July 5, 1932. J. C. SIEGRIST 1,866,426

COMBINATION WRENCH

Filed June 5, 1931 2 Sheets-Sheet 1

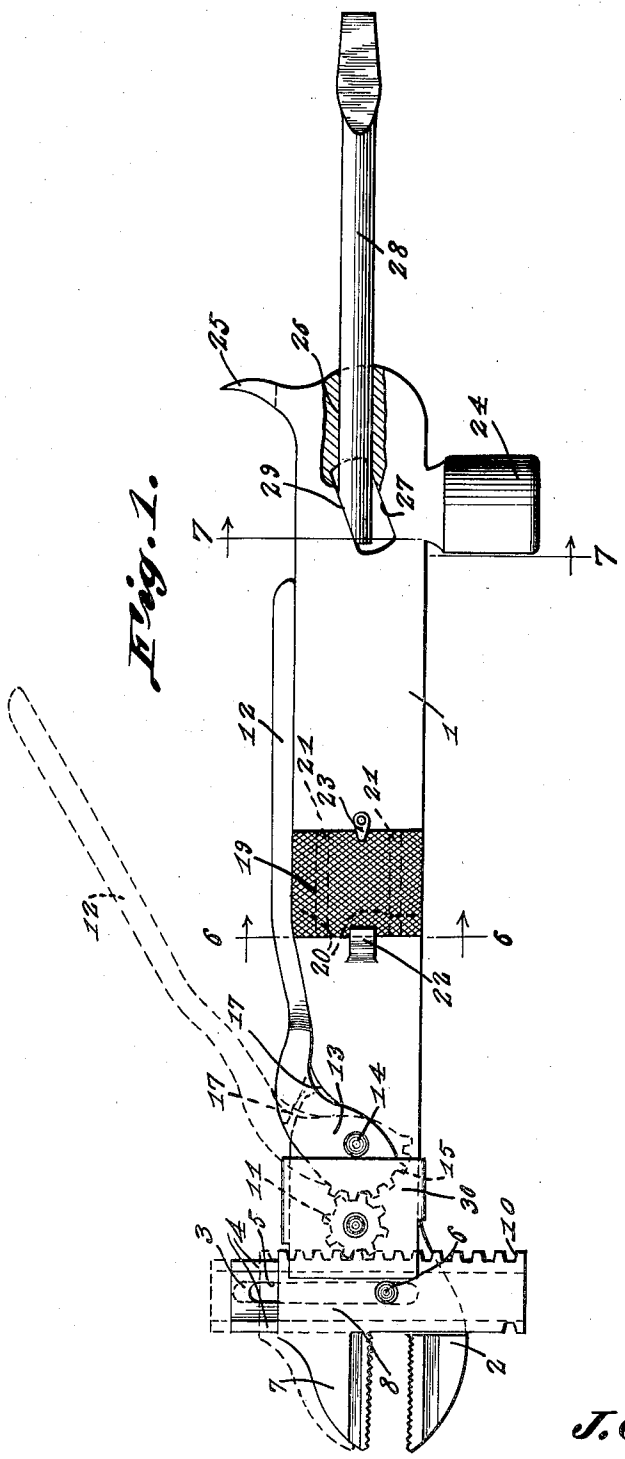


Fig. 1.

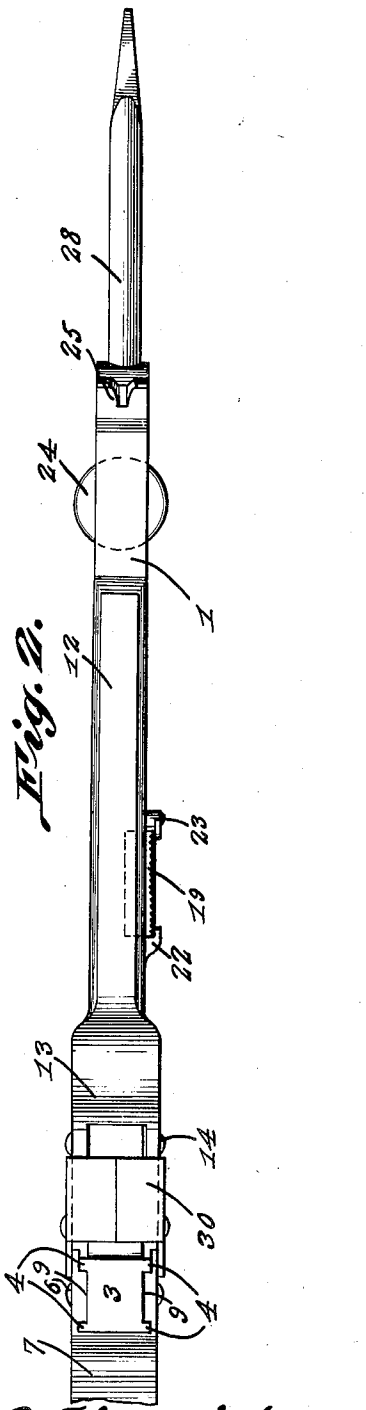


Fig. 2.

