

(No Model.)

E. I. MOREY.
WRENCH.

No. 542,592.

Patented July 9, 1895.

Fig. 1.

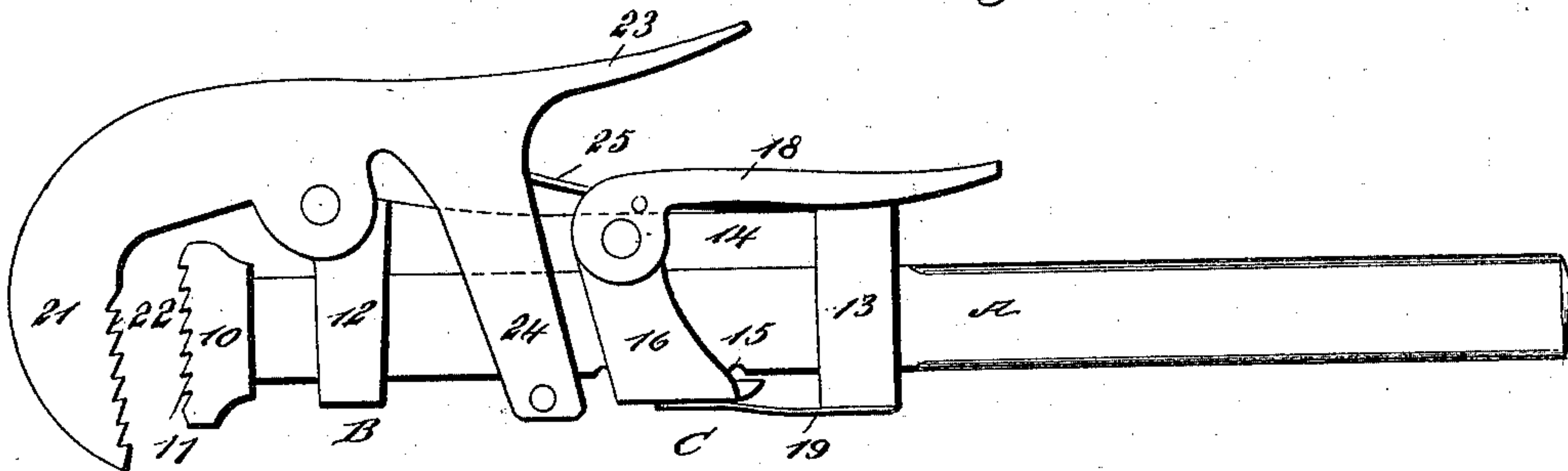


Fig. 2.

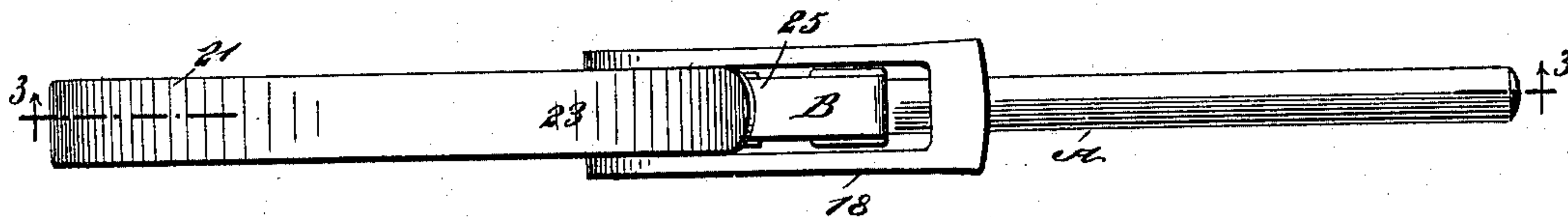
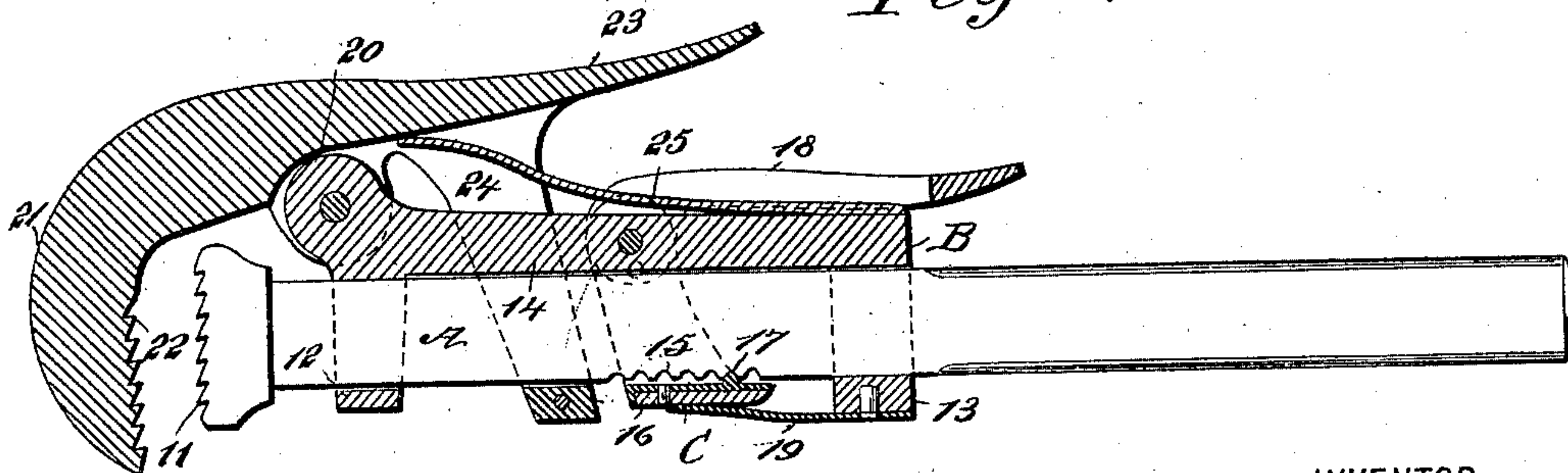


