July 1, 1924. 1,499,491

P. WEISSBECK ET AL

SCREW DRIVER

Filed May 5, 1923

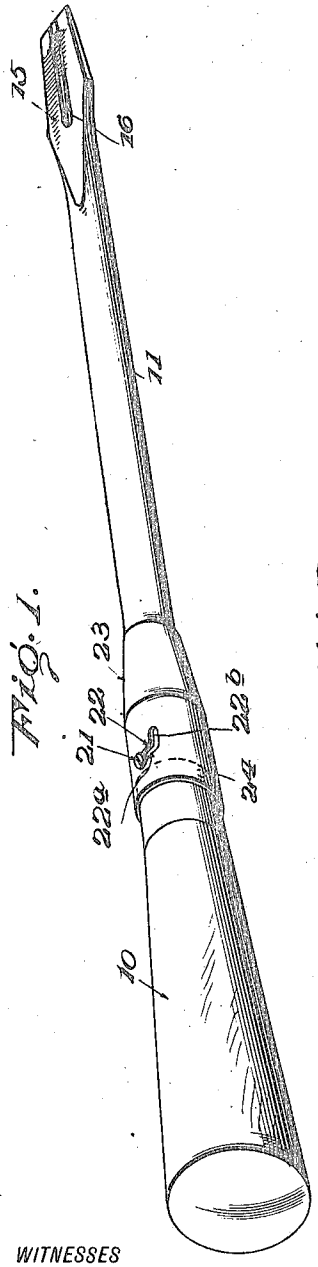


Fig. 1.

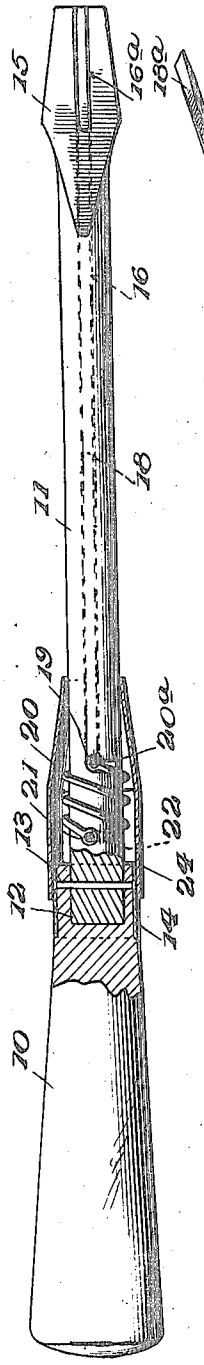


Fig. 2.

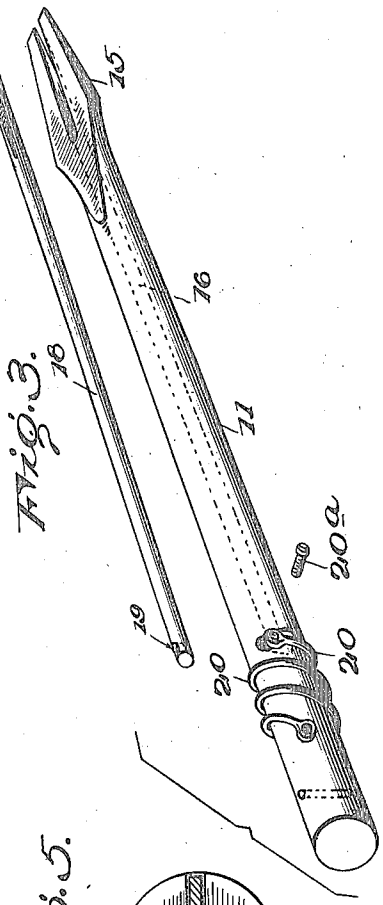


Fig. 3.

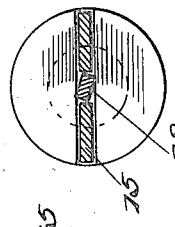


Fig. 5.

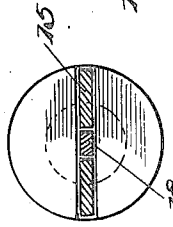


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

PETE WEISSBECK AND LEE TIBBALS, OF KANSAS CITY, MISSOURI.

SCREW DRIVER.

Application filed May 5, 1923. Serial No. 636,877.

To all whom it may concern:

Be it known that we, PETE WEISSBECK and LEE TIBBALS, citizens of the United States, and residents of Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Screw Drivers, of which the following is a specification.

This invention relates to an improvement in screw drivers, and has for its object to provide a screw driver having organized therewith means for gripping and holding the screw to the tip or end of the screw driver, the means for holding the screw being under the complete control of the person using the screw driver so as to be operable or not as desired.

Another object of the invention is to provide a screw driver having the foregoing advantages and which is at the same time of simple and durable construction, reliable in operation, well balanced and comparatively inexpensive to manufacture and has at the same time all of the advantages and capacities of a screw driver of ordinary construction.

