

J. W. SCHWAB.
WRENCH.
APPLICATION FILED OCT. 11, 1911.

1,022,269.

Patented Apr. 2, 1912.

Fig. 1.

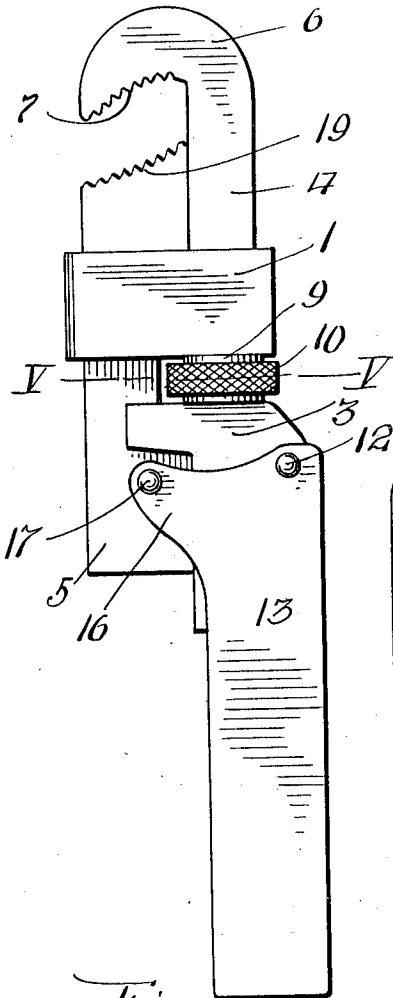


Fig. 2.

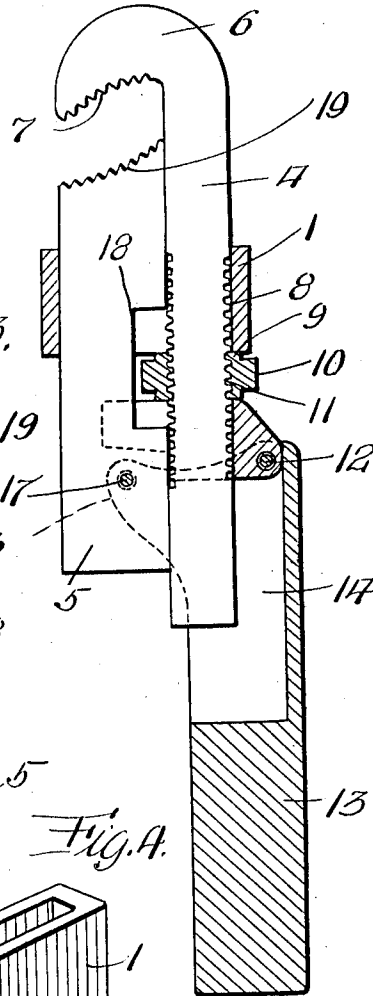


Fig. 3.

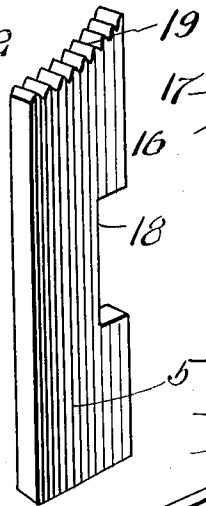


Fig. 4.

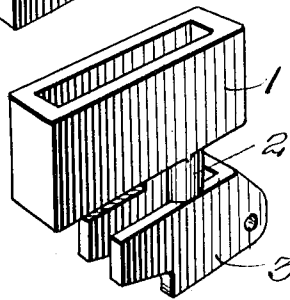
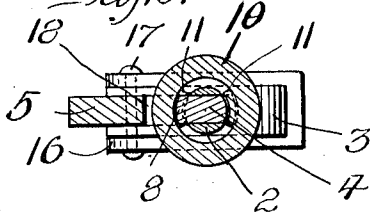


Fig. 5.



WITNESSES

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WRENCH.

1,022,269.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed October 11, 1911. Serial No. 653,985.

To all whom it may concern:

Be it known that I, JOHN W. SCHWAB, a citizen of the United States of America, residing at Canton, in the county of Stark and State of Ohio, 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 more particularly to that type commonly styled a "pipe" wrench and employed for rotating bodies and pipes having rounded or cylindrical surfaces.

The primary object of my invention is to provide a wrench of the above type that can be quickly adjusted or set for a pipe of a known diameter and then minutely adjusted to grip a pipe, without any danger of the wrench slipping when in action.

