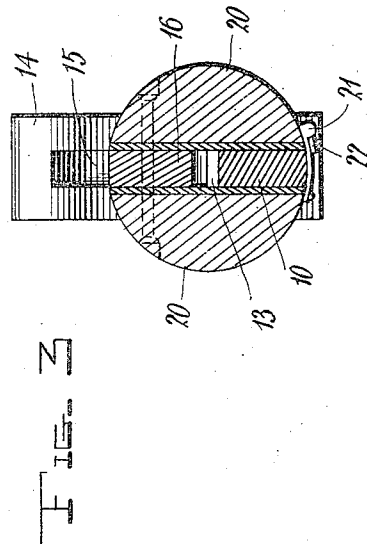


WRENCH.

951,219.

2 SHEETS—SHEET 1.



W. B. Benson.
Wm. J. Miller.

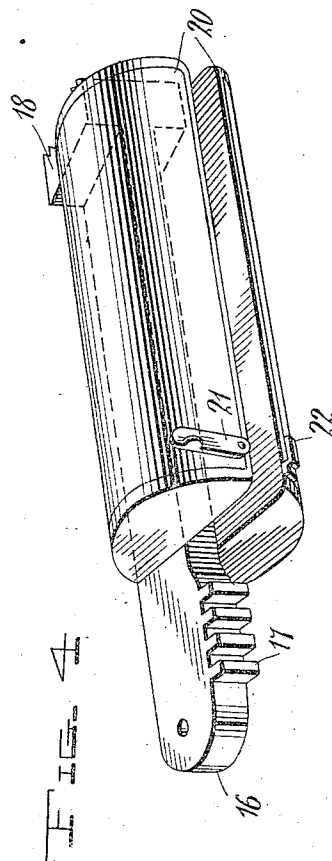
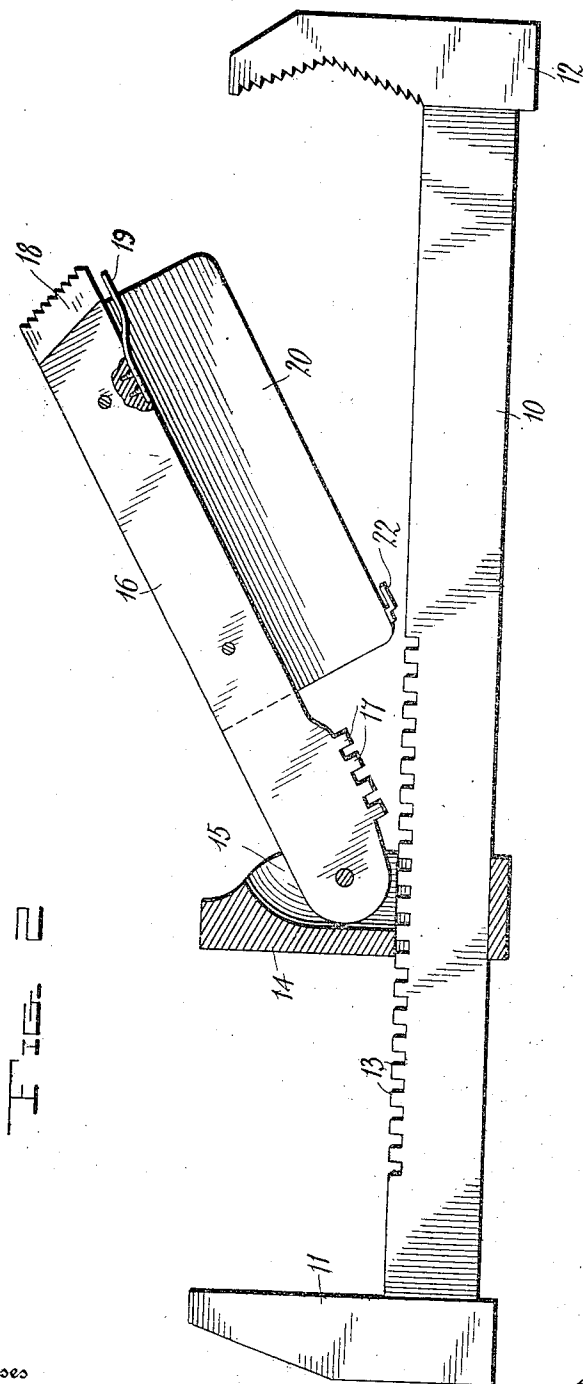
Zacharier M. Paul

By *Chandler & Chandler.*
Attorneys

951,219.

