

(No Model.)

J. C. McQUILKIN.
WRENCH.

No. 536,040.

Patented Mar. 19, 1895.

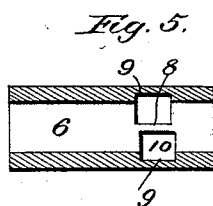
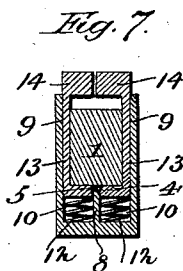
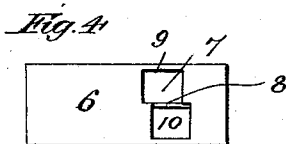
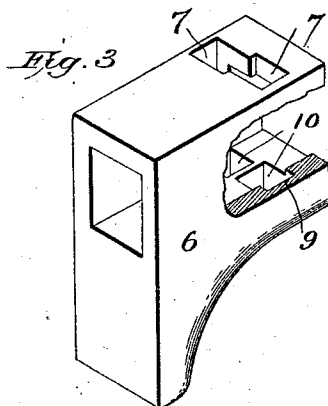
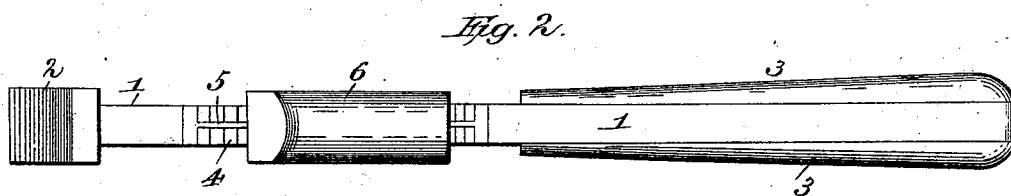
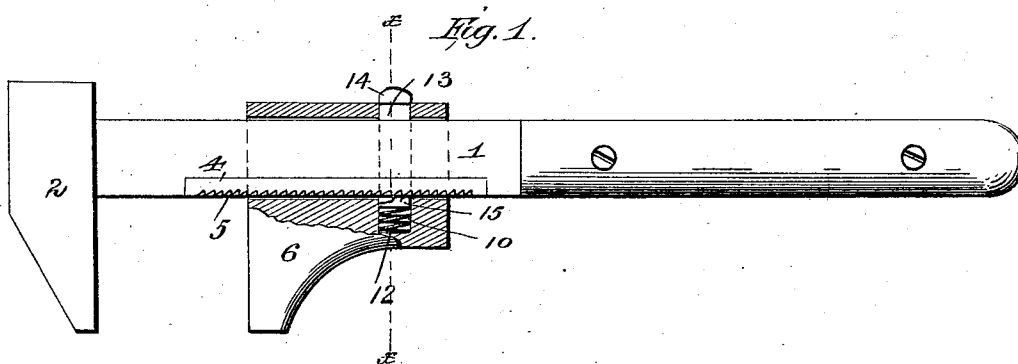
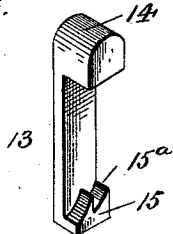


Fig. 6.



Witnesses:
T. L. Curand.

T. L. Curand

Inventor:

James C. McQuilkin.

G. L. Linn's Patent Co.
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES C. MCQUILKIN, OF INDUSTRY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE A. CLEAR, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 536,040, dated March 19, 1895.

Application filed June 20, 1894. Serial No. 515,135. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. MCQUILKIN, a citizen of the United States, and a resident of Industry, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to that class of monkey wrenches in which the shank is formed with a series of rack teeth which engage a spring actuated key or dog, carried by the movable jaw, so that the latter will be automatically locked in any position to which it may be adjusted.

The object of the invention is to provide an improved wrench of the above character, in which the shank is formed with two sets of aligned rack teeth separated from each other by a central longitudinal rib to prevent injury thereto by pressure of the movable jaw, which jaw is provided with two spring actuated dogs or keys, one in advance of the other a distance equal to one half the distance between the rack teeth of either set or series, whereby a finer adjustment may be effected.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a side elevation, partly broken away, of a monkey wrench constructed in accordance with my invention. Fig. 2 is a view looking from the under side of Fig. 1. Fig. 3 is a perspective view of the movable jaw, partly broken away to show the interior construction. Fig. 4 is a plan view of the same, the keys or dogs being removed. Fig. 5 is a horizontal section of the same. Fig. 6 is a perspective view of one of the keys or dogs. Fig. 7 is a sectional view on the line $x-x$, Fig. 1.

