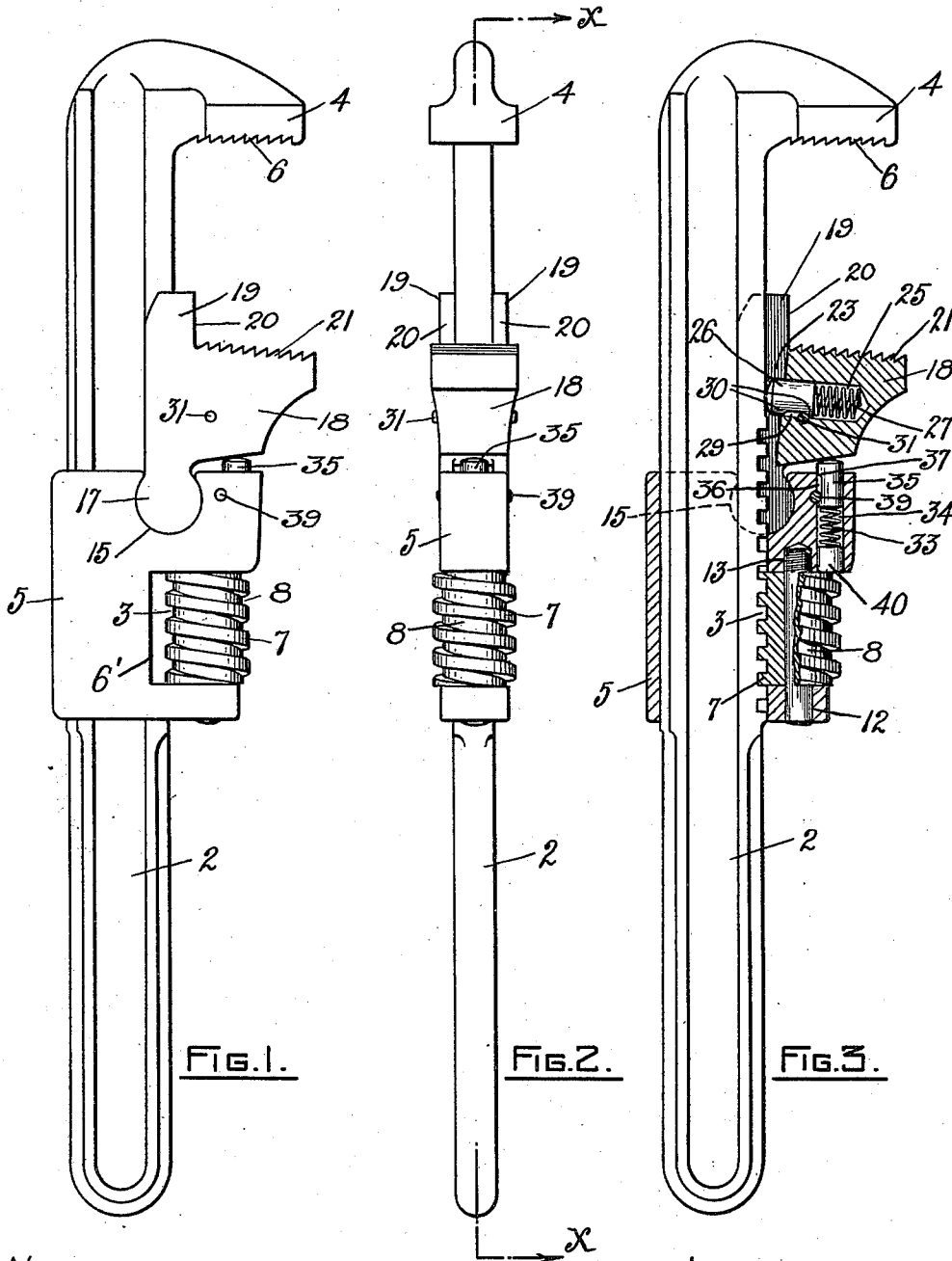


F. MOSSBERG.
PIPE WRENCH.
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1,044,069.

Patented Nov. 12, 1912.



WITNESSES.

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PIPE-WRENCH.

1,044,069.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK MOSSBERG, a citizen of the United States, residing at Attleboro, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

My invention relates to what are commonly known as pipe wrenches and has for its essential objects security of grip of the jaws upon a pipe whereby a maximum of power is brought to bear thereon under all conditions; facility of pivotal action of the non-rigid jaw; the complementary action of the springs operating upon the swivel jaw whereby the individual action of each spring is unimpeded by the action of the other spring; and means for preventing the accidental movement of the slide during the operation of the wrench.

