

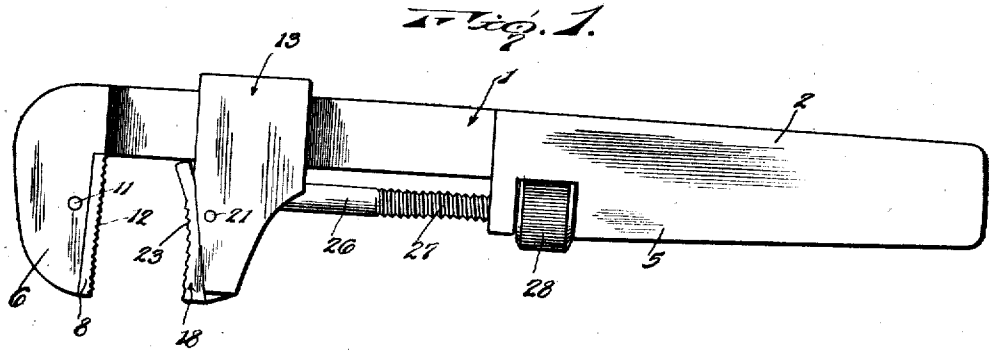
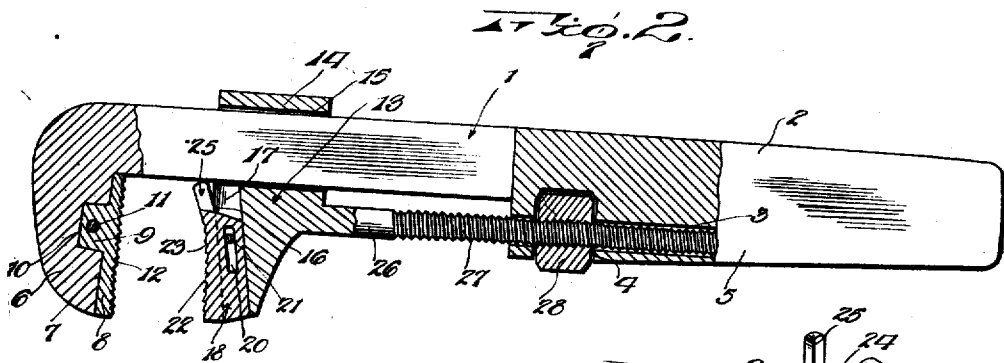
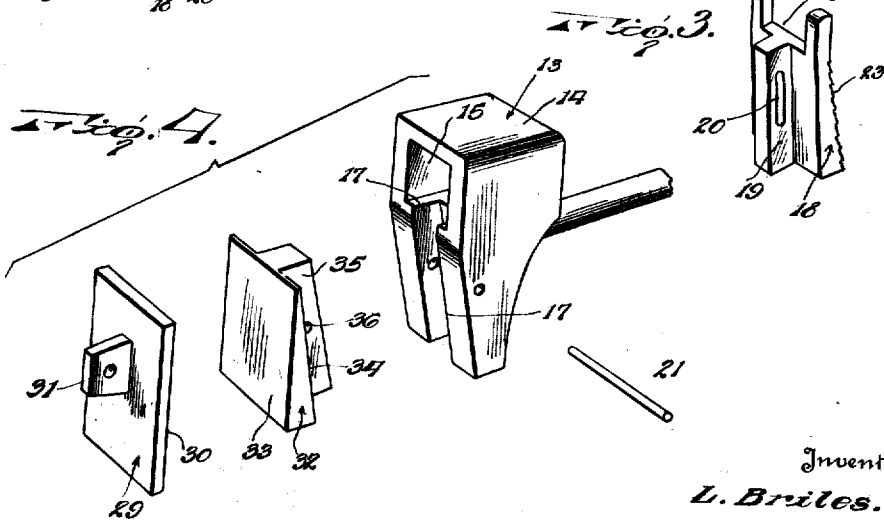
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L. BRILES.

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WRENCH

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By

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UNITED STATES PATENT OFFICE.

LARKIN BRILES, OF DAVIS CREEK, CALIFORNIA.

WRENCH.

Application filed July 7, 1922. Serial No. 573,271.

