(No Model.)

W. DICKS.

SCREW WRENCH.

No. 509,151. Patented Nov. 21, 1893.

Fig.1

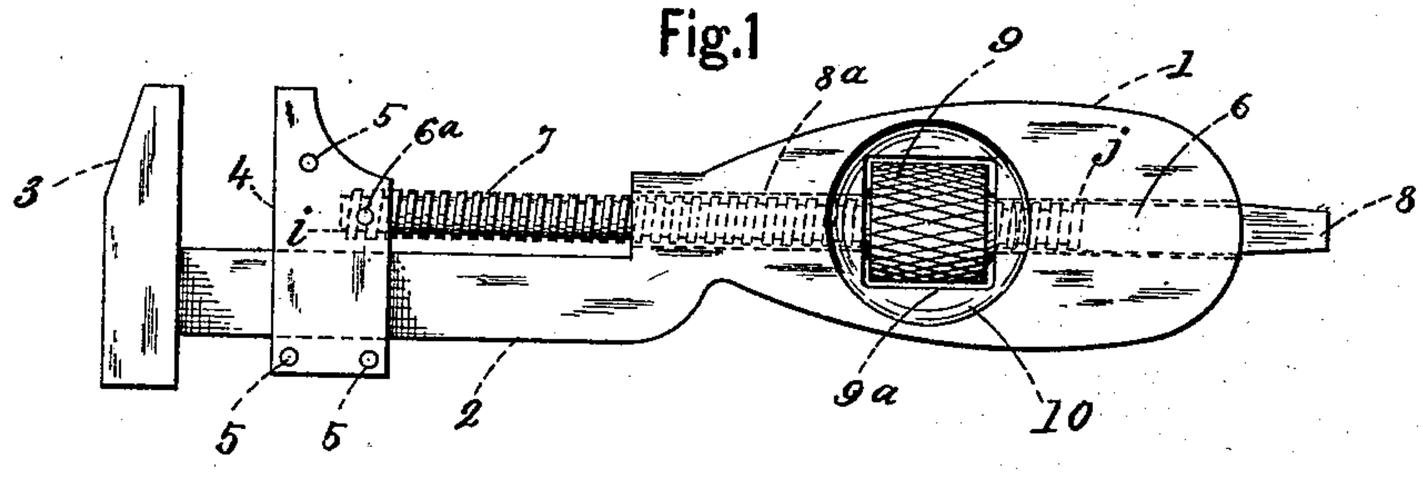


Fig.2

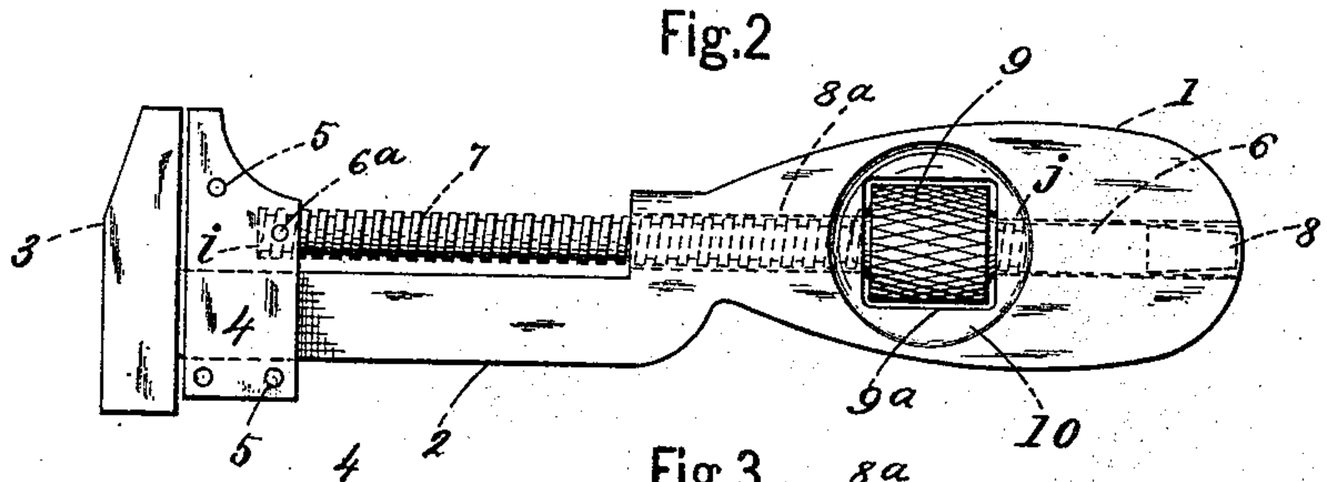


Fig.3

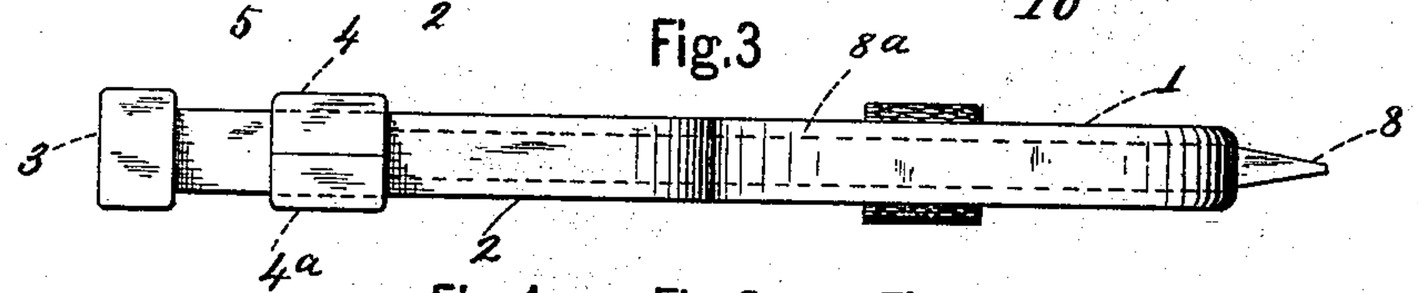
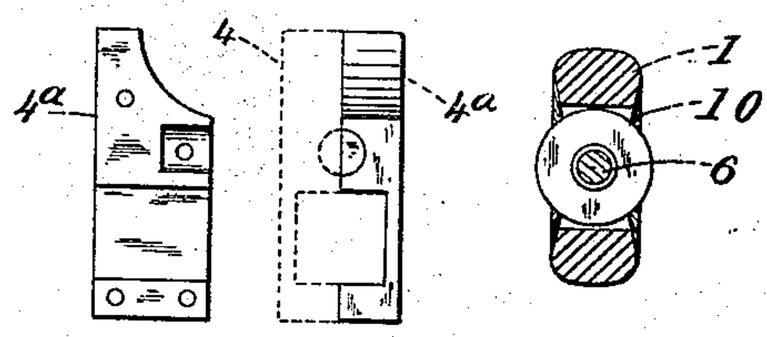


Fig.4. Fig.5. Fig.6



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SCREW-WRENCH.

SPECIFICATION forming part of Letters Patent No. 509,151, dated November 21, 1893.

Application filed April 26, 1893. Serial No. 471,888. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DICKS, a subject of the Queen of Great Britain, having declared my intention to become a citizen of the United States, residing at Kensington Station, Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Screw-Wrenches, of which the following is a specification.

My invention relates to certain improvements in screw wrenches, also to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1, is a side elevation of my improved wrench, showing the jaws of the wrench partly opened, thereby exposing a portion of a screw driver combined with it, and in position for use. Fig. 2, represents a similar view of the screw driver, showing the jaws closed and the end of the screw driver drawn within the handle out of sight. Fig. 3, is a back view of the wrench, showing the jaws open and the screw driver exposed. Fig. 4, is a detached side elevation of one half of one of the movable jaws, showing its construction. Fig. 5, is a rear view of the movable jaw shown in Fig. 4, one half being shown by dotted lines. Fig. 6 represents a cross section through the handle of the wrench cutting centrally through the depression 10 and opening 9^a.

