

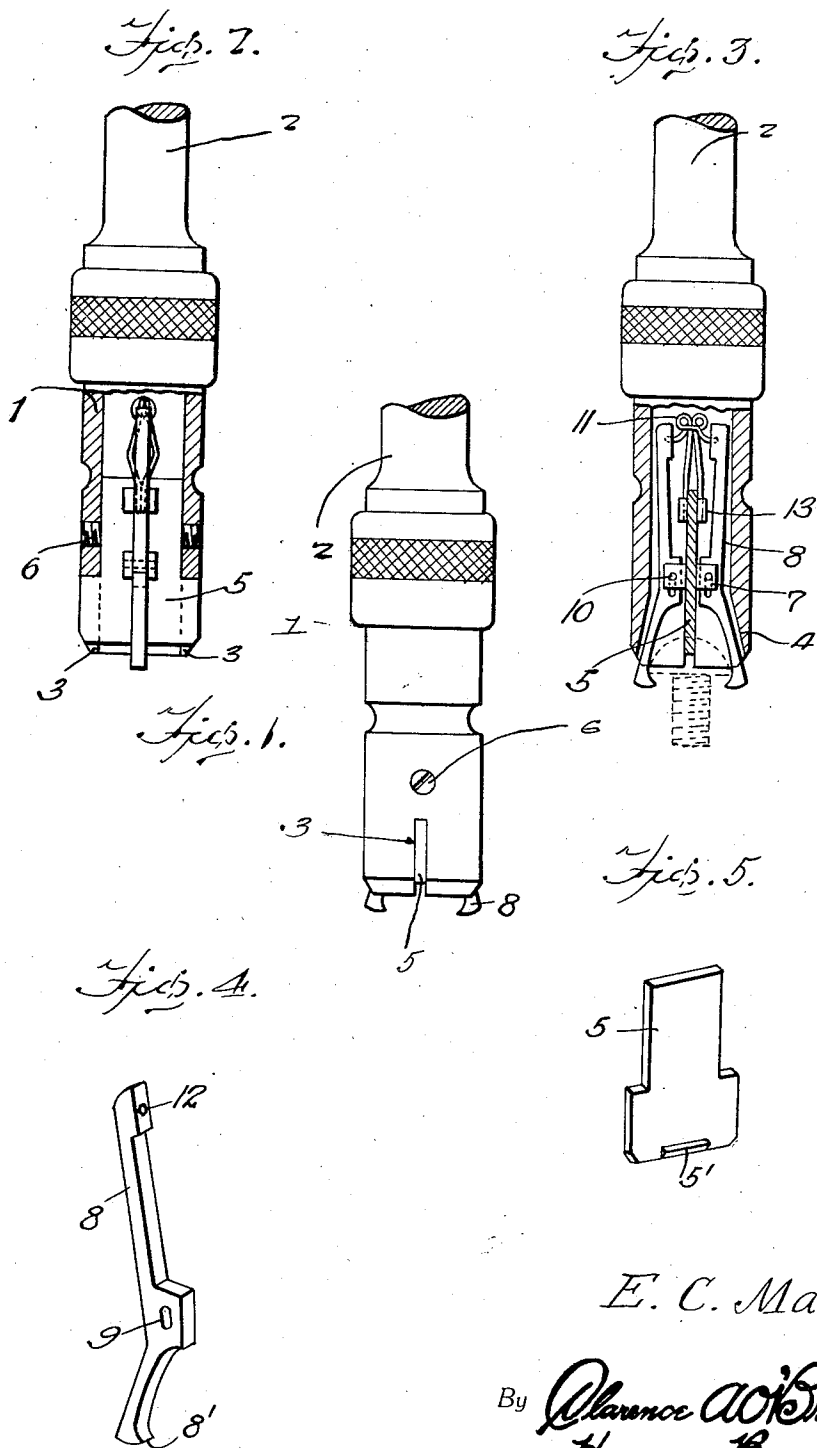
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SCREW WRENCH

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SCREW WRENCH

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1 Claim. (Cl. 145—52)

This invention relates to a screw wrench, the general object of the invention being to provide means for removing and replacing screws and the like by means of a socket having a blade therein for engaging the kerf of a screw and spring fingers for engaging parts of the screw to hold the same when the screw is being put in place or removed.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claim.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is an elevation of the head of the tool. Figure 2 is a longitudinal sectional view through the tool, the section being taken through the longitudinal center of Figure 1.