In said drawings the reference numeral 1 designates the shank or spanner consisting of a rectangular metal bar having a stationary jaw 2 at one end and at the other end pro-

vided with removable handle pieces 3. Intermediate of its ends one edge of the shank is formed with two sets or series of aligned rack teeth 4, which sets or series are separated from each other by a central longitudinal rib 5. As will be seen the front ends of these teeth are straight or at a right angle to the edge of the shank while the rear ends are beveled.

The numeral 6 designates the movable jaw having a rectangular bore corresponding with the shank which passes therethrough. Upon the upper side, near the rear end said jaw is formed with two slots or apertures 7, one in advance of the other a distance equal to half the distance between the rack teeth. These slots may be separated from each other by a rib 8. Aligned with the side or longitudinal ends of these slots are rectangular grooves 9, which connect at their lower ends with rectangular recesses 10, in the said jaw. These slots, grooves and recesses are formed for the purpose of receiving the dogs or keys hereinafter described, and in the recesses 10 are located coiled springs 12, for actuating said keys or dogs. The slots 7, are arranged side by side, but one slightly in advance of the other.

The numeral 13 designates the keys or dogs each consisting of a rectangular metal plate, having at one end, an inwardly projecting head 14, which fits and works in the slots 7 and at the other end formed with a lug 15, formed on its inner side, with one or more teeth 15^a as seen more clearly in Fig. 6. These plates 13 are seated in the grooves 9, with their inner ends resting on the coiled springs in the recesses 10.

The operation is as follows: In any position to which the movable jaw has been adjusted, the teeth of one of the keys or dogs will engage with the teeth of one set of rack teeth while the teeth of the other key or dog will rest upon the point of one of the teeth of the other set or series. If now the movable jaw be moved toward the stationary jaw, the last mentioned key or dog will engage with the teeth against which its lug rested while the first mentioned key or dog will rest against the point of the teeth in advance of the one which it was engaged with. It will

thus be seen that the dogs or keys alternately engage with the teeth of their respective sets or series. The coiled springs in the recesses 10 serve to force the keys into engagement 5 with the rack teeth and by reason of the bevels on said teeth the keys can ride over the teeth when the movable jaw is moved forward but prevent the latter from moving backward. By pressing upon the outer ends 10 of the keys or dogs they are thrown out of engagement with the teeth so as to allow the movable jaw to be moved away from the stationary jaw.

By providing the two sets of rack teeth and 15 two keys or dogs, one in advance of the other, as described, the teeth can be formed twice as far apart, and yet secure the same adjustment, as when a single set of teeth and one key only are employed, thus adding greatly 20 to the strength of the teeth.

By providing the central rib between each set of teeth, injury to the latter from pressure of the movable or sliding jaw is prevented.

The grooves 9, in the movable or sliding jaw 25 are located upon opposite sides of the shank, and the lugs 15, of the dogs project inwardly or in opposite directions to each other.

I am aware that heretofore a wrench has 30 been constructed, the shank of which is provided with two sets of rack teeth, with which

two separate dogs are adapted to alternately engage. These teeth however, are not in lateral alignment with each other—that is to say, the teeth of one set are located in planes midway between the teeth of the other set. Such 35 is not my invention and is not claimed by me.

Having thus described my invention, what I claim is—

In a monkey wrench, the combination with the shank having a stationary jaw and formed 40 with two sets or series of aligned rack teeth separated by a central longitudinal rib, the sliding jaw having a rectangular bore, two rectangular slots, located side by side, but one in advance of the other, two rectangular 45 grooves at opposite sides of the shank, and recesses separated by a central rib, of the dogs consisting of rectangular metal plates seated in said grooves having heads at their outer ends and inwardly projecting beveled 50 toothed lugs at their inner ends and the coiled springs located in said recesses, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature 55 in presence of two witnesses.

JAMES C. McQUILKIN.

Witnesses:

CHAS. W. HURST,
FRANK HAYS.