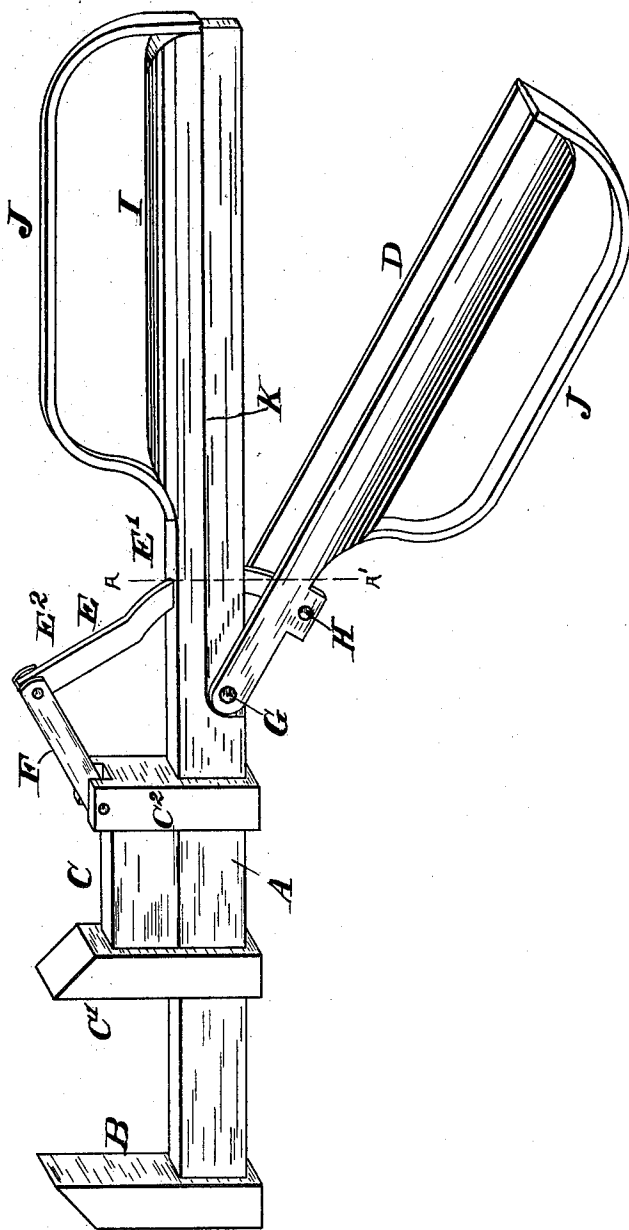


C. A. REEVES.
WRENCH.
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1,029,142.

Patented June 11, 1912.



WITNESSES:

T. W. Patterson
Charles Reynolds.

INVENTOR

Chester A. Reeves.

BY

Henry L. Reynolds.
ATTORNEY

UNITED STATES PATENT OFFICE.

CHESTER A. REEVES, OF LAIDLAW, OREGON.

WRENCH.

1,029,142.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHESTER A. REEVES, a citizen of the United States, and resident of the town of Laidlaw, in the county of Crook and State of Oregon, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches, and consists in certain improvements in wrenches which make them immediately and universally adjustable for any size within their range of capacity.

The object of my invention is to make a wrench so that it may be applied to any size nut within its range without a preliminary waste of time to adjust it for that size.

In the accompanying drawings I have shown my invention embodied in the form which is now preferred by me.

The figure of drawings shows the wrench in perspective and opened to take a good sized nut.

The wrench has a main bar or shank A, to which is secured, or formed integral therewith, an outer jaw B, the opposite end of this bar or shank constituting the main section I, of the handle. Mounted to slide lengthwise upon this shank is a slide C, which at one end carries the inner jaw C¹ and at the other end has a part C² with which the adjusting mechanism is secured. The inner jaw C¹ and the member C² are made to extend about the shank, forming clips or stirrups which hold the slide to the shank and permit free sliding.