Other objects and advantages of the invention reside in certain novel features of the construction, combination and arrangement of parts which will be hereinafter more fully described and particularly pointed out in the appended claim, reference being had to the accompanying drawings forming part of this specification, and in which:

Figure 1 is a perspective view, showing the preferred embodiment of the invention;

Figure 2 is a view partly in plan and partly in horizontal section and showing the preferred embodiment of the invention;

Figure 3 is a group view in perspective showing certain of the parts prior to assembly;

Figure 4 is a view in transverse section of the tip of the screw driver, showing the head of the screw in plan and illustrating the gripping means in inoperative or inactive position;

Figure 5 is a view similar to Figure 4 and showing the gripping means operative to hold the operative to the tip or end of the screw driver.

Referring to the drawings, the numeral 10 designates the handle of the screw driver which may be constructed of wood or metal of any suitable material and to which the blade, designated at 11 is connected in any approved way. For the sake of illustration one form of connection between the blade 11 and the handle 10 is shown in Figure 2, and in this arrangement the handle is socketed, as at 12, and one end of the blade is fitted in the socket and secured therein by means of a cross pin 13, the portion of the handle which is socketed being equipped with a ferrule 14. The outer end or tip of the screw driver is designated at 15 and as usual though laterally enlarged is thin or of relatively slight cross section and of wedge shape or formation, being adapted to engage in the slot usually provided in the head of the screw. The main portion or shank of the blade 11 is provided with an axial bore or opening 16 which extends from a point adjacent the handle 10 to the tip 15 where it communicates with an alined slot 16^a formed in the tip and extending axially therethrough so as to be continuous with the bore 16.

A gripping rod 18 is fitted for oscillatory movement in the bore or opening 16 of the blade 11 and the outer end of the gripper bar is formed with a flattened and tapered portion 18^a which is disposed in the slot 16^a of the tip. The portion 16^a of the gripper bar is of the same thickness as the tip 15 and corresponds thereto in its shape so that in one position of the gripper bar 16 it fills the slot 16^a and completes the tip of the blade. This portion 18^a is however of such width and thickness that when it is tilted as shown in Figure 5 its corners will bite into the walls of the slot of the screw as will be hereinafter more fully described. The end of the gripper bar 18 opposite the portion 18^a is provided with a transversely extending threaded socket 19 in which a screw 20^a is adapted to be threaded, the screw serving as a crank arm adapted to connect or secure one end of a coil spring 20 to the keeper bar 18. The coil spring 20 encircles the blade 10 and is connected at its opposite end to an operating pin or screw 21. It is to be noted at this point that the blade is slotted arcuately and transversely to accommodate the pin 20^a. The operating pin or screw 21 is slidably fitted in an L-shaped slot 22 provided in a casing 23 bolted or otherwise suitably secured to the handle and serving not only to support the pin 21 but to also enclose the spring 20 and the inner end of the gripping bar 18.

In operation when the tip 15 of the screw

driver is inserted in the slot of the head of the screw the bar 18 is disposed in the plane of the blade and is continuous therewith as shown in Figure 2 so that the tip of the screw driver readily enters the head of the screw. If it is desired to hold the screw on the tip 15 the pin 21 is grasped and is moved circumferentially through the portion 22^a of the slot 22 and then longitudinally into the portion 22^b thereof. This movement of the pin contracts and tensions the spring 20 so that the spring being connected to the lateral screw 20^a of the bar 18 turns the bar to the position shown in Figure 5 in which position the corners bite into the walls of the slot of the screw. When the screw has been advanced into the material into which it is being driven sufficiently to have a firm mounting therein the pin 21 may be moved back into the circumferentially extending portion 22^a of the slot 22 to move the flattened and tapered end 18^a of the bar 18 back into the plane of the blade, as shown in Figure 4 so that subsequently during the driving of the screw the screw driver operates after the manner of the ordinary or conventional screw driver. With this arrangement the driving of screws in inaccessible and crowded places is greatly facilitated as the screw is held to the tip of the driver and may be readily driven. At the same time the screw driver possesses all of the advantages and utilities of the ordinary tool and is adapted to be manufactured from materials and with facilities ordinarily available.

It is to be understood that the longitudinally extending portion 22^b of the L-shaped slot 22 may be extended in either direction as found convenient; thus it may be extended rearwardly of the casing instead of forwardly as now shown.

We claim:

In a screw driver, a handle, a blade connected to the handle and having a bore extending longitudinally and communicating with a slot extending through the outer end thereof, a gripping bar mounted in the bore and having a portion disposed in the slot and adapted to be disposed in the plane of the blade or to be rotated so as to have corners thereof project beyond the sides of the blade, the inner end of the bar being provided with a laterally extending screw connected thereto, a coil spring embracing the blade and having one end secured to the laterally extending screw, a casing carried by the handle and enclosing the coil spring and the casing having an L-shaped slot provided therein and an operating pin mounted in the L-shaped slot of the casing and connected to the end of the coil spring opposite to that connected to the screw whereby movement of the pin controls the position of the gripper bar.

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