J. C. Siegrist, INVENTOR

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Filed June 5, 1931 2 Sheets-Sheet 2

Fig. 4.

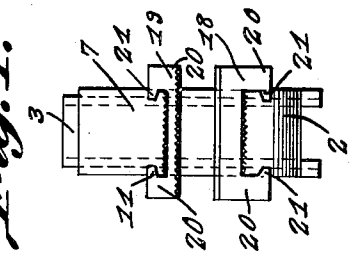


Fig. 7.

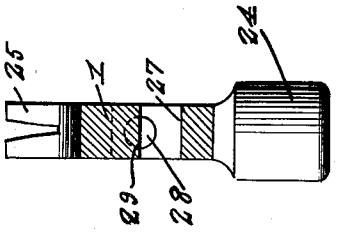


Fig. 3.

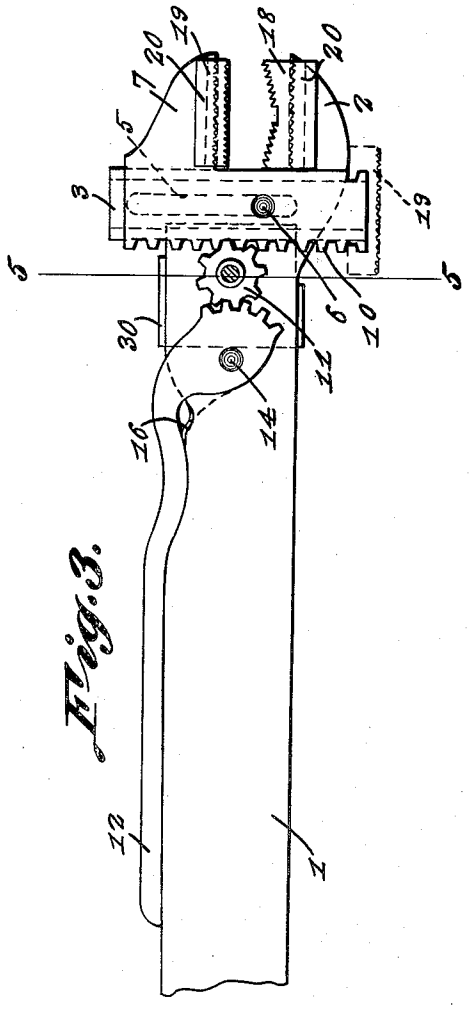


Fig. 6.

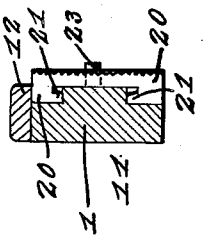
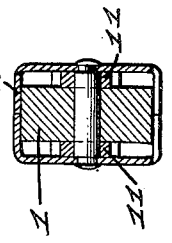


Fig. 5.



J. C. Siegrist, INVENTOR

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Patented July 5, 1932 1,866,426

UNITED STATES PATENT OFFICE

JACOB C. SIEGRIST, OF WEST VIEW, PENNSYLVANIA, ASSIGNOR TO JAMES H. CREA, OF BUFFALO, NEW YORK

COMBINATION WRENCH

Application filed June 5, 1931. Serial No. 542,358.

This invention relates to wrenches and has for the primary object, the provision of an efficient jaw operating means for permitting the jaws to be easily and quickly adjusted to an object by manually sliding one jaw relative to the other jaw and the grasping of said operating means and handle of the wrench, whereby said jaws will be caused to tightly grip the object without the possibility of the wrench slipping relative to the object.

Another object of this invention is the provision of means, whereby the jaws may be converted for operation as a pipe wrench and said means when not applied to the jaws may be suitably carried by other portions of the wrench and employed as a file.

A further object of this invention is the provision of means to permit the jaw operating means to cooperate with the handle of the wrench to provide a wire cutter.

A further object of this invention is the provision of a handle so constructed that a hammer is provided of the claw type and also may be employed to provide a holder for a screw driver or receive a socket member to provide a wrench of the socket type.

A still further object of this invention is the provision of a wrench of the above stated character which will be simple, durable and efficient and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation partly in section illustrating a wrench constructed in accordance with my invention.

