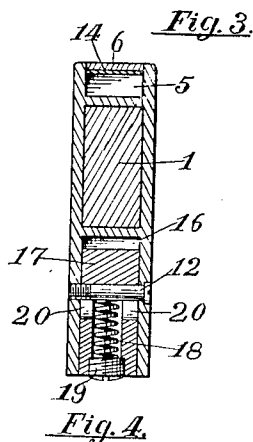
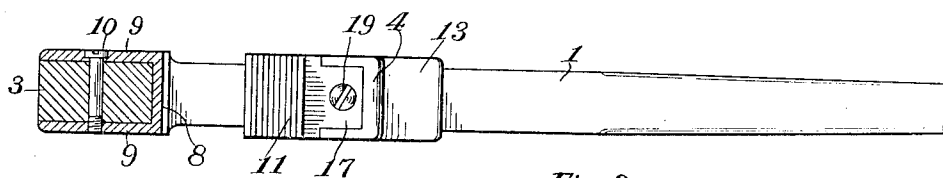
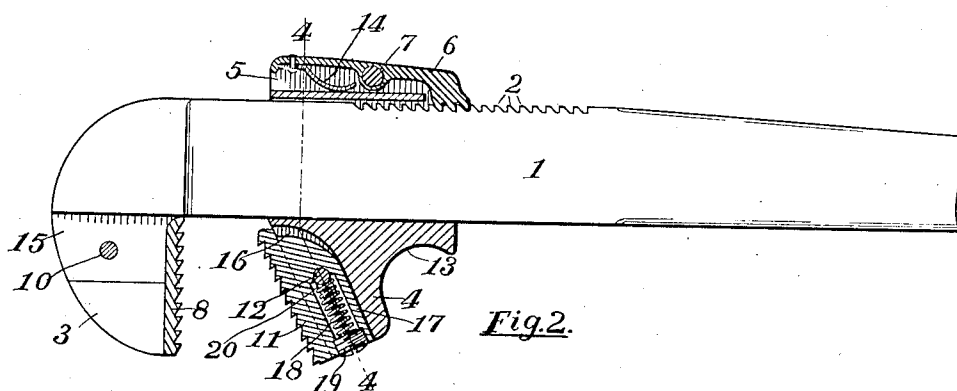
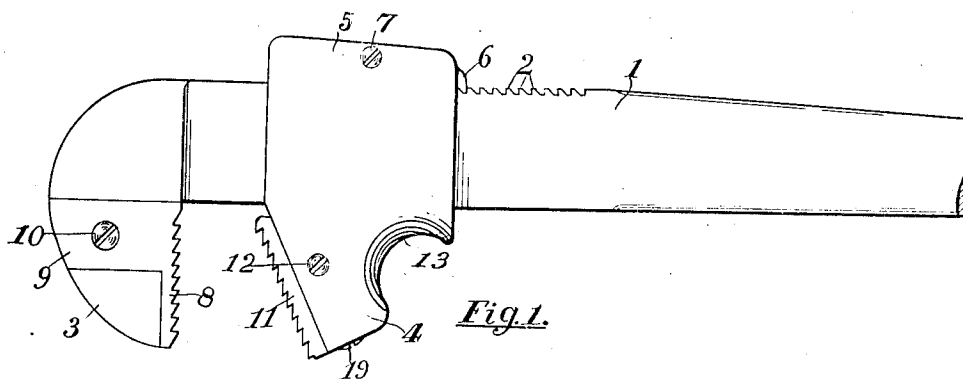


No. 892,503.

PATENTED JULY 7, 1908.

W. F. CORBIN.
WRENCH.

APPLICATION FILED MAY 6, 1907.



Witnesses

H. H. Harrington.
Palmer A. Jones.

Inventor

Walter F. Corbin

By Luther V. Moulton
Attorney

UNITED STATES PATENT OFFICE.

WALTER F. CORBIN, OF GRAND RAPIDS, MICHIGAN.

WRENCH.

No. 892,503.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed May 6, 1907. Serial No. 372,234.