To all whom it may concern:

Be it known that I, LARKIN BRILES, a citizen of the United States, residing at Davis Creek, in the county of Modoc and State of California, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches and more particularly to that type embodying a stock carrying a fixed jaw, a jaw slidably adjustable upon the stock, and means for adjusting the slidable jaw, and one of the primary objects of the present invention is to improve the adjusting means and render the same more substantial than the corresponding means of previously designed wrenches of this type. Also in this connection the invention has as its object to so construct the adjusting means that it will serve to materially reinforce and brace the adjustable jaw of the wrench and may be operated efficiently at all times and without binding.

Another object of the invention is to provide a novel jaw construction adapting the wrench to be employed upon pipes, rods, and the like, equally as well as upon bolt heads and nuts.

Another object of the invention is to provide in connection with one of the jaw members a face plate so supported thereon and having its working face so formed as to insure of a firm and strong grip upon a round object such as a pipe or rod to which the wrench may be applied, the face plate being further so mounted that the wrench may be instantly released from gripping engagement with the object upon mere backward rotation.

In the accompanying drawing:

Figure 1 is a side elevation of the wrench embodying the invention adapted for application to pipes and other round objects;

Fig. 2 is a vertical longitudinal sectional view through the wrench shown in Figure 1;

Fig. 3 is a perspective view of the shiftable face plate detached from the adjustable jaw;

Fig. 4 is a group perspective view illustrating a modification of the invention.

The wrench embodying the invention comprises a stock which is indicated in general by the numeral 1 and which is provided with a handle portion 2 which may be formed integrally therewith or secured

thereto in any suitable manner. Preferably, however, the handle 2 will be integral with the stock, and, for a purpose to be presently explained, it is formed with a longitudinally extending bore 3 and with a transverse recess 4 which is intersected by the bore, the recess being located near the forward end of the bore. The bore 3 and recess 4 are preferably formed in an extended portion 5 of the handle 2 which portion lies beyond one edge of the shank of the stock. A fixed jaw 6 is formed or provided at the forward end of the shank of the stock 1 and projects beyond the said edge of the said shank and has a face 7 which is presented toward the forward end of the extended or offset portion 5 of the handle 2. In the form of the invention shown in Figure 1 of the drawings, a face plate 8 is disposed against the face 7 of the jaw 6 and is provided with an anchoring lug 9 which is disposed within a seat or recess 10 formed in the said face 7, a pin 11 being passed transversely through the said jaw and through the lug to removably secure the face plate in position. The working face of the plate 8, in this form, is preferably serrated as indicated by the numeral 12.

The adjustable or movable jaw of the wrench is indicated in general by the numeral 13 and the same comprises a jaw portion 14 formed with an opening 15 adapting the jaw to fit slidably upon the shank of the stock 1. This jaw is provided with a face 16 which opposes the face 7 of the jaw 6 but which is disposed at an angle of inclination to the shank of the stock 1 and is formed with a longitudinally extending channel 17 similarly inclined. In the form of the invention shown in Figs. 1, 2 and 3 a face plate 18 is provided in connection with the jaw 13 and is disposed slidably against the face 16 of said jaw and is provided with a rib 19 which fits slidably in the channel 17. This rib is formed with a longitudinal slot 20, and a pin 21 is removably fitted transversely through the jaw 13 and extends across the channel 17 and through the said slot 20 and serves to connect the face plate with the jaw and yet permit of sliding movement of the face plate with relation to said jaw. The face plate 18 is provided with a serrated working face, indicated by the numeral 22 and this working face is preferably concave in a direction longitu-

dinally of the face plate, and the serrations which are indicated by the numeral 23, are preferably arranged to face in the general direction of the outer end of said plate 18.

At its inner end the plate is recessed, as at 24, to provide spaced lugs 25 which may straddle the shank of the stock of the wrench when the face plate is shifted inwardly along the face of the jaw 13. At this point it will be understood that initially the face plate 18 will occupy substantially the position shown in Fig. 2 of the drawings, or, in other words, will be at the limit of its movement away from the shank of the stock 1. However, when the jaw 13 has been suitably adjusted by means to be presently described and the wrench is applied to a pipe, rod or other round object to be turned, and is rotated in the proper direction, the serrations 23, biting into the surface of the object, will grip the same, and the face plate 18 will be shifted along the inclined face of the jaw 13 and in the direction of the shank of the stock 1. This movement will also cause the face plate to approach the face plate 8 so that the object will be gripped more firmly as force is exerted upon the wrench. However, if the wrench be rotated in the reverse direction the object engaged thereby will be released automatically due to recession of the face plate 18 to its normal position, and the wrench may be rotated about the object to obtain a new purchase thereon.