Another object of this invention is to provide a pipe wrench consisting of comparatively few parts inexpensive to manufacture, durable and highly efficient for the purposes for which they are intended.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein like numerals denote corresponding parts throughout the several views, in which:—

Figure 1 is a side elevation of the wrench, Fig. 2 is a vertical sectional view of the same, Fig. 3 is a perspective view of a detached adjustable jaw, Fig. 4 is a perspective view of a detached housing, and Fig. 5 is a horizontal sectional view of the wrench taken on the line V—V of Fig. 1.

A wrench in accordance with this invention comprises a housing, an adjustable shank, an adjustable jaw, a handle and an adjusting nut, these elements being compactly assembled in a manner not liable to injury by ordinary use.

The housing of the wrench comprises a rectangular guide 1 provided with depending side pieces 2 which are semi-cylindrical with the flat sides thereof alining with the inner sides of the guide 1. The lower ends of the side pieces 2 support a frame 3 that serves functionally as a guide for a shank 4 and an adjustable jaw 5.

The shank 4 is slidably mounted in the

housing and has the upper end thereof provided with an integral hook-shaped gripping jaw 6, said jaw having teeth or serrations 7 to prevent the jaw from slipping when engaging an object. The front and rear sides of the shank 4 have teeth 8 and encircling said shank and the side pieces 2 is an adjusting nut 9 that is located between the guide 1 and the frame 3. This nut has the outer surface thereof knurled, as at 10 to permit of easy adjustment of the shank. The inner walls of the nut 9 have diametrically opposed teeth 11 to engage the teeth 8 of the shank 4, and by rotating said nut a quarter of a revolution, the teeth 11 can be shifted out of engagement with the teeth 8, whereby the shank 4 can be quickly moved in the housing.

Pivotally connected to the rear side of the frame 3 by a transverse rivet or pin 12 is the upper end of a handle 13, said handle having a recess 14 providing clearance for the lower end of the shank 4. The upper end of the handle 13 has forwardly extending arms 16 and these arms are pivotally connected by a rivet or pin 17 to the lower end of the adjustable jaw 5. The jaw 5 extends through the guide 1 and together with the shank 4 completely fills the guide, said jaw and said shank being maintained in parallelism by the housing of the wrench. The adjustable jaw 5 is cut away, as at 18 to provide clearance for the nut 9, and the upper end of the jaw is curved and serrated or toothed, as at 19 to cooperate with the serrated or toothed surface of the jaw 6 in gripping a pipe.

By adjusting the nut 9, the shank 4 of the wrench can be moved to place the jaw 6 a desired distance from the housing of the wrench or from the innermost position of the jaw 5. Assuming that the jaw 5 is in its innermost position, the handle 13 is out of alinement with the shank 4, and by swinging the handle toward or past the longitudinal axis of the shank 4, the jaw 5 is shifted outwardly in the frame 3 and the guide 1 to cooperate with the jaw 6 in gripping a pipe.

The handle 13 permits of considerable leverage being obtained upon the wrench, and the greater the effort upon said handle for rotating a pipe, the greater the gripping power of the jaws 5 and 6. The handle 13 is loosely connected to the frame 3 and the lower end of the jaw 5 whereby the

jaw 5 can always be maintained in parallelism with the shank 4.

The wrench in its entirety can be made of light and durable metal, and in some instances the jaws 5 and 6 can have flat gripping surfaces, whereby the wrench can be used for rotating nuts and objects having flat facets.

What I claim is:—

10 1. A wrench of the type described, comprising a guide, depending side pieces, a frame carried by said side pieces, a shank slidably mounted in said guide and said frame between said side pieces, a nut encircling said side pieces for adjusting said shank, a jaw slidably mounted in said guide and said frame against said shank, and a lever pivotally connected to said frame and to the inner end of said jaw for moving
15 said jaw relatively to said shank.

20 2. A wrench of the type described, com-

prising a guide, depending side pieces carried thereby, a frame supported by said side pieces, a toothed shank slidably mounted in said guide and said frame between said side pieces, a nut encircling said side pieces and having oppositely disposed teeth adapted to engage said toothed shank, a jaw carried by the outer end of said shank, an adjustable jaw movably mounted in said guide and said frame against said shank, and a handle loosely connected to said frame and to the inner end of said adjustable jaw for moving said jaw relatively to said shank. 25 30 35

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

JOHN W. SCHWAB.

Witnesses:

FRANK HALIBEMAN,
JOHN H. SPONSELLER.

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