Oct. 28, 1930. W. R. HOLDRIDGE 1,779,704

WRENCH

Filed Nov. 28, 1928

Fig. 1.

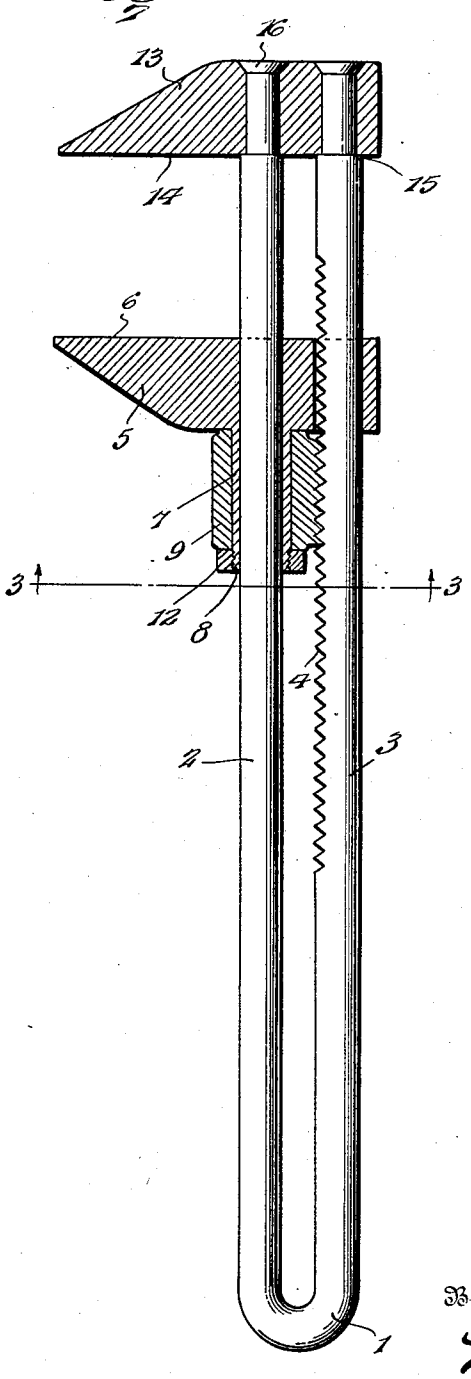


Fig. 2.

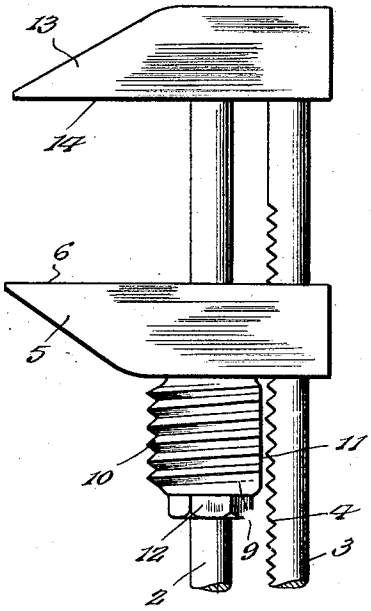
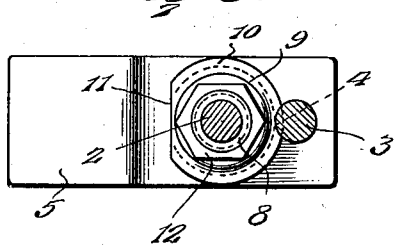


Fig. 3.



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UNITED STATES PATENT OFFICE

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WRENCH

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This invention relates to wrenches, and more particularly to those of the sliding jaw type.

One object of the invention is to provide a wrench having fixed and movable jaws and wherein the movable jaw is equipped with a worm nut provided with a flattened side permitting quick adjustment of said movable jaw.

Another object of the invention is to provide a wrench having a substantially U-shaped rod carrying the movable jaw and also providing a handle.