Fig. 3.



WITNESSES:

John A. Rennie.
John A. Rennie.

INVENTOR

E. I. Morey

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDWARD I. MOREY, OF DURANGO, COLORADO, ASSIGNOR OF ONE-FOURTH
TO FREDERICK W. SMITH, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 542,592, dated July 9, 1895.

Application filed December 20, 1894. Serial No. 532,447. (No model.)

To all whom it may concern:

Be it known that I, EDWARD I. MOREY, of Durango, in the county of La Plata and State of Colorado, have invented a new and useful
5 Improvement in Wrenches, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wrenches, and especially to an improvement in pipe-wrenches; and it has for its object to
10 so construct the wrench that it will be simple, durable, and economic, and, furthermore, to provide a means whereby when the wrench is in use the ratchet mechanism thereof will be relieved from undue strain.

Another object of the invention is to provide a means whereby as the distance between the jaws of the wrench is increased the handle will be lengthened, and thereby the amount of leverage increased.

It is a further object of the invention to so construct the sliding section of the wrench that it will add strength to the handle where it is most needed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improved wrench. Fig. 2 is a rear elevation thereof, and Fig. 3 is a longitudinal section taken substantially on the line 3 3 of Fig. 2.

In carrying out the invention the handle A is provided with a head 10 at one end, which constitutes one of the jaws of the wrench, the
40 said jaw being provided upon its outer face with a series of inclined teeth 11. A slide B is mounted upon the handle, and this slide consists of an upper strap 12 and a lower strap 13 fitted around the handle and having
45 free movement thereon, and a tie-bar 14, which is located at the back portion of the handle. In the forward or front edge of the handle of the wrench, a predetermined distance below the jaw 10, a number of trans-
50 verse recesses 15 is produced, forming a se-

ries of grooves somewhat U-shaped in cross-section, separated by series of teeth, as shown in Fig. 3. A stirrup-lock C is employed in connection with the slide, and the said lock consists of a stirrup 16, which is pivotally
55 mounted upon the connecting or tie bar 14 at or near the center of the latter, and the said stirrup is made to extend over the recessed portion 15 of the handle, being provided upon its inner face at this point with a rib or tooth
60 17 transversely formed and adapted to enter any of the recesses or channels 15, as is likewise shown in Fig. 3.

The inner face of the stirrup opposite the channels 15 and the rib or tooth 17 is preferably made of steel. The stirrup is provided at its rear end with a handle 18, preferably of a U pattern and of sufficient length to extend beyond the lower portion of the slide, as
65 shown in Fig. 2. A spring 19 is secured to the front of the lower strap 13 of the slide, and this spring has constant bearing upon the stirrup 16, maintaining its rib in one of the channels of the handle. A knuckle 20 is
70 formed preferably upon the back outer portion of the slide B, and upon this knuckle the outer jaw 21 of the wrench is pivoted, the said jaw being curved over the jaw 10, and its under face opposite the jaw 10 is provided
75 with teeth 22, inclining in an opposite direction to the teeth 11.

