

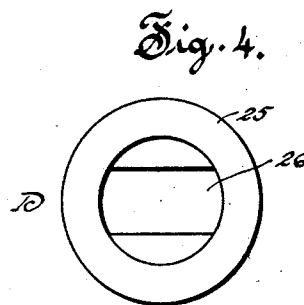
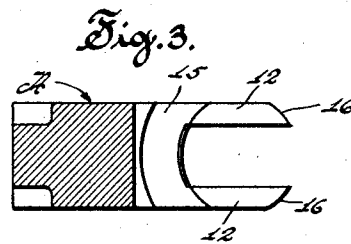
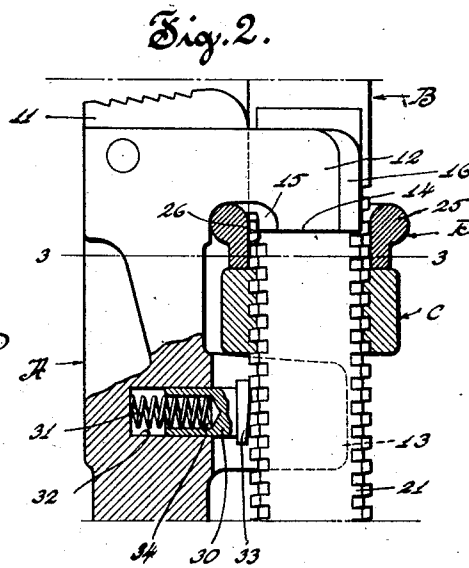
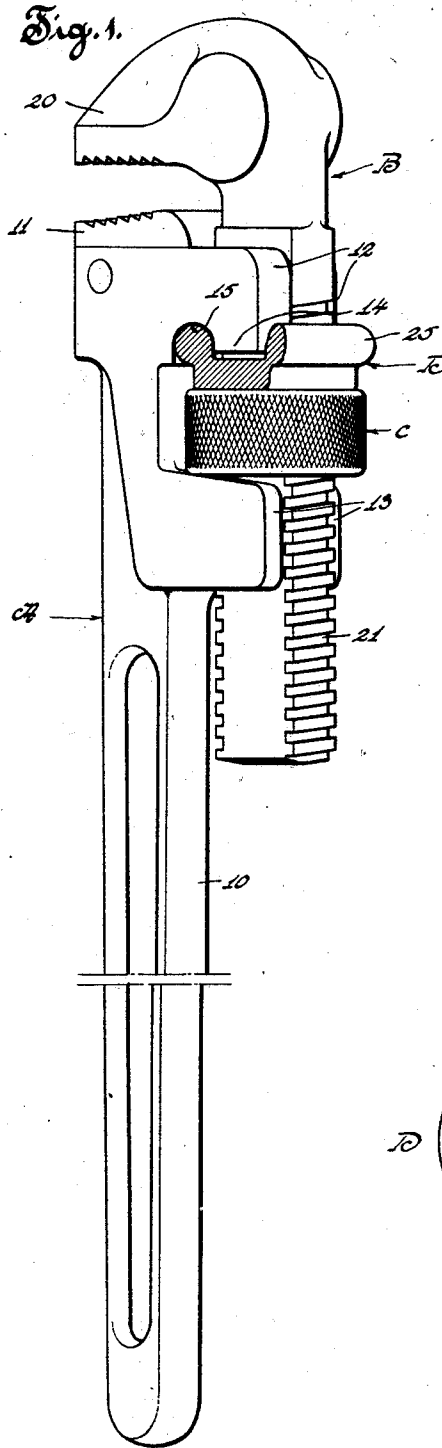
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WRENCH

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WRENCH.

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This invention relates to pipe wrenches of the type having a handle provided with a fixed jaw, and a shank having a jaw co-operating with the first one, the shank being longitudinally adjustable and having a pivotal movement relative to the handle.

An aim of the invention is to provide a pipe wrench of this sort having various features of novelty and advantage, and which is particularly characterized by its strength and durability, by its decided simplicity in construction and economy in manufacture, and by its effectiveness in use.

A more particular object of the invention is to provide a pipe wrench with a drop-forged handle so as to obtain maximum strength and durability; the handle having formed integrally therewith arms between which a rocker member and the sleeve nut for adjusting the adjustable jaw are confined, the arms being so arranged that they may be very economically machined to the desired shape, broaching and other similar expensive operations being avoided. The rocker member, which may be economically manufactured, is separate from the sleeve nut so that the parts may be readily assembled and held in place by the arms and without the intervention of a part separately secured to the handle. The rocker member, which surrounds and reinforces lugs on one pair of arms, is non-rotatable with respect to the shank which it surrounds and is of such size as to extend laterally beyond the sleeve nut so that this rocker member constitutes a nut guard in that it prevents the sleeve nut from engaging a surface on which the wrench may be laid and thus disturbing the adjustment of the wrench. My improved wrench is frameless in that it has no separate frame or pivoted housing for the adjustable nut.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the appended claim.