The object of my invention is to simplify the construction of the wrench so it can be more cheaply made, also in combining a screw driver with the movable jaw of the wrench.

Referring to the drawings, 1 represents the handle of the wrench, 2, the portion upon which the movable jaw slides back and forth, and 3 represents the stationary jaw, the whole being formed in one piece of wrought metal, drop forging preferred, but if desired cast malleable iron, or cast steel may be used. The stationary jaw being formed in one piece with the slideway portion and handle it would be impossible to get an ordinary sliding or movable jaw over either the handle or stationary jaw. I therefore form the sliding jaw of my wrench in two parts, 4 and 4^a, see Fig. 3, also Figs. 4 and 5. These jaws are preferably made by drop forging, the half portions being rights and lefts, substantially as indicated in Fig. 5. These portions 4 and 4^a, are fitted together over the shank or portion, 2, upon which it slides back and forth, and are then riveted securely together by rivets, 5, and are fitted so as to slide easily along the sliding portion, 2.

To the sliding jaw, 4 and 4^a, is rigidly secured a screw bar, 6, by a pin, 6^a, having its screw portion, 7, extending from the end, *i*, (which screws into the sliding jaw and is secured by the pin, 6^a,) to or about the point, *j*. From the point, *j*, it extends down and terminates in a screw driver point, 8. The screw bar, 6, passes through a longitudinal hole, 8^a, extending clear through the handle 1. The hole, 8^a, is shown by dotted lines, 8^a, in Figs. 1 and 2.

Before the screw bar, 6, is secured by the pin, 6^a, to the sliding jaw, a cylindrical milled nut 9, is put into an opening, 9^a, in the handle so as to be in a line with the hole, 8^a, so that the screw bar can be screwed through the nut and then forward far enough to allow the end to be screwed into the movable jaw and be secured by the pin, 6^a.

It will be noticed that the portion of the handle, 1, is hollowed out so that a depression 10, surrounds the opening, 9^a. The object of this is to allow more room for operating the milled nut, 9.

In my device the screw driver is drawn up within the handle at the same time the jaws are brought together, thereby reducing the length of the wrench and leaving everything drawn closely together and the length of the wrench reduced so that it is in a better condition to pack away in smaller space when not required for use. I obtain this result by making the outer jaw the fixed jaw, forming a part of the shank or slideway portion 2, and the handle 1, and connecting with the inner jaw which moves on the shank 2, the screw bar 7 having the screw driver portion at its opposite or free end.

I claim as my invention—

1. In a screw wrench, a handle, a slideway portion and a fixed or stationary jaw all formed in one piece, the handle being set partly to one side of the slideway portion, in combination with a movable jaw mounted on

the slideway portion, a screw bar passing longitudinally above the slideway portion and through the handle, a screw driver portion at the free end of the screw bar and having its opposite end secured rigidly to the movable jaw, a milled nut mounted on the screw portion of the screw bar within an opening through the handle, for operating the screw bar, the movable jaw and the screw driver, whereby the screw driver is exposed when the jaws of the wrench are separated and is drawn in place within the handle when the jaws are together, substantially as described.

2. In a screw wrench, a stationary or fixed jaw, a slideway portion and a handle all formed in one piece, in combination with a movable jaw formed in two parts adapted to be united on the slideway portion and riveted together, a screw bar rigidly secured to the movable jaw and a nut mounted on said screw bar within an opening in the handle, substantially as and for the purposes described.

3. A screw wrench consisting of a handle, a slideway portion and a fixed jaw, all formed in one piece, the handle being to one side of the slideway portion, a screw bar passing longitudinally through the handle and rigidly connecting with the movable jaw, an opening through the handle, a depression surrounding said opening and a cylindrical nut mounted on the screw bar within the opening in the handle substantially as and for the purposes described.

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