Figure 3 is a similar view, but taken a quarter turn from Figure 2.

Figure 4 is a view of one of the fingers.

Figure 5 is a view of the blade, this view showing a slightly modified form of blade.

In the drawing, the numeral 1 indicates the socketed head, which is connected with a handle 2 of any desired form. The open end of the head is formed with a pair of diametrically arranged slots 3 therein and a pair of flaring grooves 4 which are arranged a quarter turn from the slots 3. A T-shaped blade member 5 has its shank part held in the socket by the screws 6 which engage the edges of the said shank part, and the head of the blade member extends across the open end of the socket and has its ends fitting in the slots 3. By loosening the screws, the blade member can be removed or it can be positioned in the socket so that its outer edge will project therefrom and then the screws are tightened to hold the blade member in this position. Brackets 7 are carried by the blade member and a pair of fingers 8 is pivotally supported by these brackets, each finger including a long shank and a gripping head. The shank of each finger is formed with a slot 9 for receiving the pivot pin 10 so that the finger has limited longitudinal movement on the pin, and each shank is pressed outwardly by means of a spring 11 having one end engaging a hole 12 in the upper end of the shank, and its other end engaging a clip 13 on the member 5.

The two springs 11 act to hold the fingers in their outward position with the gripping ends pro-

jecting from the socket and these springs also act to move the gripping ends toward each other. As will be seen the gripping end of each finger is formed with a lip 8' so that it will grip a screw head or the like.

The outer edge of the socket is beveled as shown and the grooves 4 terminate in this bevel and they slope upwardly and inwardly as shown. The fingers are made to fit these grooves with plenty of clearance so as to allow the fingers to be pressed into the socket and slide from the screw head when the screw is driven home by the member 5. This movement of the fingers is caused by the gripping ends of the fingers engaging the member which receives the screw.

In unscrewing a screw with the device the fingers are, of course, pushed inwardly by the member which contains the screw and the head of the screw will enter the socket and be engaged by the member 5 as shown in dotted lines in Figure 3. Then as the screw is unloosened by turning movement of the device and the head leaves the member in which the screw is located, the springs will force the fingers outwardly past the head and then the gripping ends are moved inwardly by the springs to grip the head of the screw and thus the screw is held while it is being removed and after it has been entirely removed. The device will also hold the screw while it is being put into place to be screwed into a member and while it is being screwed into said member. The member 5 should be adjusted so that it will have its operative edge located a distance from the free end of the socket equal to the distance from the bottom of the kerf of a screw to the underside of the head of the screw so that the underside of the screw head will be even with the end of the socket when the member is engaging the kerf of the screw. This makes it possible for the device to remove or drive a screw with only one-half of the head and it also centers the tool perfectly and easily on the screw head.

I prefer to form the operative edge of the member 5 with a projection 5' on each side thereof, see Figure 5, so that it will engage the wall of the kerf at the bottom and give a firmer grip therein as this arrangement will cause the member to bite into the metal at the bottom of the kerf and tends to hold the blade in the kerf when the twisting force is placed on the tool.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination

and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

Having described the invention, what is
5 claimed as new is:

A screw wrench of the class described comprising a head having a socket therein opening out through one end of the head and said end of the head having a diametrically arranged pair of
10 slots therein and a pair of oppositely arranged outwardly flaring grooves therein, said grooves being arranged a quarter turn from the slots and formed in the walls of the socket, a knife member of T-shape having its shank fitting in the socket
15 with the ends of its head fitting in the slots, means for adjustably and removably holding the T-shaped member in the socket, lugs on opposite sides of the T-shaped member, a pivot pin carried by each lug, a pair of elongated fingers having longitudinally extending elongated slots
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therein through which the pins pass, a pair of springs carried by the shank of the knife member and one engaging the upper end of one finger and the other the upper end of the other finger, said springs acting to force the upper ends of the
5 fingers apart and the lower ends of the fingers toward each other and said springs also acting to hold the fingers with the upper ends of their slots against the pivot pins, with the lower ends of the fingers projecting from the socket, the lower end
10 of each finger having an inwardly extending lip thereon, said fingers when pressed against an object moving upwardly and when engaging the head of a screw moving outwardly into the grooves and said lips being formed to slide over
15 a screw head when the fingers are pressed upwardly, said knife member being of little thickness with the pivot pins arranged but a slight distance apart.

ELMER C. MALVIN. 20