(No Model.)

C. W. CHENEY.

WRENCH.

No. 457,107. Patented Aug. 4, 1891.

FIG_1_

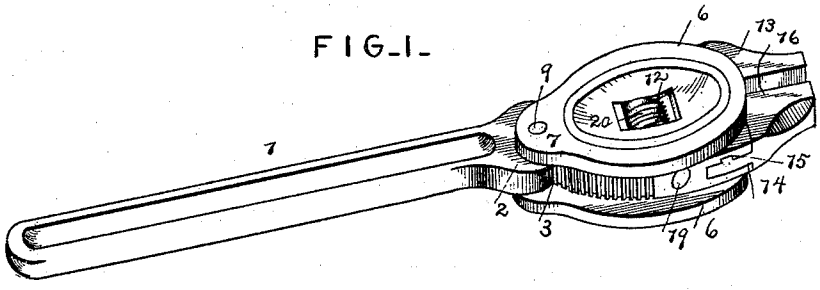


FIG_2_

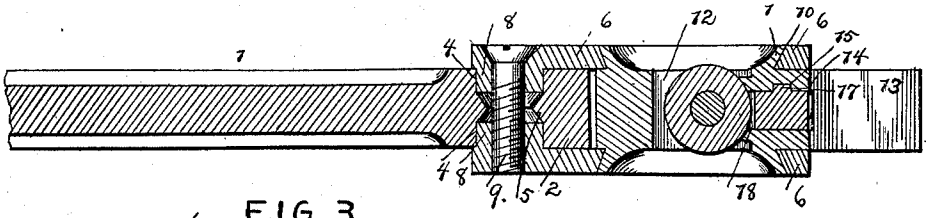


FIG_3_

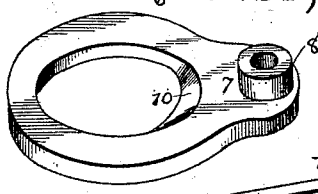


FIG_4_

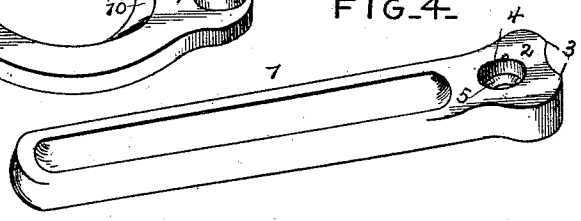


FIG_6_

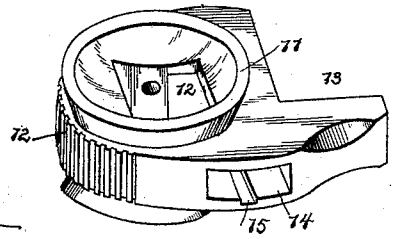
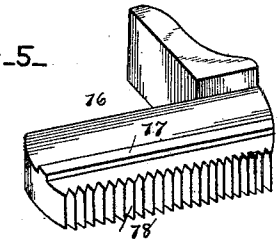


FIG_5_



Witnesses:
B. S. Ober.
W. S. Turrell.

Inventor
Charles Warren Cheney.

By his Attorneys,
C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES WARREN CHENEY, OF ATHOL, MASSACHUSETTS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 457,107, dated August 4, 1891.

Application filed March 27, 1891. Serial No. 386,589. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WARREN CHENEY, a citizen of the United States, residing at Athol, in the county of Worcester and State of Massachusetts, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to improvements in ratchet-wrenches, the objects in view being to provide a wrench consisting of few parts and of simple and durable construction, that may be cheaply manufactured, and is of the ratchet style, and therefore capable of use in positions where the ordinary wrench could not be employed.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a wrench constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section. Fig. 3 is a detail in perspective of one of the straps or rings of the head. Fig. 4 is a similar view of the handle. Fig. 5 is a detail of the jaws. Fig. 6 is a detached view of the swiveled block, with the sliding jaw and the screw removed.

Like numerals of reference indicate like parts in all the figures of the drawings.

The handle 1 of the wrench is constructed of suitable size, and terminates at its front end in an enlargement 2, which at its extremity is concaved, forming a pair of opposite teeth 3. In rear of the enlargement and at each side of the handle holes 4 are sunken, which holes meet at their centers, leaving an annular divisional flange 5.