The lower or inner end of the jaw 21 is made to terminate in a handle 23, and a stirrup 24 is formed upon or attached to the handle-
80 portion of the jaw 21, embracing both the slide and the handle A of the wrench. A spring 25 is secured to the back portion of the slide, and engages with the inner face of the jaw 21 back of its pivot, the spring serving to hold the toothed surface of the jaw 21 at
85 an inclination to the corresponding surface of the handle-jaw 10, whereby the jaws will bite firmly and quickly upon a pipe, the stirrup 24 serving to limit the said inclination.

In the operation of this wrench the handle
90 18 of the stirrup-lock is pushed forward by the thumb, and the stirrup will be taken out of engagement with the channeled or recessed portion of the handle. The slide may then be
95 moved up or down on the handle to increase
100

or decrease the space between the jaws according to the dimensions of the pipe to be taken, and when the proper adjustment has been made the stirrup-lock is released and
 5 again engages with the channeled surface of the handle. Owing to the stirrup 16 it is evident that, when the wrench is in use, the strain will be to some extent taken off from the tooth 17 and the teeth separating the grooves 15,
 10 thus preventing these parts from becoming broken or damaged, and it is likewise evident that when the jaws are adjusted away from one another the handle is lengthened, and thereby the leverage is increased; and, fur-
 15 thermore, that as the slide is adjusted on the handle the straps 12 and 13 will be over that portion of the handle which in the operation of the wrench must sustain the greatest strain, and that the said straps, and in fact the en-
 20 tire slide B, serve to materially strengthen the handle. Furthermore many pipe-wrenches require the application of a hammer or other weighty body to the clamping-jaw to release them, whereas in the form of wrench illus-
 25 trated, should the clamping-jaw stick it is quickly released by simply pressing inward the shank 23 of said jaw.

Having thus described my invention, I claim as new and desire to secure by Letters
 30 Patent—

1. In a wrench the combination of a handle having a jaw, a slide movable on the handle and adapted to be locked thereto, and a jaw pivoted on said slide at one side of the handle
 35 and provided at its rear end with a stirrup encircling the said handle and adapted to bear on the forward face thereof, substantially as set forth.

2. In a wrench the combination of a handle
 40 having a jaw having a roughened face, a slide movable on the handle, a jaw pivoted on said slide and a spring actuated stirrup pivoted on said slide encircling the handle and provided with a tooth or projection adapted to

engage the roughened face of the handle, sub- 45
 stantially as set forth.

3. In a wrench, the combination of a handle having a jaw, a slide movable on the handle and adapted to be locked thereto and a jaw pivoted on the slide at one side of the handle 50
 and provided with a stirrup adapted to engage the face of the handle, and having its rear part beyond its pivot formed into a handle, substantially as set forth.

4. In a wrench, the combination of a handle 55
 having a jaw and a roughened face, a slide movable on the handle and comprising a tie-bar extending along the handle opposite the roughened face thereof, and end straps en-
 circling the said handle, and a jaw pivoted 60
 on said slide and provided with a stirrup encircling the handle and adapted to bear, on the roughened face thereof, substantially as set forth.

5. In a wrench, the combination, with a 65
 handle provided with a jaw at one of its ends and with transverse channels in one of its faces, of a slide consisting of straps surround-
 ing the handle and a connecting bar uniting the straps, a stirrup lock pivoted upon the 70
 slide and extending around the channeled portion of the handle, the stirrup being provided with a tooth entering the said chan-
 nels, a spring normally holding the strap in locking position, a handle located at one end 75
 of the stirrup, a jaw pivoted upon the slide, extending over the handle jaw and terminat-
 ing at its inner end in a handle, a spring bear-
 ing against the pivoted jaw, normally holding its working face at an angle to that of the 80
 handle jaw, and a stirrup secured to the pivoted jaw and embracing the handle, limiting the extent of angularity with relation to the handle jaw, as and for the purpose specified.

EDWARD I. MOREY.

Witnesses:

C. C. McMILLEN,
 T. H. THOMPSON.