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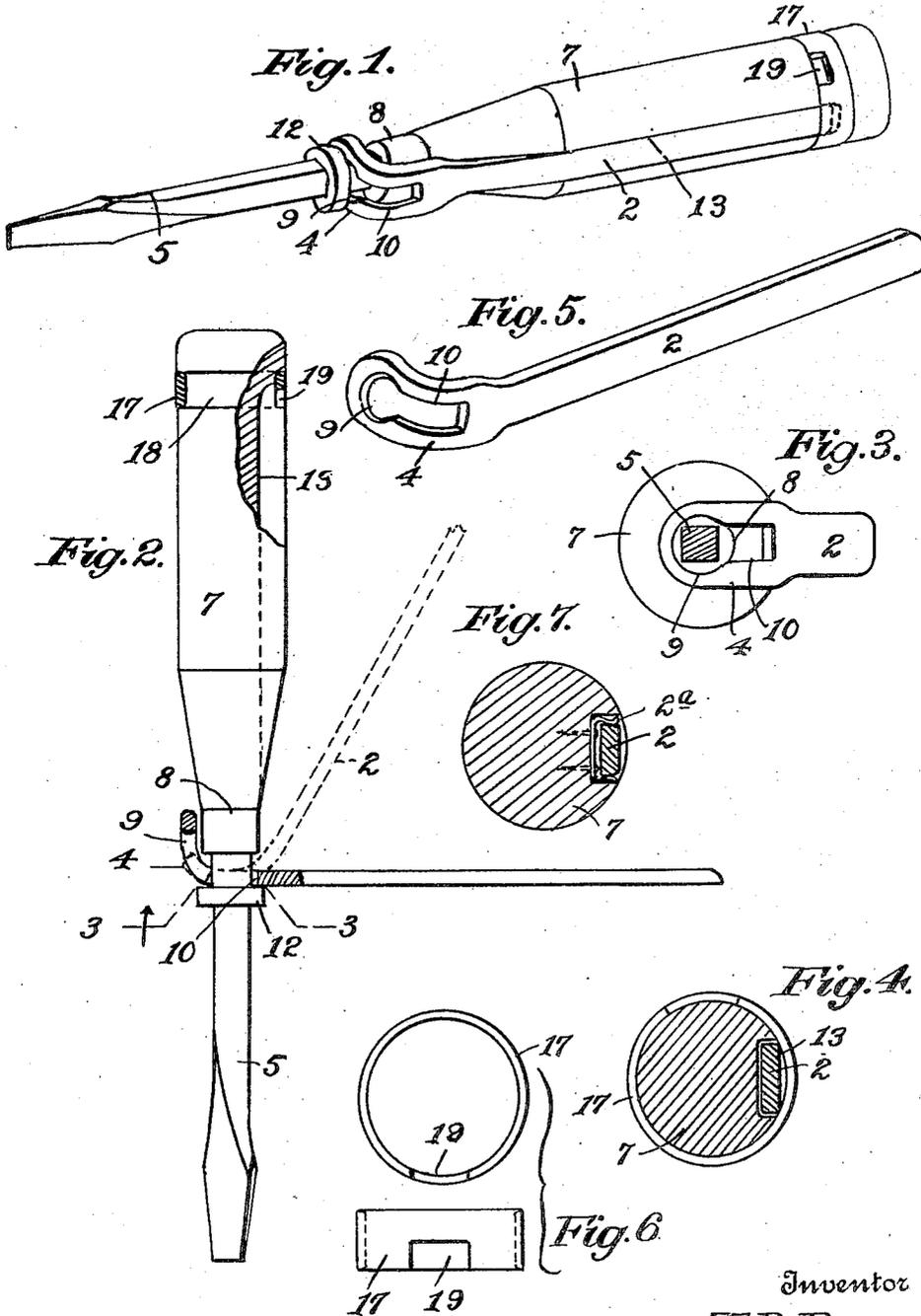
1,459,708