Figure 2 is a plan view illustrating the same.

Figure 3 is a fragmentary side elevation illustrating the jaws converted to provide a pipe wrench.

Figure 4 is an end view illustrating the same.

Figure 5 is a sectional view taken on the line 5—5 of Figure 3.

Figure 6 is a sectional view taken on the line 7—7 of Figure 1.

Figure 7 is a sectional view taken on the line 7—7 of Figure 1.

Referring in detail to the drawings, the numeral 1 indicates a handle having a stationary jaw 2 formed integral with one end thereof. The jaw 2 is disposed laterally of the handle 1. The handle at the end carrying the jaw 2 is enlarged to provide a body 3 which projects laterally of the handle and has its opposite faces grooved to provide guide flanges 4 and also is provided with an elongated slot 5 to receive a pin 6 carried by a movable jaw 7. The movable jaw 7 is shaped similar to the jaw 2 and is formed integrally with spaced side plates 8 having ribs 9 fitting between the guide flanges 4 of the body 3. The pin 6 extends through the slot 5 and also extends through the side plates of the movable jaw cooperating with the ribs 9 and flanges 4 in slidably securing the movable jaw to the body.

Teeth 10 are formed on the edges of the plates 8 and mesh with pinions 11 journalled to the sides of the handle 1. A lever 12 has one end enlarged and bifurcated to form spaced ears 13 pivoted to the handle 1 as shown at 14. The ears straddle the handle and have a series of teeth 15 formed on the ends thereof and adapted to mesh with the teeth of the pinions 11 during certain positions of the lever 12 relative to the handle 1. By positioning the lever 12 at substantially right angles to the handle 1, the teeth 15 are disengaged from the pinions 11 and the movable jaw may then be adjusted relative to the stationary jaw for the purpose of providing a quick adjustment of the jaws to an object. When the jaws have been adjusted to an object, the lever 12 is moved in the direction of the handle and when assuming a dotted line position as shown in Figure 1, the teeth 15 mesh with the pinions 11 and by a further movement of the lever toward the handle, the movable jaw will be urged toward the sta-

tionary jaw thereby effectively gripping the object between the jaws without possibility of the jaws slipping relative to the object.

The handle 1 adjacent the pivot 14 is cut away to provide a curved rib cooperating with a rib 17 on the lever 12 in providing a wire cutter.

Jaw plates 18 and 19 are provided with spaced flanges 20 to engage opposite side faces of the jaws 2 and 7 and are provided with ribs 21 received within the grooves formed in the side faces of the jaws. The plates 18 and 19 are provided with serrations and the plate 18 is provided with diverging faces cooperating with the serrated face of the plate 18 in forming the jaws into a wrench capable of operation on pipes and similar objects. When not desiring to employ the plates 18 and 19, the plate 18 is mounted on the end of the body as shown in Figure 3, while the handle 1 is grooved to form a pocket for receiving the plate 19. A lug 22 is formed on the handle 1 adjacent the pocket and cooperates with the pivoted latch 23 for securing the plate 19 in said pocket. The plate 18 or 19 when mounted in the last named positions may be employed as a file.

The handle 1 has formed thereon a hammer striking element 24 located adjacent the end of the handle remote from the jaws. Said end of the handle at the opposite side thereof from the element 24 is provided with a bifurcated element to form a claw 25 for extracting nails and the like. The last named end of the handle is provided with an opening 26 communicating with a slot 27 and a screw driver shank 28 is adapted to be positioned in the opening 26, and is provided with a bevelled face 29 adapted to engage one of the walls of the slot 27. The slot 27 is disposed at an angle relative to the opening 26 and with the bevelled face 29 in engagement with one wall thereof will prevent the screw driver shank from rotating relative to the handle 1. When the screw driver shank 28 is removed from the handle 1, the slot 27 may be employed for receiving the elongated shank of a socket element (not shown) so that the handle 1 or entire device may be converted into a socket wrench. A sleeve 30 surrounds the handle 1 and is adapted to cover the pinions 11 and teeth of the lever 12 and certain teeth of the side plates 8 and is mounted upon the shaft which rotatably supports the pinions 11.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having thus described my invention, what I claim is:

A wrench comprising a handle, a body on the handle and having a slot, guide flanges on the sides of the body, a stationary jaw carried by the body, a movable jaw associated with the stationary jaw, spaced plates formed on the movable jaw and engaging opposite sides of the body, ribs on said plates and fitting between the flanges, a pin connecting the plates and extending through the slot, and an operating means for the movable jaw to adjust the latter relative to the stationary jaw.

In testimony whereof I affix my signature.

JACOB C. SIEGRIST.