D. K. HILL.

WRENCH.

APPLICATION FILED FEB. 18, 1910.

975,950.

Patented Nov. 15, 1910.

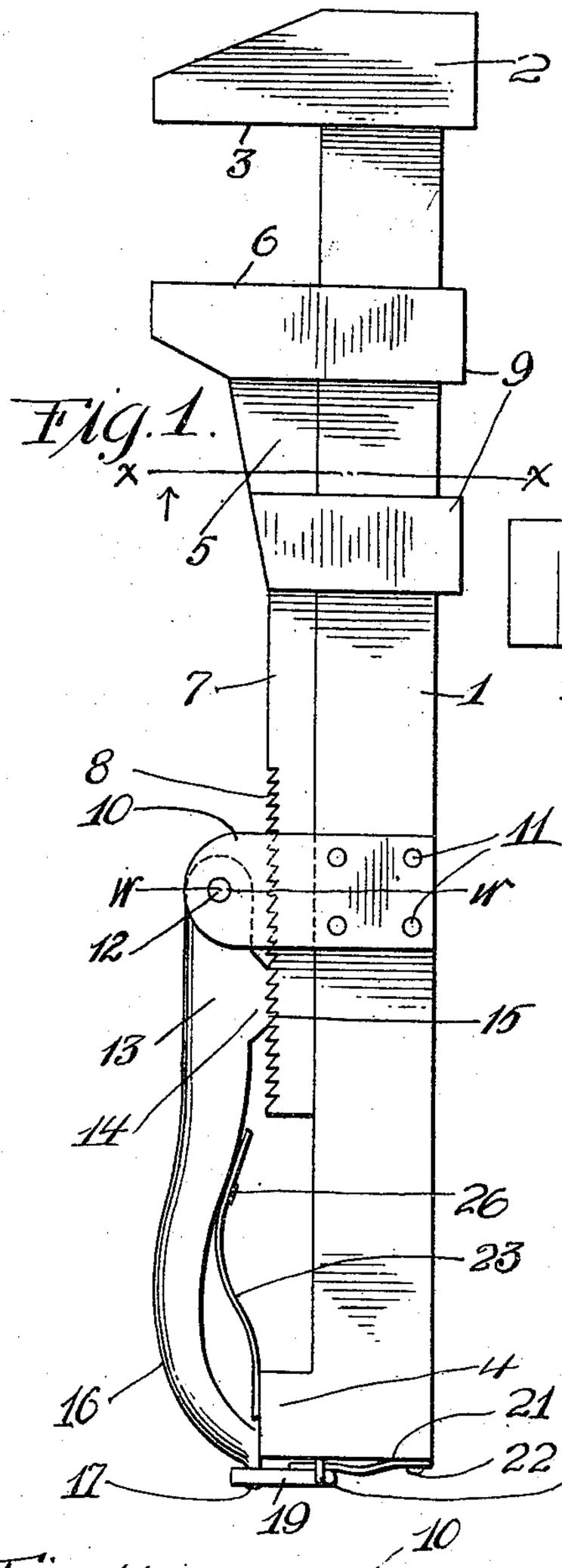

Fig. 1.

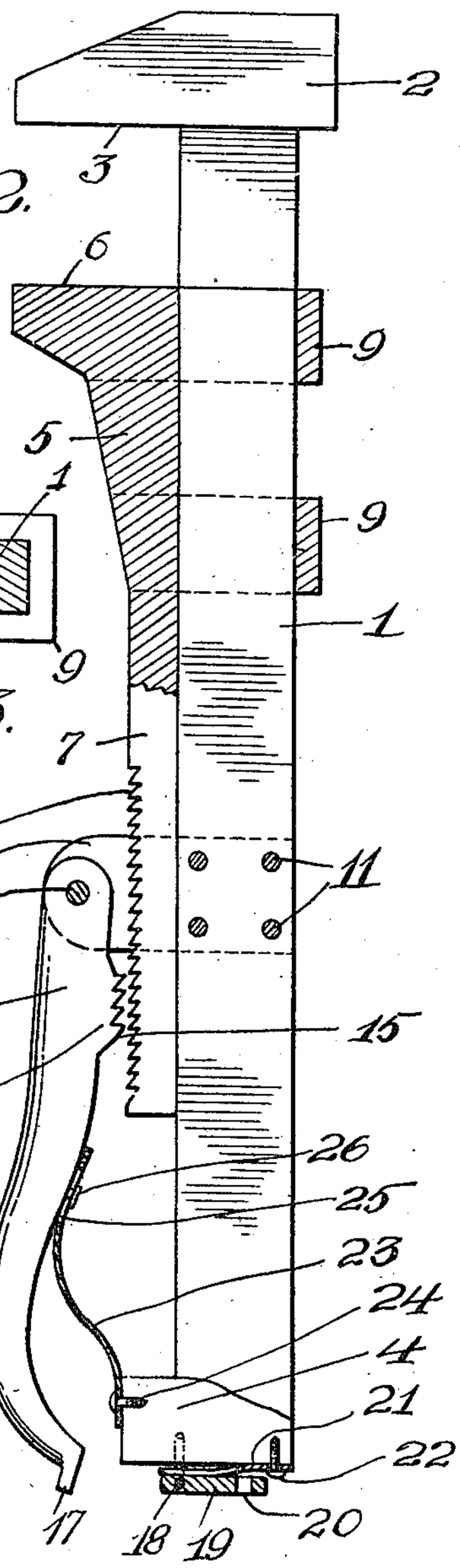

Fig. 2.

