825.

This invention relates to wrenches and more particularly to wrenches in which the jaws are longitudinally movable relative each other and at the same time are relatively movable angularly to permit them to bite into and firmly hold a pipe or other round object when pressure is applied to the handle.

An object of the invention is to provide a wrench which may be readily caused to firmly grip round objects and readily caused to release same.

Other objects will hereinafter appear.

The invention itself will be more readily understood from the description of one practical embodiment, illustrated in accompanying drawing, in which:

Figure 1 is a side elevation of a wrench which embodies the invention.

Figure 2 is a central longitudinal section of the wrench shown in Figure 1.

Figure 3 is a perspective view of a guide through which the shank of the movable jaw of the wrench slides.

The wrench consists of a frame provided with an integral handle 1, a fixed gripping jaw 2, and a longitudinally extending aperture for receiving the shank 3 of the movable jaw 4. Two lugs 5, integral with the handle 1, are spaced below the frame projection 6, through which projection the shank of the movable jaw slides. The lugs retain the adjusting nut 7 closely adjacent to this projection and help to keep the whole wrench in alignment on a hard side pull. The nut 7 can seat upon the rear face of the frame projection 6 when the movable jaw is tilted downward, and this seat is at an angle of 95° or less with the bottom of a jaw slot or longitudinal aperture 8, tapered in depth by a downwardly inclined bottom, and which constitutes a passage for the shank 3 of the jaw 4 through the projection 6.

Within the longitudinal aperture 8 is positioned a sheet metal guide 9 as best illustrated in Figure 3 which comprises a bearing surface 10, extending substantially the entire length of the aperture, and is split into three parts at its upper end, the inner part being bent outwardly as shown at 11 to constitute a spring as will be hereinafter more fully described, and a strap-like portion 12 extending along one side and around the back of the shank of the movable jaw. Within a recess 13 in projection 6 is positioned a compression spring 14 which bears upon the end of strap-portion 12, pressing the same toward the front of the wrench. It will be apparent that the entire guide can be moved back, compressing the spring 14, upon the application of any force overcoming the tension of the spring. It will also be apparent that the struck out portion 11 can be bent into alignment with the portions at the sides thereof when sufficient pressure is applied to the movable jaw toward the front of the wrench.

Normally, and when no pressure tending to move the movable jaw or its shank is applied, they assume the position shown in Figures 1 and 2, in which position the wrench can be readily adjusted by turning the nut upon the threaded shank. When it is desired to cause the jaws to grip a pipe or round object, they can be moved angularly relative each other by compressing spring 11 into alignment with the remainder of part 10, and when it is desired to release the object, pressure on the lower end of the shank will swing the movable jaw away from the stationary jaw, moving the guard 9 toward the back of the wrench, compressing spring 14, and increasing the distance between the gripping faces of the two jaws.

In these springs means are provided for maintaining the jaw normally in a central position from which it may be readily displaced to either grip or release an object, without necessitating adjustment of the nut upon the shank.

While I have described the illustrated embodiment of my invention in some particularity, obviously many variations and modifications thereof may easily be made without departing from the spirit of the invention, and I therefore do not limit myself to the precise construction shown and described, but claim as my invention all embodiments thereof falling within the scope of the appended claims.

I claim:

1. A wrench comprising a frame having a stationary jaw, a handle, and an apertured projection, a movable jaw, having a threaded shank extending through said aperture, an adjusting nut threaded on said shank, and engaging said projection, a guide for the shank within the aperture, a spring carried by said guide and retaining the upper end of the guide away from the stationary jaw, and a compression spring within a recess in said projection and touching and pressing the guide slightly, holding the sliding jaw in a floating position.

2. A wrench comprising a frame having a stationary jaw, a handle, and an apertured projection, a movable jaw having a threaded shank extending through said aperture, an adjusting nut threaded on said shank and engaging said projection, a guide for the shank within the aperture, a spring carried by and formed integrally with said guide and retaining the upper end of the guide away from the stationary jaw, and a compression spring within a recess in said projection touching and pressing the guide slightly toward the stationary jaw, holding the sliding jaw in a floating position.

3. A wrench comprising a frame having a stationary jaw, a handle, and an apertured projection, a movable jaw having a threaded shank extending through said aperture, an adjusting nut threaded on said shank and engaging said projection, a guide for the shank within the aperture, a spring carried by said guide and retaining the upper end of the guide away from the stationary jaw, and a compression spring within a recess in said projection and pressing the guide toward the stationary jaw.

4. A wrench comprising a frame having a stationary jaw, a handle, and an apertured projection, a movable jaw having a threaded shank extending through said aperture, an adjusting nut threaded on said shank and engaging said projection, a guide for the shank within the aperture, a spring carried by and formed integrally with said guide and retaining the upper end of the guide away from the stationary jaw, and a compression spring within a recess in said projection and pressing the guide toward the stationary jaw.

In testimony whereof I hereunto affix my signature this 6th day of January, 1928.

WILLIAM O. THEWES.