In order that the jaw 13 may be adjusted it is provided upon its rear side with a shank 26 which extends parallel to the shank of the wrench stock and fits more or less snugly and yet slidably into the bore 3 of the extension 5 of the handle 2. This portion of the shank 26 is threaded, as indicated by the numeral 27, and is engaged by an adjusting nut 28 which is confined between the walls of the recess 4, as shown clearly in Figs. 1 and 2. It will be evident at this point that the jaw 13 may be conveniently and accurately adjusted by rotating the nut 28 and by reason of the fact that the shank 26 extends into the bore 3 in the handle extension 5, the shank is itself firmly braced and at the same time reinforcement is afforded the jaw 13. Furthermore, displacement of the shank 26 under stresses incident to the use of the wrench is prevented by reason of the engagement of the shank in the said bore. It will be noted that the working face of the plate 8 is slightly inclined with respect to the adjacent longitudinal edge of the shank 1, while the working face of the plate 18 is more pronouncedly inclined with respect to said longitudinal edge whereby to firmly grip an object supported between said face plates.

As previously stated the pins 11 and 21 are removable and their removal permits of

the detachment of the face plates 8 and 18 so that other face plates such, for example, as those shown in Fig. 4, may be substituted therefor. One of these face plates is indicated by the numeral 29 and is provided with a flat or plane working face 30 and with a lug upon its opposite face indicated by the numeral 31 and corresponding in form and function to the lug 9. The other face plate in this modified structure is indicated by the numeral 32 and the same is of substantial wedge shape being thicker at one end than at the other and therefore having a working face 33 which, in the applied position of the plate, will occupy a plane parallel to the working face 30 of the plate 29, the opposite face 34 of the plate 32 being disposed in a plane at an angle to the plane of the face 33 and corresponding in its inclination to that of the face 16 of the jaw 13. This plate 32 is provided with a rib 35 corresponding to the rib 19 of the face plate 18 but provided with a single small transverse opening 36 instead of a slot such as the slot 20 so that when the pin 21 is fitted into place the plate 32 will be held rigid with relation to the jaw 13. It will now be understood that by removing the pins 11 and 21, the face plates 8 and 29 and 18 and 32 may be respectively substituted for each other depending upon the nature of the object to which the wrench is to be applied.

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

1. A wrench comprising a shank and co-acting jaws having opposing faces, one of which is adjustable with relation to the other, working face of the plates mounted upon the jaws, the face plate of one of the jaws being slightly inclined with respect to the longitudinal edge of the shank and the working face of the plate of the other jaw being more pronouncedly inclined with respect to said longitudinal edge, and means including a pin and slot connection for slidably supporting one of said face plates upon the adjacent jaw, the working face of said plate being, when the plate is in position, located in a plane diverging from the plane of the face of the first-mentioned jaw and in the direction of the outer ends of the jaws, the last-mentioned face plate being arranged for coaction with the other face plate to grip an object supported therebetween.

2. A wrench comprising a shank having a fixed jaw, a movable jaw slidably mounted on the shank and having an inclined groove formed therein, the walls of which are perforated, a face plate slidably mounted on the movable jaw and having a depending slotted rib fitting in the groove of the movable jaw and provided with spaced terminal lugs adapted to span an adjacent portion of the shank, a pin extending through the perforations in the movable jaw and through

the slot in the rib of the face plate for limiting the sliding movement of said face plate, and a face plate carried by the fixed jaw, the working face of the plate of the fixed jaw being slightly inclined with respect to the longitudinal edge of the shank and the working face of the plate of the movable jaw being more pronouncedly inclined with respect to said longitudinal edge whereby to firmly grip an object supported between said face plates. 10

In testimony whereof I affix my signature.

LARKIN BRILES. [L. S.]