To the above ends essentially my invention consists in such novel parts and combinations of parts as fall within the scope of the appended claims.

In the accompanying drawings which form a part of this specification Figures 1 and 2, are side and front elevations respectively of my novel wrench, and Fig. 3, a partial section on line *x, x*, of Fig. 2.

Like reference characters indicate like parts throughout the views.

My structure comprises a bar having a handle portion 2 and provided with teeth 3, and integral with whose end is jaw 4 provided with serrations 6.

Movable on the shank or handle 2 is a slide 5 provided with a cut away portion 6' exposing the teeth 3, with which engage the square thread 7 of an operating screw 8 whose ends are journaled in cavities 12 and 13 in the slide. The upper portion of the slide is provided with a marginal circular opening 15 of more than one hundred and eighty degrees, which forms a socket for circular projection 17 upon the bottom rear portion of a movable jaw 18. The upper rear portion of the last mentioned jaw is provided with parallel vertically disposed lugs or horns 19 whose forward edges 20 are nearly at right angles to the serrations 21 upon the upper margin of the movable jaw. To facilitate pivotal movement of this jaw the rear portion of the same and of the projection 19 is cut away as at 23. The jaw 18 is pressed outward and forward by two

separate spring actuated pins movable in paths at right angles to each other.

In a horizontal cavity 25 in the jaw 18 opening into the cut away portion 23 is a slidable pin 26 against whose inner end 60 presses a spiral spring 27 seated in the cavity 25. The opposite end of the pin 26 is in contact with the bar 2, and the side of the pin is provided with a longitudinal slot 29 whereby are produced shoulders or stops 30. In this slot registers a transversely disposed pin 31 fixed in the jaw 18 and intersecting the slot. The second spring 33 is located in an intermediate portion of a vertically disposed opening 34 in the slide 5. Resting upon the top of this spring is a slidable pin whose upper end abuts against the lower margin of the jaw 18, and which is provided with a longitudinally disposed slot 36 forming end shoulders 37. Registering in the slot is a transversely disposed pin 39 fixed in the slide 5 and intersecting the slot 36.

By virtue of the two described pin slide and stop devices it will be observed that the two springs will be free to perform their individual functions in such a way as not to work in opposition to each other.

In the lower portion of the opening 34 is a slidable pin 40 whose upper end is in contact with the spring 33 and is downwardly pressed thereby, while the lower end of the pin is in frictional contact with the upper end of the operating screw. The pressure of this pin upon the latter prevents the accidental turning of the same during the use of the wrench, which occurrence if not guarded against would move the carriage.

The horns or lugs 19 form an abutment for the pipe which is being turned and prevents the movement of the pipe an excessive distance to the rear portion of the movable jaw which would result in impairing the efficiency of grip of the teeth on the fixed jaw.

The operation of the wrench is substantially disclosed in the foregoing description.

What I claim is,—

1. In a wrench, the combination with a rod, a fixed jaw, and a handle, of a slide upon the rod, means in the slide engaging the rod, a jaw pivotally mounted in the slide, a pin slidably mounted in the pivoted jaw in contact with the rod and provided with a longitudinal slot, a pin fixed in the

pivoted jaw registering in the slot, a spring pressing against the pin, a pin slidably mounted in the slide in contact with the pivoted jaw and provided with a longitudinal slot, a pin fixed in the slide registering in the slot, and a spring in the slide pressing against the last mentioned slidable pin.

2. In a wrench, the combination with a rod, a fixed jaw, and a handle, said rod being provided with marginal teeth, of a slide upon the rod, a screw journaled in the slide engaging the teeth, a jaw pivotally mounted in the slide, a pin slidably mounted in the slide, a pin slidably mounted in the slide pivoted jaw in contact with the rod and provided with a longitudinal slot, a pin fixed in the pivoted jaw registering in the slot, a spring in the pivoted jaw pressing against the pin, a pin slidably mounted in the slide in contact with the pivoted jaw and provided with a longitudinal slot, a pin fixed

in the slide registering in the slot, a second pin slidably mounted in the slide and frictionally engaging with one end the screw, and a spring in the slide pressing with its opposite ends the two last mentioned slidable pins.

3. In a wrench, the combination with a rod, provided with a relatively fixed jaw, a slide upon the rod, means in the slide for engaging the rod, a jaw pivotally mounted in the slide, a pin slidably mounted in the pivoted jaw in contact with the rod, a pin slidably mounted in the slide in contact with the pivoted jaw, and auxiliary means for limiting the travel of the pins.

In testimony whereof I have affixed my signature in presence of two witnesses.

FRANK MOSSBERG.

Witnesses:

FRANK STEERE,

HORATIO E. BELLOWS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."