T. B. POWERS

SCREW DRIVER

Filed Aug. 9, 1922

2 Sheets-Sheet 1



Inventor

T. B. Powers

By his Attorney

Wm. H. Reid

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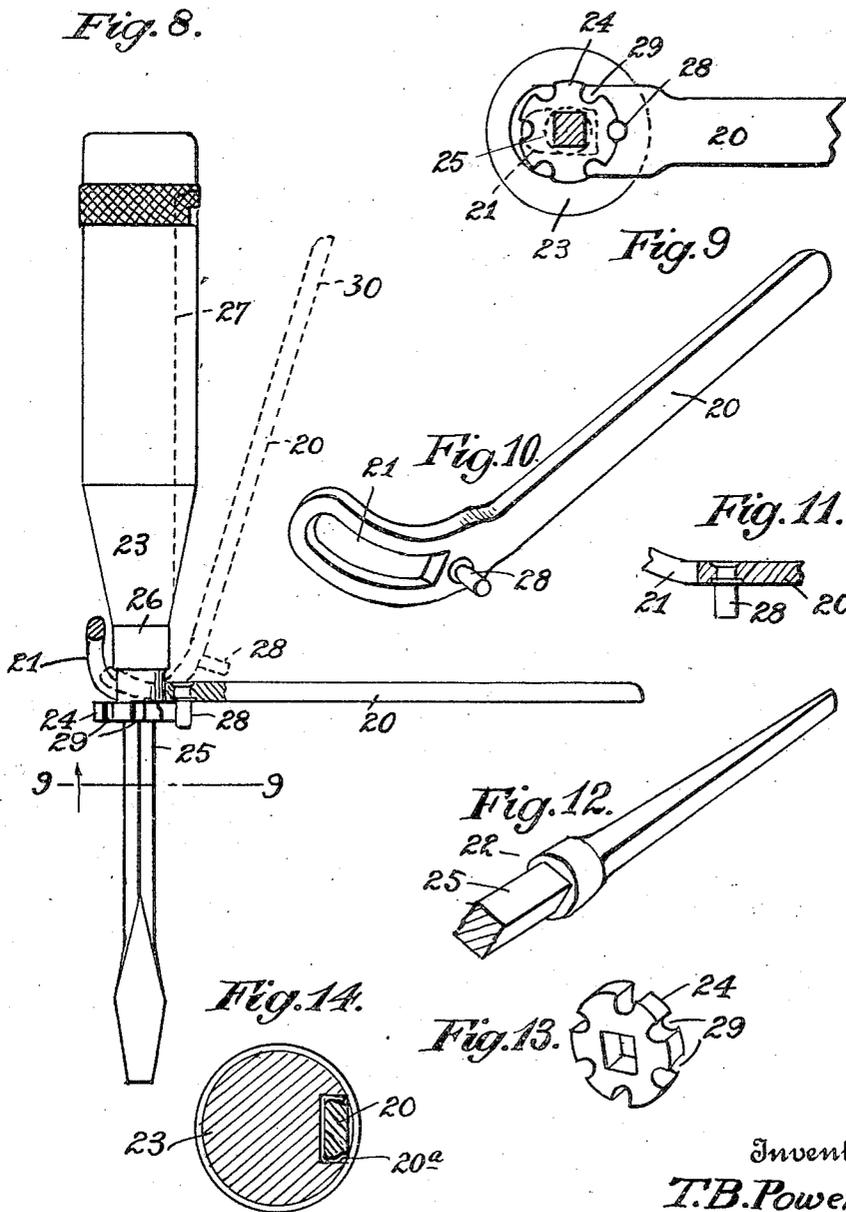
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UNITED STATES PATENT OFFICE.

TIMOTHY B. POWERS, OF BROOKLYN, NEW YORK.

SCREW DRIVER.

Application filed August 9, 1922. Serial No. 580,776.

To all whom it may concern:

Be it known that I, TIMOTHY B. POWERS, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Screw Drivers, of which the following is a specification.

The object of the present invention is to provide a screw driver with a lever or bar, that is permanently attached to the device, and which can be swung through a position lying close to the handle, to a position extending it transversely to the device, and so connected therewith that it will act as a lever to turn the screw driver in either direction.

A further object of the invention is to provide means of this character in which the lever can be caused to grip the screw driver projecting therefrom in several different directions as may be desired.

A further object of the invention is to provide in a device of this character, a lever or arm formed of a single member that will operate as set forth.

In the accompanying drawing showing embodiments of my invention, Figure 1 is a perspective view of the device with the lever closed.

Fig. 2 shows the lever in the open position.

Fig. 3 is a cross section on the line 3—3 of Fig. 2.