A further object of the invention is to provide a wrench wherein the nut is formed with a thread of such pitch that, after the movable jaw is initially shifted to clamp the work between the jaws, a substantially half turn of said nut will serve to bind the jaws in engagement with the work.

Other objects of the invention not specifically mentioned in the foregoing will appear during the course of the following description.

In the accompanying drawings:

Figure 1 is a sectional view of the device showing the teeth of the worm nut in engagement with the teeth of the handle,

Figure 2 is a fragmentary side elevation showing the flattened side of the worm nut disposed to confront the teeth of the handle,

Figure 3 is a fragmentary sectional view on the line 3—3 of Figure 2 looking in the direction indicated by the arrows.

In carrying the invention into effect, I employ a preferably steel rod 1 which is bent into substantially U-shape to provide parallel legs 2 and 3. The leg 3 is notched at the inner side of its upper end portion to provide a rack 4. Slidably mounted on the legs 2 and 3 is a movable jaw 5 provided with a flat gripping face 6. Formed on the jaw 5 and depending from the lower wall thereof is a sleeve 7 slidably surrounding the rod 2, said sleeve having a threaded lower end portion 8.

Rotatably mounted on the sleeve 7 is a worm nut 9 having a thread 10 for engagement with the teeth of the rack 4. The worm nut is provided with a flattened side 11. Screwed on the threaded portion of said sleeve is a nut 12 providing a stop shoulder for the worm 9.

Associated with the movable jaw 5 is a fixed jaw 13 having a flat gripping face 14. The upper end portions of the legs 2 and 3 are reduced to provide stop shoulders 15 for said fixed jaw 13, and the reduced portions extend through the jaw and are upset as at 16. The fixed jaw is thus rigidly secured in position.

In use, the fixed jaw 13 is brought into contact with one side of the work and the movable jaw 5 engaged with the opposite side thereof. The latter mentioned operation is accomplished by rotating the worm nut 9 until the flattened side 11 thereof is disposed to confront the teeth 4, thus disengaging the worm nut from the teeth. The jaw 5 may then be moved into position. The worm nut is then again rotated to engage the thread thereof with the rack 4 and advance the movable jaw, and it is to be noted that the pitch of the thread of the worm nut is such that substantially half a turn of said nut will serve to bind the work between the jaws. The work may then be moved as desired. When it is desired to release the jaw 5, the worm 9 is rotated in an opposite direction until the flattened side 11 confronts the rack 4, thus permitting the jaw to be retracted and the wrench disengaged from the work.

Having thus described the invention, I claim:

1. A wrench including a rod bent to provide a handle having spaced legs, a fixed jaw rigidly connecting the free ends of said legs, a movable jaw slidably mounted on the legs to coact with the fixed jaw and provided with a sleeve slidably surrounding one of said legs, teeth formed on the other of said legs, and a nut rotatably mounted on said sleeve to coact with said teeth for shifting the movable jaw, the nut being provided with a portion to clear the teeth whereby the movable jaw may be quickly shifted.

2. A device of the character described including a U-shaped handle having spaced legs, a fixed jaw rigidly connecting the free ends of said legs, a movable jaw slidably mounted on the legs and provided with a

depending sleeve freely receiving one of the legs therethrough, teeth on the other of said legs, and a nut rotatably mounted on said sleeve and provided with a thread to engage said teeth whereby the nut may be rotated for shifting the movable jaw, said thread being of a pitch such that substantially a half turn of the nut will advance the movable jaw sufficiently to bind the work between the jaws after the jaws have been initially shifted to engage the work.

3. A device of the character described including a fixed jaw, a rod connected thereto and forming a handle provided with spaced legs, a movable jaw slidably mounted on the legs and having a sleeve formed integrally therewith, said sleeve receiving one of the legs therethrough and providing an elongated bearing for the movable jaw, teeth on the other of said legs, and a nut rotatably mounted on said sleeve to coact with said teeth for shifting the movable jaw.

In testimony whereof I affix my signature.

WILLIAM R. HOLDRIDGE. [L. S.]