In the accompanying drawings, wherein I have shown, for illustrative purposes, one embodiment which the invention may take:

Fig. 1 is a perspective view of the entire wrench;

Fig. 2 is a side view showing the manner in which the pivoted jaw member is carried by the handle or body portion of the wrench, parts being in section for the purpose of illustration;

Fig. 3 is a transverse sectional view through the body portion of the wrench, this view being taken substantially on line 3—3 of Fig. 2; and

Fig. 4 is a face view of the rocker member.

Referring to the drawings in detail, A designates generally the body portion of the wrench, this portion having a handle 10 at one end and a stationary jaw 11 at the other end. Formed integrally with the body portion are two pairs of backwardly extending arms, spaced one behind the other, with the arms of each pair transversely aligned. The arms of the foremost pair are designated by the numeral 12 and those of the rearmost pair by the numeral 13. Each of the arms 12 has a rearwardly extending lug 14 which is formed by making a groove 15 in the rear edges of the arms adjacent the body portion A. This groove 15 is longitudinally curved and is parti-circular in cross section so as to conform to, and constitute a seat for, a similarly shaped bead on the rocker member. The outer edges 16 of the lugs are also transversely curved, as shown most clearly in Fig. 3.

Preferably, the body portion of the wrench is made of a drop forging, and, therefore, it will have great strength and durability which is not possible in the case of a casting. In drop forging the handle portion, there is formed integrally therewith a portion which is to constitute the arms 12 and 13. This portion is grooved so as to form the arms with a longitudinally extending groove therebetween which is adapted to receive the shank of the adjustable jaw member. Between the pairs of arms is a transversely extending groove which receives the sleeve nut and rocker member. Owing to the fact that the arms are not connected at their outer ends, that is, there is no bridge between the arms, the machining operations necessary to form the arms may all be of a simple nature and economically carried out, it being unnecessary to resort to broaching.

The adjustable jaw member, designated generally by the letter B has a jaw 20 car-

ried by a threaded shank 21 positioned in the longitudinally extending groove between the arms 12 and 13. C designates a sleeve nut having an internal thread cooperating with the thread on the shank. The rocker member, which is designated by the letter D, has a bead 25 which, at least at that portion adapted to seat in the groove 15, is longitudinally curved and is partly rounded in cross-section to correspond to the groove 15. The rocker member has an opening 26 through which the shank 21 extends, and this opening is generally similar to the cross sectional shape of the shank so that the rocker member cannot turn. The bead 25 is of larger diameter than the nut so that, when the wrench is laid down on a surface, the nut will not engage that surface and have its position of adjustment disturbed. The rocker member does not necessarily have to be round. The nut and rocker member are of such size that, when the parts are assembled, the rear edge of the nut will engage the front edges of the arm 13, thus limiting the extent of pivotal movement of the adjustable jaw member and holding the parts in place.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that my improved wrench comprises a relatively few number of parts. The body portion of the wrench is extremely strong and durable and may be economically manufactured. The parts are assembled by positioning the rocker member with its bead in the groove 15; inserting the nut between the rocker member and the arms 13; and then bringing the rear end of the shank into engagement with the thread on the nut and turning the nut to draw the shank through the rocker member and nut. Owing to the fact that the rocker member is separate from the nut, the parts may be thus assembled. After the parts have been assembled, the nut and rocker member are confined and held between the pairs of arms 12 and 13 by the arms themselves. It will further be noted that the bead on the rocker member more or less closely surrounds the lugs 14 so as to reinforce the same. Since the rocker member is of larger diameter or transverse dimension than that of the nut C, and the rocker member is non-rotatable with respect to the shank 21, it is obvious that, when the wrench is laid down on a surface, the bead will engage that surface, thereby preventing the nut from engaging the same and having its adjustment disturbed.

For the purpose of normally swinging the shank in a direction to move the pivoted jaw towards the fixed one, a plunger 30 and a spring 31 are provided. The plunger fits in a recess 32 in the body portion of the

wrench and has a head 33 engaging the shank. The inner end of the plunger has a recess 34 which receives the spring 31, as illustrated.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claim is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim as my invention:

A pipe wrench comprising a drop-forged body-part having a handle at one end and provided at its other end with two longitudinally spaced-apart pairs of arms projecting from the back of the body-part and alining transversely thereof, said body-part having a stationary outwardly facing jaw on its opposite end, a pivoted jaw spaced beyond the stationary jaw and provided with a shank detachably fitting between the arms of each pair and disposed longitudinally of said body-part and adapted for adjustment in substantially parallel relation thereto, said shank having flat lateral faces and screw-threads at its opposite edges, a nut disposed between said pairs of arms and in threaded engagement upon the shank for turning on the shank to move the latter longitudinally, said nut engaging the inner pair of arms to limit the inward movement of said shank, and a rocker member of ring form loosely fitting about the shank and against the outer side of said nut, said rocker member having a forwardly projecting beaded annular flange projecting beyond the circumference of the rocking member and said nut, the outer pair of arms of said body-part having curved recesses in their inner edges facing said rocker member and adapted to loosely receive therein the adjacent portion of said beaded flange, whereby the rocker member together with the nut and shank and the movable jaw carried thereby may swing as a unit upon the outer pair of arms, said rocking member being freely rotatable on the shank and independent of said nut, whereby when the wrench is laid on a surface the beaded flange spaces the nut from the surface and shifting of the nut is prevented incident to frictional contact between the wrench and the surface.

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