Fig. 4 is a cross section on the line 4—4 of Fig. 2.

Fig. 5 shows the lever detached.

Fig. 6 shows one holding means for the lever.

Fig. 7 shows another holding means.

Fig. 8 shows a modified form of locking means for the lever.

Fig. 9 is a section on the line 9—9 of Fig. 8.

Fig. 10 shows the lever for this form.

Fig. 11 shows the pin on the lever.

Fig. 12 shows a portion of the shank.

Fig. 13 shows the collar with the notched edge.

Fig. 14 shows one fastening means for the lever.

As shown in the drawing, I provide a lever in the form of a bar or strip 2, whose end portion is enlarged and provided with a slot. This end portion containing the slot is bent as indicated at 4. The screw-

driver shown comprises a shank 5 having the usual tapered end and the shank is secured in a suitable handle 7, that is provided with a ferrule 8, adjacent the shank. This shank 5, at its portion adjacent the ferrule is made with one or more flat sides, and preferably is formed square in cross section at this portion. The lever at the bent end has the slot enlarged, and preferably rounded to permit the lever to be inserted on the shank, as indicated in Fig. 1, and when the lever is moved a slight distance away from the handle, as indicated in broken lines in Fig. 2, the lever can turn freely at its slotted end around the shank and handle. But this slot, that is enlarged at 9 at the bent portion of the lever, is reduced in width and provided with straight or parallel sides, as indicated at 10, where the slot extends into the straight portion of the lever. I also preferably secure a collar 12, to the shank 5 a short distance below the handle or ferrule as indicated, and the lever engages the shank by its slotted portion between the collar and handle, and therefore cannot be removed from the device. When the lever is swung outwardly from the closed position shown in Fig. 1, to the transverse position shown in Fig. 2, the slotted end of the lever will slide across the shank and the width of the narrow slotted portion 10 is so arranged that it will closely engage opposite sides of the square shank. When the lever is brought to the position as shown in Fig. 2 it cannot swing further because the narrow slotted portion engages the collar 12, while the bent extremity engages, the ferrule 8, as shown. In this position the slot walls will engage the opposite sides of the square shank so that the lever when swung in either direction, will turn the shank and screw driver. It will be further understood that when the lever is at a slight angle to the handle as in Fig. 2 broken lines, it can turn by the larger end of the slot portion freely around the square shank, and can be brought to any one of four different positions, in which the slot walls will engage opposite side walls of the square shank.

The handle is preferably provided with a long slot 13 in which the lever 2 can be inserted, as indicated in Fig. 1. Holding means are preferably provided to retain the handle in this slot 13 when it is not in use.

In Fig. 6 I show a ring or collar 17 that turns in a slot 18 in the handle, and is provided with a notch 19 that will permit the lever to be moved into its slot 13 in the handle, but when the collar is shifted to bring the notch beyond the lever end, it will retain the lever in the slot 13.

In Figs. 8-14 I show a screw-driver with a bar lever and another form of cooperating means on the bar and the screw-driver. In this form the bar 20 has a slotted bent end portion 21, and the slot will permit a free turn on the shank 22, between the handle 23 and a special collar 24, secured on the shank 25, a short distance below the ferrule 26. This bar lever can swing on the shank from the position close in the handle slot 27, to the transverse position, as indicated in Fig. 2. The lever 20 is shown provided with a pin 28, and the collar 24 is provided with a series of notches 29 in its periphery, see Fig. 13. The pin 28 is so located on the lever that, as the lever is swung down from the turning position indicated in broken lines at 30 in Fig. 8, to the transverse position, the pin 28 will be caused to enter one of these notches 29, according to the position to which the lever is turned around the handle. This will cause the lever in the transverse position to be locked on the screw-driver, and prevent its turning around on the shank. It will be seen that this pin can be brought to enter any one of the notches 29 in the edge of the collar 24, and therefore a large number of different radial positions can be obtained for the lever.

It will thus be understood that my device is very simple in construction as well as operation, comprising merely a lever formed with a bent end provided with a special slot. This will cooperate with the shank or collar of the screw-driver, and the collar on the shank prevents removal of the lever. The screw-driver itself can be of any desired construction merely requiring one or more flat faces to engage a slotted lever with the holding collar, or else a special collar.

