(No Model.)

C. H. DRIVER.

WRENCH.

No. 449,793. Patented Apr. 7, 1891.

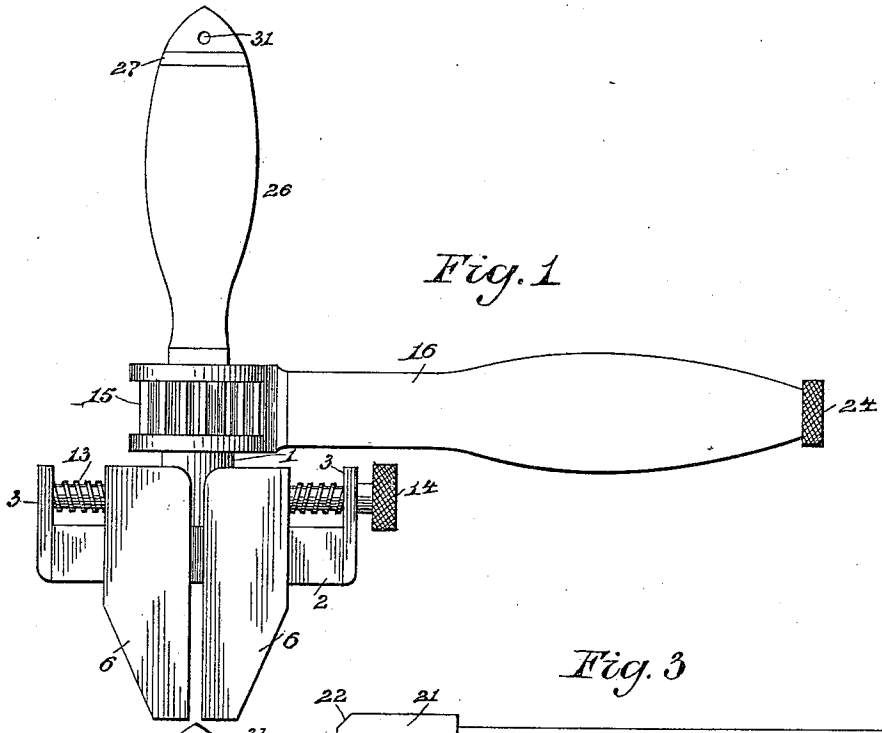

Fig. 1

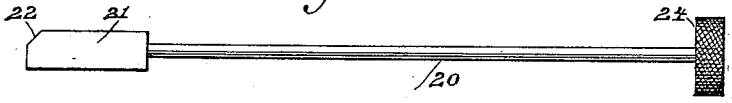

Fig. 3

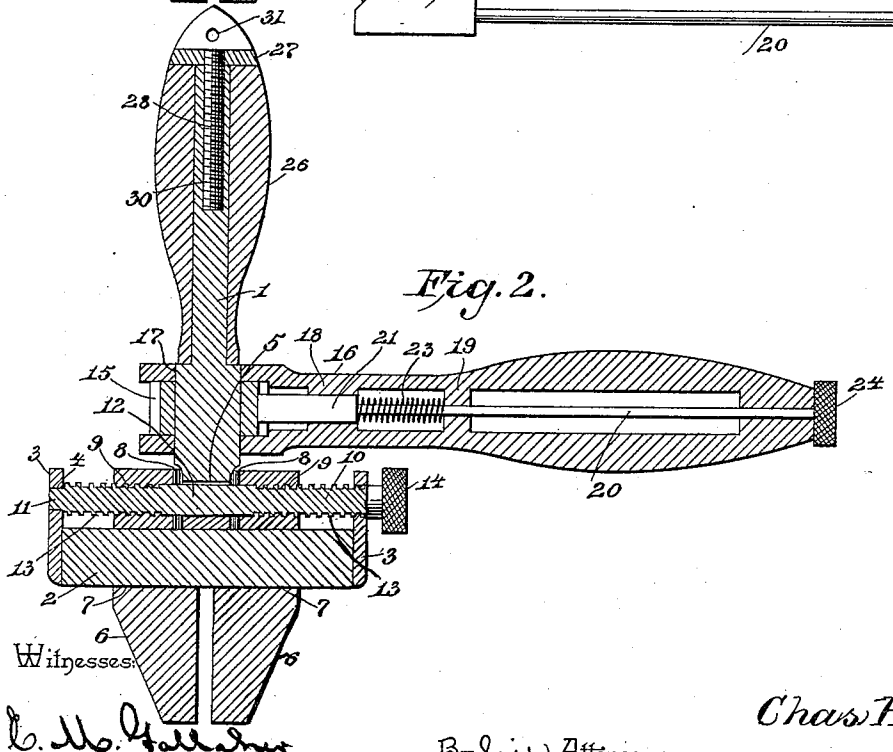

Fig. 2.

Witnesses:

C. M. Hollaher

W. S. Duvall.

Inventor

Chas. H. Driver

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

CHARLES H. DRIVER, OF BRUNSWICK, GEORGIA, ASSIGNOR TO FRANK D. AIKEN AND ANAK A. ROWLAND, BOTH OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 449,793, dated April 7, 1891.