Z. M. PAUL.
WRENCH.
APPLICATION FILED JUNE 2, 1909.

Patented Mar. 8, 1910.
2 SHEETS—SHEET 2.



Witnesses

J. D. Miller
W. D. Miller

Inventor

Zacharier M. Paul

By Chandler & Chandler

Attorneys

UNITED STATES PATENT OFFICE.

ZACHARIER M. PAUL, OF FORT WORTH, TEXAS.

WRENCH.

951,219.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed June 2, 1909. Serial No. 499,761.

To all whom it may concern:

Be it known that I, ZACHARIER M. PAUL, a citizen of the United States, residing at Fort Worth, in the county of Tarrant, State of Texas, 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.

This invention relates to wrenches and has special reference to a combined monkey and pipe wrench.

One object of the invention is to improve the general construction of combined wrenches of this character.

Another object of the invention is to provide a double ended wrench formed to be used as a pipe wrench at one end and to be used as a monkey or nut wrench at the opposite end.

With the above and other objects in view, as will be hereinafter apparent, the invention consists in general of a stock or shank provided at one end with a pipe wrench head and at the other end with a nut wrench head, a sliding jaw mounted on the stock and arranged to coact with one of the fixed jaws or heads and a second jaw arranged to coact with the other head and pivotally mounted on the first mentioned jaw.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—Figure 1 is a side elevation of the wrench with the jaws locked in position. Fig. 2 is a similar view partly in section showing the jaws unlocked and ready to be adjusted along the stock. Fig. 3 is a cross section on the line 3—3 of Fig. 1. Fig. 4 is a detail view of a portion of the pivot jaw.

The numeral 10 indicates the shank or stock and this stock is provided at one end with a fixed jaw 11 having a flat face adapted to grasp the side of a nut while the other end of the stock is provided with a jaw 12 having a serrated face arranged to grasp a pipe. The shank or stock is further provided along a portion of its length with teeth 13.

Slidable on the shank 10 is a jaw 14 having a flat face to coact with the flat face of the jaw 11 and this jaw is provided on the side opposite its face with a recess 15 wherein is pivoted a bar 16 provided with teeth 17 arranged to engage the teeth 13 when the free end of the bar 16 is moved toward the shank 10. Upon the free end of the bar 16 is formed a jaw 18 arranged to coact with the jaw 12 and secured to the bar on the side next to the shank 10 is a spring 19 arranged to permit the necessary yielding of the jaw 18 when a pipe is grasped. Secured to the sides of the bar 16 are handle members 20 and upon one of these handle members is pivoted a hook or latch 21 while the other handle member carries a coacting keeper 22.

In using this wrench when it is desired to adjust the same the latch 21 is swung around so that the bar 16 may have its free end moved away from the shank 10 and the teeth 17 be disengaged from the teeth 13. The jaws may then be moved to the required position and the free end of the bar 16 swung in until the spring strikes the shank 10 when the latch 21 may be positioned across the back of the bar to engage the keeper and retain the various parts in place.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

1. In a wrench, a shank, a fixed jaw at each end thereof, a movable jaw slidable thereon, a second movable jaw pivoted to the slidable jaw, coacting engaging means on the pivoted jaw and shank, and a latch to hold the pivoted jaw against the shank.

2. In a wrench, a shank, a fixed jaw at each end thereof, a movable jaw slidable thereon, a second movable jaw pivoted to the slidable jaw, a spring fixed on the pivoted jaw adjacent its free end and bearing against the shank when the free end is moved inward, coacting engaging means on the pivoted jaw and shank, and a latch to hold the pivoted jaw against the shank.

3. In a wrench, a shank, a fixed jaw at each end thereof, a movable jaw slidable thereon, a second movable jaw pivoted to the slidable jaw, coacting teeth on the pivoted jaw and shank, handle members carried on the pivoted jaw and extending over the sides of the shank when the jaws are locked,

and a latch on one of the handle members to hold the pivoted jaw against the shank.

4. In a wrench, a shank, a fixed jaw at each end thereof, a movable jaw slidable thereon, a second movable jaw pivoted to the slidable jaw, coacting teeth on the pivoted jaw and shank, a spring fixed on the pivoted jaw adjacent its free end and bearing against the shank when the free end is moved inward, handle members carried on the pivoted jaw and extending over the sides of the shank when the jaws are locked for

movement, a latch pivoted on one of said handle members and arranged to lie across the shank to hold the jaws in locked position, and a keeper for the latch on the opposed handle member.

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

ZACHARIER M. PAUL.

Witnesses:

W. H. WILLIAMS,
E. A. THOMPSON.