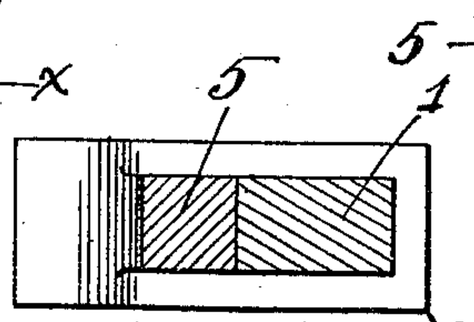

Fig. 3.

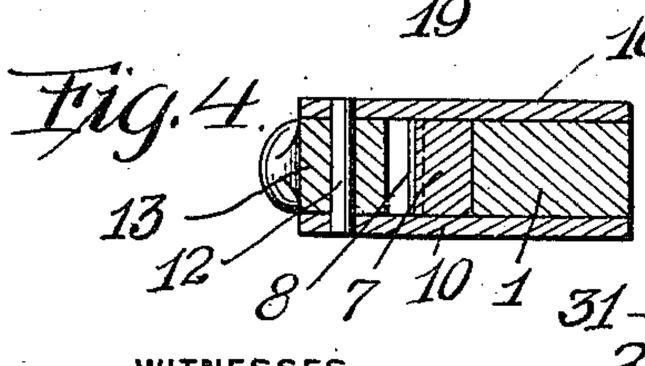

Fig. 4.

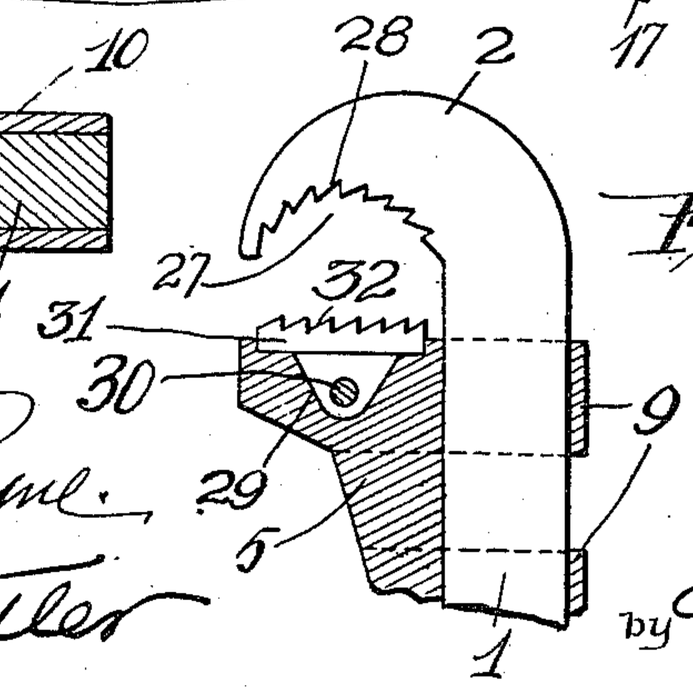

Fig. 5.

WITNESSES

Samuel Sayre.

K. H. Butler

INVENTOR

D. K. Hill.

by A. C. Evans & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID K. HILL, OF LEECHBURG, PENNSYLVANIA.

WRENCH.

975,950. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed February 18, 1910. Serial No. 544,660.

To all whom it may concern:

Be it known that I, DAVID K. HILL, a citizen of the United States of America, residing at Leechburg, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to wrenches, and the objects of my invention are to provide a nut and pipe wrench that can be safely used for rotating nuts and objects having curved surfaces, and to furnish a wrench with positive and reliable means whereby the movable jaw thereof can be quickly adjusted.

Other objects of my invention are to dispense with the use of screws and nuts for adjusting the movable jaw of the wrench, and to furnish a wrench with effective means for locking the movable jaw in a fixed position.

Further objects of my invention are to provide a quick acting wrench consisting of comparatively few parts easily and quickly assembled, and to provide a wrench that is simple in construction, durable, easy to manipulate, and highly efficient for the purposes for which it is intended.