Application filed December 2, 1890. Serial No. 373,296. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. DRIVER, a citizen of the United States, residing at Brunswick, in the county of Glynn and State of Georgia, have invented a new and useful Wrench, of which the following is a specification.

This invention has relation to improvements in ratchet drills or wrenches, and the objects in view are to provide a cheap and simply-constructed drill or wrench adapted to operate a bit or upon a nut; to provide means for readily adjusting the jaws to adapt them for various sizes of nuts or drills, and to adapt the device to operate in either direction, as for applying or withdrawing a nut, and under certain circumstances to be operated as an ordinary drill or wrench.

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

Referring to the drawings, Figure 1 is a side elevation of a wrench or drill constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section. Fig. 3 is a detail of the pawl and its operating-rod.

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

1 designates a cylindrical shank terminating at its front end in a transverse head or bar 2, rectangular in cross-section, and to the ends of the same are secured rearwardly-disposed parallel bearing plates or ears 3, provided opposite each other with plain bearing-openings 4, which openings are in line with a similar opening 5, formed in the plates or ears.

6 designates a pair of jaws provided near their centers with rectangular openings 7, whereby they are mounted and adapted to slide upon the head or bar 2. The rear inner sides of the jaws are provided with semicircular recesses 8, whereby they may snugly fit the shank 1, and in rear of the openings 7 are provided with threaded openings 9, the threads of one jaw being oppositely disposed to that of the other.

10 designates a jaw operating or adjusting bolt provided at its ends with plain bearings 11, mounted for rotation in the bearing-openings 4 of the ears or plates 3, and at its center with a plain bearing 12, which bears in the opening 5 of the shank. At each side of the bearing 12 the adjusting-bolt 10 is provided with screw-threads 13, those at one side being disposed in a contrary direction to those at the opposite side and each engaging and corresponding with the threads formed in the jaws, through the openings in which they pass. One end of the jaw-operating bolt is extended beyond one of the outer bearings, and is there provided with a milled nut 14, by which said bolt may be operated and either close or open the jaws to fit various-sized nuts or bit-heads.

Rigidly secured to the shank 1 in rear of the jaws is a ratchet 15, and said shank is loosely embraced at opposite sides of the ratchet by the front bifurcated end of a handle 16, said handle having its bifurcations provided with bearing-openings 17 for this purpose. In rear of its bifurcations the handle is provided with perforated partitions 18 and 19, and in the perforations of the two and a corresponding perforation in the end of the handle is mounted for reciprocation a rod 20, terminating at its inner end in a ratchet-tooth 21, beveled upon one side, as at 22, so as to ride over the teeth of the ratchet in one direction and operatively engage the same when moved in the opposite direction. The rod 20 is encircled by a light coiled spring 23, interposed between the rear partition 19 and the ratchet-tooth or pawl 21, and at its outer end beyond the handle the rod for operating the pawl is provided with a milled thumb-nut 24.

In rear of the ratchet-handle just described the cylindrical shank 1 is loosely encircled by a hand hole or grip 26, adapted to rotate upon the shank, said handle being held in place by means of a perforated washer 27, located at the outer end of the handle and having passed therethrough a screw 28, the threads of which engage the internal threads formed in the outer end of the shank 1, which latter is bored, as at 30, for this purpose.

In operation the jaws are set by the means heretofore described so as to be a proper dis-

tance apart. The handle 26 is gripped by one hand and firmly held while the handle 16 is grasped by the other. By rotating partially the handle 16, the ratchet and the jaws, together with their shank, will be rotated by means of the pawl engaging with the ratchet. By withdrawing the pawl through the medium of the milled nut and its rod 20 and rotating the same one-half an operation of the ratchet-handle will cause the parts to revolve in a reverse direction. By withdrawing the pawl and giving it a quarter-turn, so that it is out of engagement with the teeth of the ratchet and then tightening the screw 28 by means of a nail or rod passed through an opening 31, formed in the head thereof, the handle 26 will be bound snugly in position and immovable, except with the shank 1, and thus the device may be used as an ordinary wrench, in which operation it will be found useful in certain positions, where there is not sufficient room to operate the ratchet.

Having described my invention, what I claim is—

1. In a wrench, the combination, with the ratchet-handle terminating at its inner end in bifurcations provided with bearing-openings, a spring-pressed pawl located at one side of the openings, a cylindrical shank provided at its outer end with an internally-threaded bore or opening, a handle loosely mounted upon the shank, a screw inserted in the bore, and a washer interposed between the end of the handle and the head of the screw, of a pair of clamping-jaws located at the inner end of the shank, and means for adjusting the same, substantially as specified.

2. In a wrench, the handle 16, bifurcated at its front end and carrying the pawl, the shank 1, passing through the bifurcated front end of the handle 16 and projecting from opposite sides thereof, the handle 26, mounted on one end of the shank, and the sliding jaws with their operating means mounted on the other end thereof, the ratchet mounted on the shank within the bifurcation of handle 16, whereby two handles are provided on the wrench, one to operate the pawl and ratchet and the other to hold the sliding jaws to their work and guide them to the proper positions required.

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

CHARLES H. DRIVER.

Witnesses:

W. H. MONYOMENT,

W. JONES.