What I claim is:—

1. A screw driver comprising the handle, a shank, a collar on the shank adjacent the handle, a lever arm formed of a strip having at one end portion an aperture, the lever being bent to one side at the apertured end, said apertured end portion being arranged to surround the shank adjacent the collar to permit the lever when brought to extend upwardly in proximity to the handle to turn freely around the handle, said apertured portion also permitting the lever to be swung outwardly to extend transverse to the handle by the apertured portion moving across the shank, which apertured lever portion and the adjacent portion of the device are provided with cooperating means that engage at said transverse position of the lever.

2. A screw driver comprising the handle, a shank, a collar on the shank adjacent the handle, a lever arm formed of a strip having at one end portion an aperture, the lever being bent to one side at the apertured end, said apertured end portion being arranged to surround the shank adjacent the collar to permit the lever when brought to extend upwardly in proximity to the handle to turn freely around the handle, said apertured portion also permitting the lever to be swung outwardly to extend transverse to the handle by the apertured portion moving across the shank, which apertured lever portion and the adjacent portion of the device are provided with cooperating means that engage at said transverse position of the lever, and which said cooperating means are arranged to lock the lever in different radial positions transverse to the shank.

3. A screw-driver comprising the handle, a shank, a collar on the shank adjacent the handle, a lever formed of a strip having at one end portion an aperture, the lever being bent to one side at the apertured end, said apertured end portion being arranged to surround the shank adjacent the collar to permit the lever when brought to extend upwardly in proximity to the handle to turn freely around the handle, said apertured portion also permitting the lever to be swung outwardly to extend transverse to the handle by the apertured portion moving across the shank, which apertured lever portion and the shank are provided with cooperating means that engage at said transverse position of the lever.

4. A screw-driver comprising the handle, a shank, a collar on the shank adjacent the handle, a lever formed of a strip having at one end portion an aperture, the lever being bent to one side at the apertured end, said apertured end portion being arranged to surround the shank adjacent the collar to permit the lever when brought to extend upwardly in proximity to the handle to turn freely around the handle, said apertured portion also permitting the lever to be swung outwardly to extend transverse to the handle by the apertured portion moving across the shank, which apertured lever portion and the shank are provided with cooperating means that engage at said transverse position of the lever, and which said cooperating means are arranged to lock the lever in different radial positions transverse to the shank.

5. A screw-driver comprising a handle and a shank that is formed with flat sides adjacent the handle, and a lever arm formed of a strip having at one end portion a slot, the lever being bent to one side at the slotted end, said slotted portion being enlarged at the bent end to surround the flat shank adjacent the handle to permit the lever when brought to extend upwardly near the handle,

to turn freely around the handle, said slot also permitting the lever to be swung outwardly to extend transverse to the handle by the slotted portion moving across the shank, which slotted portion beyond the enlarged end is of a width to grip the end shank walls and prevent the lever turning around the shank.

6. A screw driver comprising a handle, and a shank that is formed with flat sides adjacent the handle, and a lever arm formed of a strip having at one portion a slot, the lever being bent to one side at the slotted end, said slotted portion being enlarged at the bent end to surround the flat shank adjacent the handle to permit the lever when brought to extend upwardly near the handle, to turn freely around the handle, said slot also permitting the lever to be swung outwardly to extend transverse to the handle by the slotted portion moving across the shank, which slotted portion beyond the enlarged end is of a width to grip the shank walls and prevent the lever turning around the shank, and which lever can engage the shank in different positions by the narrow

slot walls engaging different flat sides of the shank.

7. A screw driver comprising a handle, a shank, a collar on the shank adjacent the handle, the shank being formed square in cross section between the handle and collar, a lever arm formed of a strip having at one end portion a slot, the lever being bent to one side at the slotted end, said slotted portion being enlarged at the bent end to surround the said square shank adjacent the collar to permit the lever when brought to extend upwardly near the handle, to turn freely around the handle, said slot also permitting the lever to be swung outwardly to extend transverse to the handle by the slotted portion moving across the square shank, which slotted portion beyond the enlarged end is of a width to grip the opposite shank walls and prevent the lever turning around the shank, and which lever can engage the shank in different positions by the slot walls engaging different flat sides of the shank.

Signed at New York city, N. Y., on July 31, 1922.

TIMOTHY B. POWERS.