These and such other objects as may hereinafter appear are attained by the mechanical construction shown in the drawing forming a part of this specification, wherein:—

Figure 1 is a side elevation of my improved wrench, Fig. 2 is a similar view showing the movable jaw thereof in section and in a released position, Fig. 3 is a sectional view of the wrench taken on the line X—X of Fig. 1, looking in the direction of the arrow, Fig. 4 is a similar view taken on the line W—W, and Fig. 5 is a sectional elevation of a portion of the wrench, illustrating a modified form of jaws.

In the accompanying drawing the reference numeral 1 denotes a shank rectangular in cross section and having one end thereof provided with a fixed jaw 2 having a gripping surface 3, while the other end of the shank 1 is provided with a right angular extension 4, the object of which will presently appear.

5 denotes a jaw slidably mounted upon the front side of the shank 1, said jaw having a gripping surface 6 adapted to confront the gripping surface 3 and coöperate therewith in gripping the faces of a nut. The jaw 5 is also provided with a bar 7 having the outer face thereof provided with teeth 8. The jaw 5 is held in engagement with the shank 1 by straps 9, carried by the ends of the jaw, said straps embracing the shank 1 and allowing the jaw 5 to be easily moved thereon.

10 denotes side plates riveted or otherwise secured, as at 11 to the sides of the shank 1, these plates projecting at right angles from the shank at the side of the bar 7. Pivotally mounted between the outer ends of the plates 10 by a pin 12 is a locking member 13 having the rear face thereof provided with an enlargement 14 having teeth 15 adapted to engage the teeth 8 of the bar 7. The free end of the member 13 is curved, as at 16 and has its extremity provided with a tooth 17.

18 denotes a yoke carried by one end of the shank 1 and pivotally connected to said yoke is a clasp 19, said clasp having an opening 20 formed therein adapted to receive the tooth 17 of the locking member 13.

21 denotes a spring having one end thereof secured to the lower end of the shank 1, as at 22, while the opposite end thereof extends into the yoke 18 against the clasp 19. The spring 21 is adapted to retain the clasp 19 in an open or closed position, and the length of the yoke 18 is sufficient for the clasp to be swung either into an active or inactive position.

23 denotes a compound curved spring having one end thereof fixed, as at 24 to the extension 4 of the shank 1, while the other end of said spring is slotted, as at 25 and loosely connected to the rear face of the locking member 13 by a pin or screw 26. The object of this spring is to shift the locking member 13 when released by the clasp 19, the spring preventing the free end of the locking member from assuming a position where it could not be easily gripped by a hand embracing the lower end of the shank 1.

In Fig. 5 of the drawing I have illustrated a slight modification of the invention, wherein the fixed jaw 2 is curved and the recess 27 thereof provided with transverse gripping teeth 28. The gripping face of the jaw 5 is provided with a recess 29 and mounted in said recess by a pin 30 is a detachable gripping jaw 31 having teeth 32 adapted to coöperate with the teeth 28 in gripping

a curved or rounded surface, for instance, the surface of a pipe.

The wrench in its entirety is made of strong and durable metal, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements thereof can be varied or changed without departing from the scope of the appended claims.

Having now described my invention what I claim as new, is:—

1. A wrench comprising a shank, a fixed jaw carried by one end and a right-angularly disposed extension provided at the other end thereof, a movable jaw slidably-mounted upon the shank, a bar carried by the movable jaw and extending in parallelism with respect to the shank and having its outer face provided with teeth, plates secured to opposite sides and intermediate the ends of said shank and projecting beyond the toothed face of said bar, a locking member having one end pivotally-mounted between said plates and further having a portion of its inner face in proximity to its pivoted end provided with a toothed enlargement adapted to engage the teeth of said bar to prevent movement of the latter, a pivoted clasp carried by the said shank and adapted to engage the free end of the locking member for maintaining it from movement, a curved spring having one end secured to said extension, and a pin and slot connection between the other end of said curved spring and the inner face of said locking member.

2. A wrench comprising a shank, a fixed jaw carried by one end and a right-angularly disposed extension provided at the other end thereof, a movable jaw slidably-mounted upon the shank, a bar carried by the movable jaw and extending in parallelism with respect to the shank and having its outer face provided with teeth, plates secured to opposite sides and intermediate the ends of said shank and projecting beyond the toothed face of said bar, a locking member having one end pivotally-mounted between said plates and further having a portion of its inner face in proximity to its pivoted end provided with a toothed enlargement adapted to engage the teeth of said bar to prevent movement of the latter, a pivoted clasp carried by the said shank and adapted to engage the free end of the locking member for maintaining it from movement, a curved spring having one end secured to said extension, a pin and slot connection between the other end of said curved spring and the inner face of said locking member, and resilient means carried by that end of the shank provided with the extension and adapted to engage said clasp for maintaining it in an inoperative position.

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

DAVID K. HILL.

Witnesses:
CLARENCE O. MORRIS,
C. J. NIEMAN.