

(No Model.)

T. A. FERGUSON.
WRENCH.

No. 468,648.

Patented Feb. 9, 1892.

Fig. 1.

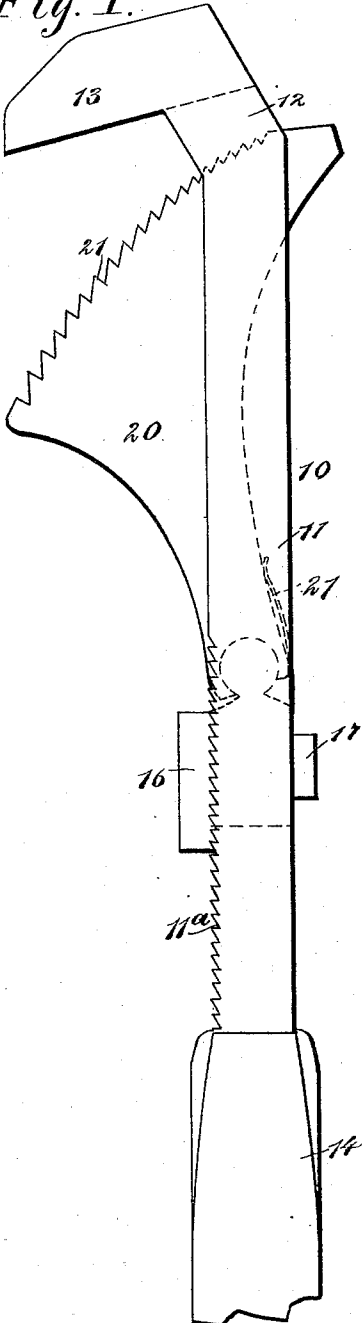


Fig. 2.

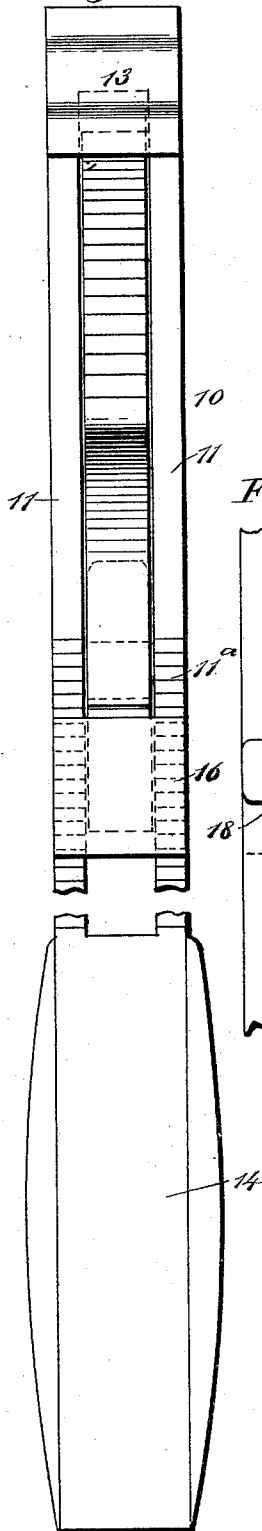


Fig. 3.

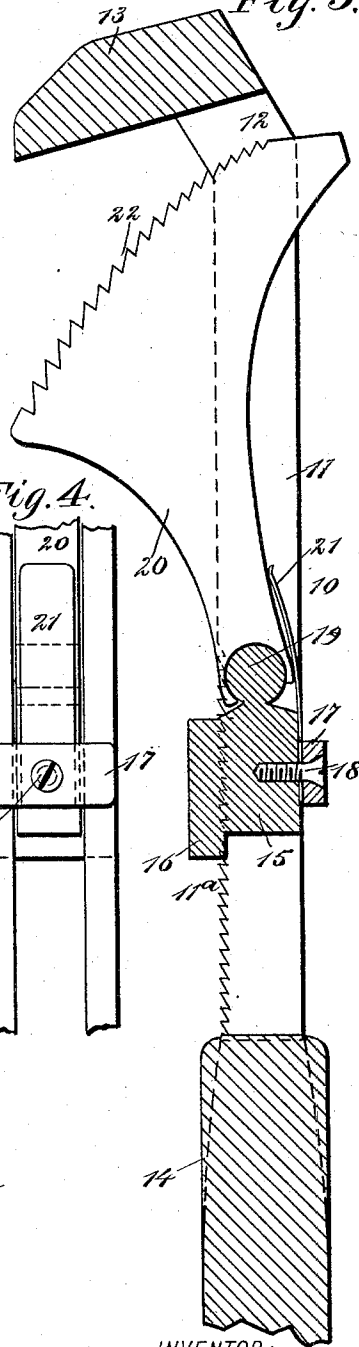
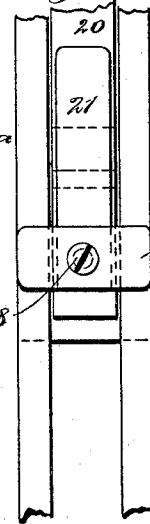


Fig. 4.