The pivoted head of the wrench consists of a pair of opposite straps or rings 6, the inner peripheries of which are beveled, as shown, and each is provided with a rearwardly-disposed ear 7, from the under side of which extends a cylindrical lug 8. These lugs 8, together with the ears, are perforated and extend into the openings 4, (see Fig. 2,) in which position they are maintained by a screw or bolt 9, passing through the openings of the handle and the ears. The beveled peripheries or openings 10 of the rings receive the beveled flanges 11, surrounding a rectangular opening 12, formed in the swiveled block of the wrench. This block is provided at its rear side (which is curved) with a series of teeth 12 and at the front side of the head with a fixed jaw 13. The block immediately in rear of the jaw is recessed or provided with an opening 14, one wall of which is grooved, as at 15, and in said opening is mounted for sliding an L-shaped sliding jaw 16, having a rib 17 for engaging the groove, and at its rear edge provided with macerated screw-threads 18, which project into the rectangular opening of the block. Upon a shaft 19, passed through the block and the center of the rectangular opening, is mounted a feed-screw 20, which engages with the threads of the adjustable jaw for the purpose of operating said jaw, said screw having the peripheries of its threads milled, as shown. It will be observed that the beveled flanges loosely fitting within the rings serve as a means for swiveling the block in position, so that the latter may turn readily in either direction, and also that by manipulating the screw 20 by the thumb and finger the operator may feed the movable jaw to or from the fixed jaw.

In operation the jaws are first adjusted to approximate the size of nut to be operated upon, after which they are introduced over said nut, and in order to rotate the block of the wrench, and thus move the nut, it is simply necessary to oscillate the handle 1 back and forth upon its pivot or screw 9, so that the teeth 3 of said handle are alternately brought in contact with and engage the teeth 2 of the head, and thus said block is fed in a circular path, carrying with it the nut. In some positions, when a limited movement of the handle may be permitted, it will be obvious that the wrench may be operated with great facility and ease. When the head has been moved to the limit or end of the series of teeth, it may be removed from the nut and replaced after a partial turning, so that the operation is repeated successively, as will be apparent. It will be observed that the cylindrical lugs upon the inner sides of the wings serve as the bearings for the oscillations of the handle, and that the movements of the

handle do not affect the screw or bolt to loosen the same, which latter may be tightened or loosened, thus regulating the bearings.

Having described my invention, what I claim is—

1. In a wrench, the combination, with the head composed of a pair of opposite rings and a block having opposite annular flanges swiveled in the rings and at one side provided with jaws and at the opposite side toothed, of a handle pivoted between the rings of the head and provided with opposite teeth for engaging the teeth of the block, substantially as specified.

2. The combination, with the handle terminating at its upper end in an enlargement having opposite teeth and provided at opposite sides with openings communicating at their centers and forming an intermediate annular flange, opposite rings having beveled inner peripheries, rearwardly-disposed ears, and inwardly-disposed cylindrical perforated lugs mounted in the openings of the handle, the screw passing through the perforated lugs, of the block terminating at one side in a recessed fixed jaw, an L-shaped movable jaw mounted in the block and provided at its rear side with a thread and diametrically opposite said jaws with a curved toothed surface engaged by the teeth of the handle, also provided with a central opening having opposite annular externally-beveled flanges swiveled in the beveled openings of the rings, and the feed-screw journaled in the block and engaging the threads, substantially as specified.

3. In a wrench, the handle provided at its inner end with opposite engaging teeth 3, combined with the head pivoted to the handle in rear of the teeth, the block swiveled in the head and provided with teeth 12 and the fixed and sliding jaws, and the operating-screw for the latter, as set forth.

4. In a wrench, the handle provided at its inner end with opposite engaging teeth 3, combined with the head pivoted to the handle in rear of the teeth and composed of rings 6, the block swiveled in the head by means of flanges 11 and provided with teeth 12, to be engaged by the teeth 3 of the handle, and the fixed and sliding jaws, and the operating-screw for the latter, as set forth.

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

CHARLES WARREN CHENEY.

Witnesses:

HENRY R. VAILLE,

ABIJAH HILL.