

(No Model.)

C. HALL.
SCREW WRENCH.

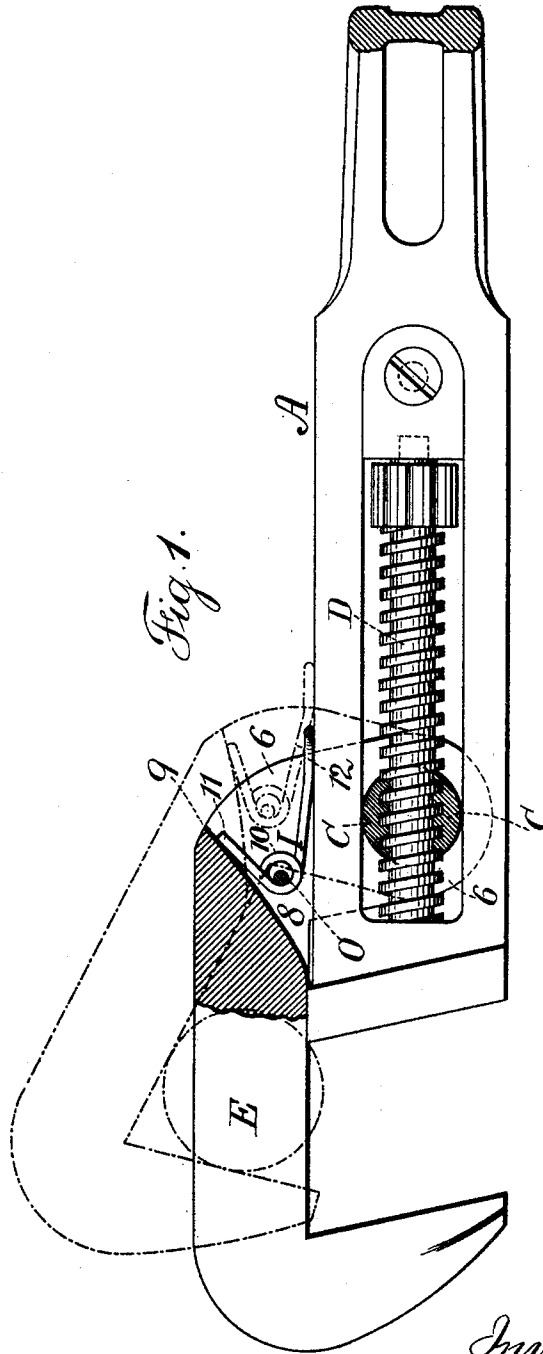
No. 586,738.

Patented July 20, 1897.

Fig. 2.



Fig. 1.



Witnesses:
J. Staib
Chas. H. Smith

Inventor:
Charles Hall
by L. H. Terrell & Son atty

UNITED STATES PATENT OFFICE.

CHARLES HALL, OF NEW YORK, N. Y.

SCREW-WRENCH.

SPECIFICATION forming part of Letters Patent No. 586,738, dated July 20, 1897.

Application filed November 9, 1896. Serial No. 611,467. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HALL, a citizen of the United States, residing in the city, county, and State of New York, have invented an Improvement in Screw-Wrenches, of which the following is a specification.

In Letters Patent No. 523,810, granted to me July 31, 1894, a screw-wrench is represented in which there is a jaw at the end of a handle and a swinging jaw pivoted upon a nut that is adjusted by the screw. A spring is also represented for holding the swinging jaw in any position to which it may be moved, but such spring is not always available for swinging the jaw against the side of the handle when the wrench is used for adjusting nuts or bolts.

The object of the present invention is to apply to the swinging jaw a spring that will yield freely as the jaw is swung and used as a pipe-wrench, and this spring is protected from injury when the wrench is subjected to the severe wear incident to the use of tools of this character and the spring is not liable to receive a set or bend. Neither is it liable to become obstructed in use by the metallic chips, turnings, filings, or grease with which the parts of wrenches of this character are liable to become clogged; and the present invention relates to the peculiarities of construction and the combination of devices as hereinafter set forth.

In the drawings, Figure 1 is a side view of the wrench partially in section, and Fig. 2 is a detached view of the coiled spring.

The lever-handle A is provided with a jaw at the end, and it is mortised longitudinally for the reception of a screw D, that acts upon the nut C, and this forms the pivot for the swinging jaw E, these parts being generally similar to those in patents heretofore granted to me.

Instead of the side of the jaw E, that is closely adjacent to the plate portion 6, setting closely against the side of the lever-handle A, I form in the jaw E a recess 8, which is as wide or slightly wider than the thickness of the lever-handle A, so that the jaw E is free to swing upon the pivot C in either direction, and the edge 9 of the swinging jaw E limits the movement of this hook-shaped jaw E as it is swung away from the

handle-jaw; but when the jaw E is swung up against the side of the handle-jaw there is ample space in the forward part of the recess 8 for the reception of the coil 10 of the spring I, and one end 11 of the spring I bears against the jaw E at the bottom of the recess 8 and the other end 12 of the spring I extends out and bears against the edge of the lever-handle A, and this spring is compressed as the jaw E is swung back and by its resiliency swings the jaw when not otherwise acted upon up against the edge of the lever-handle A.

There is a cross-pin O passing through the jaw E and through the coil 10 of the spring for holding the same in position, but it will be observed that as the jaw E swings upon its pivot C this spring is carried with it bodily, and hence the end 12 of the spring slides backward and forward upon the edge of the lever-handle A and the end 12 is liable to project beyond the edges of the jaw E when such jaw E is swung back, and hence this part of the wire spring might slip off the edge of the lever-handle A, or it might become otherwise entangled or injured. To prevent this, the end of the wire of the spring is bent back, so as to form a loop. Hence the extreme end of the wire is always within the recess of the jaw and the cross portion or bend in the wire takes a proper bearing always upon the edge of the lever-handle, so that there is no possibility of the parts becoming obstructed or inoperative, and should the recess 8 become more or less filled with greasy materials, metal chips, and other foreign substances the spring is not liable to become injured thereby, because the coiled portion 10 is moved backward and forward bodily by the pin O and the end 11 lies closely in one angle of the recess and the end 12 is supported and protected by being made as a double loop or bend, as heretofore set forth, and in consequence of the length of wire that can be employed in the coil 10 there is sufficient elasticity to prevent the wire becoming set by the extended movement of the jaw and the consequent compression of the spring. Hence in practice this spring has been found very reliable and efficient in swinging the jaw E toward the side of the handle-lever A and bringing the same to position when the wrench is used upon a nut or bolt, and the spring also keeps

the jaw in position against a pipe or round article when employed for rotating the same.

I claim as my invention—

1. The combination with the lever-handle, 5
adjusting-screw and pivotal nut, of a swing-
ing jaw having a deep recess adjacent to the
side of the lever-handle, a coiled spring within
the said recess, a cross-pin passing through
the swinging jaw and through the coil of the
10 spring, one end of the wire spring acting
against the swinging jaw and the other end
against the side of the lever-handle, substan-
tially as set forth.

2. The combination with the lever-handle, 15
adjusting-screw and pivotal nut, of a swing-

ing jaw having a deep recess adjacent to the
side of the lever-handle, a coiled spring within
the said recess, a cross-pin passing through
the swinging jaw and through the coil of the
spring, one end of the wire spring acting 20
against the swinging jaw and the other end
of such wire spring being formed with a re-
turned bend extending back into the recess,
substantially as and for the purposes set forth.

Signed by me this 6th day of November, 25
1896.

CHAS. HALL.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.