The shank A, at a point between the jaws and the handle, has a hole passing transversely therethrough and lying in the general plane of the wrench, that is, in the plane occupied by the jaws and in which the wrench is moved when in use. Within this slot is placed a transverse bar E, which has a circularly curved section E¹ which slides in the hole in the shank, and a section E² which is herein shown as straight, although this may be of any shape desired or necessary, as it does not have to slide within a guide. The outer end of the section E² of this transverse bar is connected with the slide C to move the latter along the shank, as by a link F. The opposite end of this bar is connected at H, which is at the opposite side of the shank, with a controlling lever D, whereby the position of the bar E, and

therethrough the position of the jaws may be controlled.

I have shown the controlling arm D as being made of sheet metal bent into a U-shaped cross section and the handle or shank A as having recesses K at its sides adapted to receive the sides of the controller bar when the latter is drawn clear up to the handle.

The controller bar is pivoted at G to the shank and is capable of being swung close against the handle or outward at a considerable angle. As this controller bar is swung it slides the curved section E¹ of the transverse bar E through the slot in the shank. This swings the end of this transverse bar which is attached to the slide C, through a curved path which extends in the same general direction as the length of the shank. In this way the slide C is moved toward or from the outer jaw B, thus adjusting the opening of the wrench very quickly. For a small opening the controller bar D would lie close to the shank, while for a large opening of the jaws the controller bar would extend outward at a considerable angle from the shank. As a convenience in operating the wrench with one hand I have shown bars J secured to the outer side edges of both the shank part of the handle and to the controller bar. This enables the wrench to be opened without using both hands.

When pressure is brought upon the sliding jaw C¹ to force it back, as would occur when the wrench is placed in use, this pressure is communicated to the arm E through the connecting link F. This pressure or effort upon the arm E acts but slightly, if at all, to slide the bar back through the slot in the shank, but rather, acts to cramp the bar in said slot without any material tendency to push it back through the slot in the shank. It is therefore not necessary for the controller bar to furnish the resistance to the backward movement of the sliding jaw. This is provided by the bar E and link F without transmitting this effort to the controller bar.

The link F in all positions remains approximately parallel the radius of the curve of the slot through the handle occupied by the curved section E¹, in consequence of which fact the backward pressure of the jaw C¹ will have little or no tendency to force the bar E back through the slot in the handle and it is therefore unnecessary to hold the

arm D toward the handle with any material force to prevent return of the jaw C¹.

What I claim as my invention and desire to patent is:

5 1. In a wrench, in combination, a shank having a fixed jaw thereon, a jaw slidable on the shank, a bar extending transverse the shank between the jaws and the handle and having a curved section with its concaved
10 side toward the jaws, said bar and shank having sliding and supporting connection maintaining constant relation between the shank and bar at their points of contact, a link connecting said transverse bar and the
15 sliding jaw, and a controlling lever pivoted to the shank and to the end of said transverse bar.

2. In a wrench, in combination, a shank having a jaw fixed thereto, a jaw slidable on
20 the shank, a bar extending transversely of the shank and having a curved section at one end and a straight section at its other end, the shank having a slot therein between the jaws and the handle and snugly receiving
25 the curved section of said transverse bar, a link connecting the straight end of said bar with the slide, a controlling lever pivoted

to the shank and to said transverse bar and adapted to control its projection from the shank and thereby the separation of the
30 jaws.

3. In a wrench, in combination, a shank having a fixed jaw thereon, a jaw mounted to slide along the shank, the shank having a slot extending therethrough in the general
35 plane of the jaws, a bar extending transverse the shank in said plane and fitting snugly within said slot, the end of said bar passing through the shank being curved with its concave side toward the jaws, a controller
40 bar pivoted to the shank substantially concentric the curve of said bar and being also pivoted to the end of the same bar, a link connecting the opposite end of said transverse bar to the sliding jaw, whereby the position of the sliding jaw relative to the fixed
45 jaw may be controlled.

In testimony whereof I have hereunto affixed my signature at Seattle, Washington, this 14th day of November, 1911.

CHESTER A. REEVES.

Witnesses:

FRED W. DRICKEN,
HENRY L. REYNOLDS.

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