WITNESSES:

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THOMAS A. FERGUSON, OF LYONS, NEBRASKA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 468,648, dated February 9, 1892.

Application filed May 22, 1891. Serial No. 393,717. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. FERGUSON, of Lyons, in the county of Burt and State of Nebraska, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

My invention relates to improvements in wrenches; and the object of my invention is to produce a simple form of wrench which is adapted for use as a pipe-wrench or a nut-wrench and which adapts itself to a variety of sizes of nuts or pipes.

To this end my invention consists of a wrench constructed substantially as herein-after described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken side elevation of a wrench embodying my invention. Fig. 2 is a broken front elevation of the same. Fig. 3 is a broken longitudinal section, and Fig. 4 is a broken detail front view showing the means of holding the movable tongue between the shank-bars of the wrench.

The shank 10 of the wrench consists of two similar parallel bars 11, which at one end are inclined slightly, as shown at 12, and which terminate at the inclined end in a fixed jaw 13, the face of which is also inclined slightly toward the handle, and the inclination of the shank and jaw facilitates their adjustment upon a nut or pipe. The opposite end of the shank terminates in a handle 14. The front edges of the shank-bars 11 are provided with ratchet-teeth 11^a, which serve to hold the movable jaw in position, as hereinafter described, and a block 15 is held to slide longitudinally between the bars, said block having its front portion widened, as shown at 16, which widened portion is provided with teeth to fit the teeth of the bars. The opposite side of the block 15 is arranged so as to be about flush with the back edges of the bars 11, and a washer 17 extends across the back of the block and rests upon the back edges of the bars. A screw 18 extends through the washer and into the slide-block 15, and when the screw is tightened the block will be held against the washer, and the teeth of the block engaging the teeth of the shank-bars will pre-

vent the block from being moved, and will consequently hold the movable jaw connected with the block in a definite position.

On one end of the slide-block 15 and between the shank-bars 11 is a ball 19, which enters a socket in the shank of the movable jaw 20, which jaw is thus held to swing between the shank-bars 11, and the free end of the jaw is widened and curved slightly and is also provided with a series of ratchet-teeth 22, the inclination of which is toward the back of the wrench. The movable jaw 20 is pressed forward by a flat spring 21, the free end of which presses against the shank of the jaw, and the opposite end of which is held between the washer 17 and the slide-block 15.

To use the wrench, the nut or pipe to be turned is placed between the fixed jaw 13 and the movable jaw 20, and then by turning the handle in the right direction the teeth 22 will engage the nut or pipe and clamp it firmly between the movable and fixed jaws, so that it may be easily turned.

It will be noticed by reference to Figs. 1 and 3 that the curvature of the movable jaw is such that the distance between the outer portions of the two jaws is greater than the distance between their inner portions, and consequently the wrench may be instantly applied to objects of very dissimilar sizes. When the wrench is to be changed, however, the screw 18 is loosened slightly, the slide-block 15 moved so as to bring the jaw 20 into a desired position, and the screw is then again tightened.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A wrench comprising a slotted shank which terminates at one end in a fixed jaw and at the opposite end in a handle, a slide-block held to move in the shank of the wrench, means for fixing the position of the block, and a movable jaw pivoted to one end of the block, said jaw having its free end curved and provided with teeth, substantially as described.

2. A wrench comprising a slotted shank which terminates at one end in an inclined fixed jaw and at the opposite end in a handle, a slide-block held to move in the shank, means for fixing the position of the block, and a mov-

able jaw connected to the slide-block by a ball-joint and having its free end curved and provided with teeth, substantially as described.

- 5 3. A wrench comprising a slotted shank having one end inclined and terminating in a fixed jaw and the opposite end terminating in a handle, the shank also having teeth on one edge, a slide-block held to move in the
10 shank and provided with teeth to interlock

with the shank-teeth, means for securing the block in the shank, and a movable jaw connected with the block by a ball-joint, said jaw having its free end curved and provided with teeth, substantially as described.

THOMAS A. FERGUSON.

Witnesses:

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