To all whom it may concern:

Be it known that I, WALTER F. CORBIN, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in wrenches, and more particularly in pipe wrenches; and its object is to provide the same with various new and useful features hereinafter more fully described and particularly pointed out in the claims, reference being had to the accompanying drawings, in which:

Figure 1. is a side elevation of a device embodying my invention; Fig. 2. the same with parts broken away; Fig. 3. an inverted plan of Fig. 1. with one jaw in transverse section; and, Fig. 4. a transverse section on the line 4—4 of Fig. 2.

Like numbers refer to like parts in all of the figures.

1 represents the handle or lever having a series of ratchet teeth 2 in its upper side; 3 a lateral projection on the end of the same constituting one jaw of the wrench and projecting at right angles to the lever; 4 is the other jaw projecting from a slide surrounding and adjustable on the handle toward and from the jaw 3, and projecting from one corner of a substantially rectangular head slidable on the handle 1 and provided in its side opposite the jaw with a channel or groove 5 extending wholly across the head, and in which is a pawl 6 pivoted on the transverse pivot 7, and yieldingly held in engagement with the ratchet 2 by a spring 14. This pawl extends wholly across the upper side of the head, and is provided with a multiplicity of teeth or projections to engage the ratchet whereby it is given greater strength to hold the adjustable jaw.

It will be noted that the jaw 4 tends to tilt the slide and thus frictionally lock the slide on the lever, the walls of the opening at the diagonally opposite corners of the same being thus engaged with the opposite sides of the lever, it will also be noted that the pawl engages the ratchet near the corner of the slide which is forced away from the lever by

the jaw, and thus aids in this frictional binding of the head, furthermore that the edge of the handle at both sides where so engaged is smooth and has no ratchet teeth, the result being much less strain on the pawl and a more effective holding of the slide in place. Placing the pawl at the angle of the slide that is forced toward the handle, as is usually done prevents binding of the slide on the handle, and thus throws all the holding strain on the pawl, and also brings added pressure on the pawl due to forcing the jaw toward the same.

The jaw 3 is provided with a corrugated gripper 8 fixed thereon by means of flanges 9 embracing the jaw 3 and extending within grooves therein, being secured in place by a transverse screw 10. A like corrugated gripper 11 is provided for the jaw 4 arranged opposite the gripper 8 and inclined at about thirty degrees thereto, being slidable longitudinally on the said jaw, whereby as this gripper slides on the same toward the lever 1, it approaches the opposing jaw and thus the grip is tightened upon whatever is placed therebetween. This gripper 11 is provided with a tongue 17 slidable within a groove 16 in the jaw 4 and secured therein by a transverse screw or pin 12 passing through an elongated opening or slot 20 in the tongue to permit the same to move longitudinally in the groove. To yieldingly hold this gripper in its outward position, a spring 18 is inserted in a longitudinal opening in the tongue and engages the screw 12 at one end, and a screw plug 19 inserted in the outer end of the opening at the other end. This spring pressing against these two members normally and yieldingly holds the gripper 11 in its outermost position and when the gripper is engaged with a pipe or nut, the spring will yield and permit the gripper 11 to slide on the inclined surface of the jaw and thus become wedged firmly against whatever is between it and the other gripper 8.

To permit ready adjustment of the movable jaw 4 it is provided with a concavity 13 in the back of the jaw and also extending within the head near the corner diagonally opposite the forward end of the pawl 6, with which concavity the finger of the operator is engaged to slide the jaw, while the thumb is pressed upon the diagonally opposite end of the pawl 6 and opposite the spring 14 to release the pawl from the ratchet teeth.

I am thus able to provide a very conven-

ient, quick-acting and easily adjusted pipe wrench, so constructed that it may be easily machined and manufactured.

What I claim is:

- 5 In a wrench, a lever, a fixed jaw projecting laterally from the end of the lever, a jaw slidable on the lever and projecting at an acute angle from the lever, and also having a longitudinal groove, a gripper on the fixed jaw,
10 a gripper slidable on the inclined jaw and having a tongue slidable in the groove, said

tongue also being provided with a transverse slot and a longitudinal opening, a pin in the slot, a plug to close the opening, and a spring engaging the pin and the plug at its respective ends. 15

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

WALTER F. CORBIN.

Witnesses:

ELMER E. JOHNSON,
JOHN KNOTTUEBUS.