

C. A. WINCHENBACH.
CARRIAGE WRENCH.
APPLICATION FILED AUG. 16, 1910.

991,681.

Patented May 9, 1911.

Fig. 1.

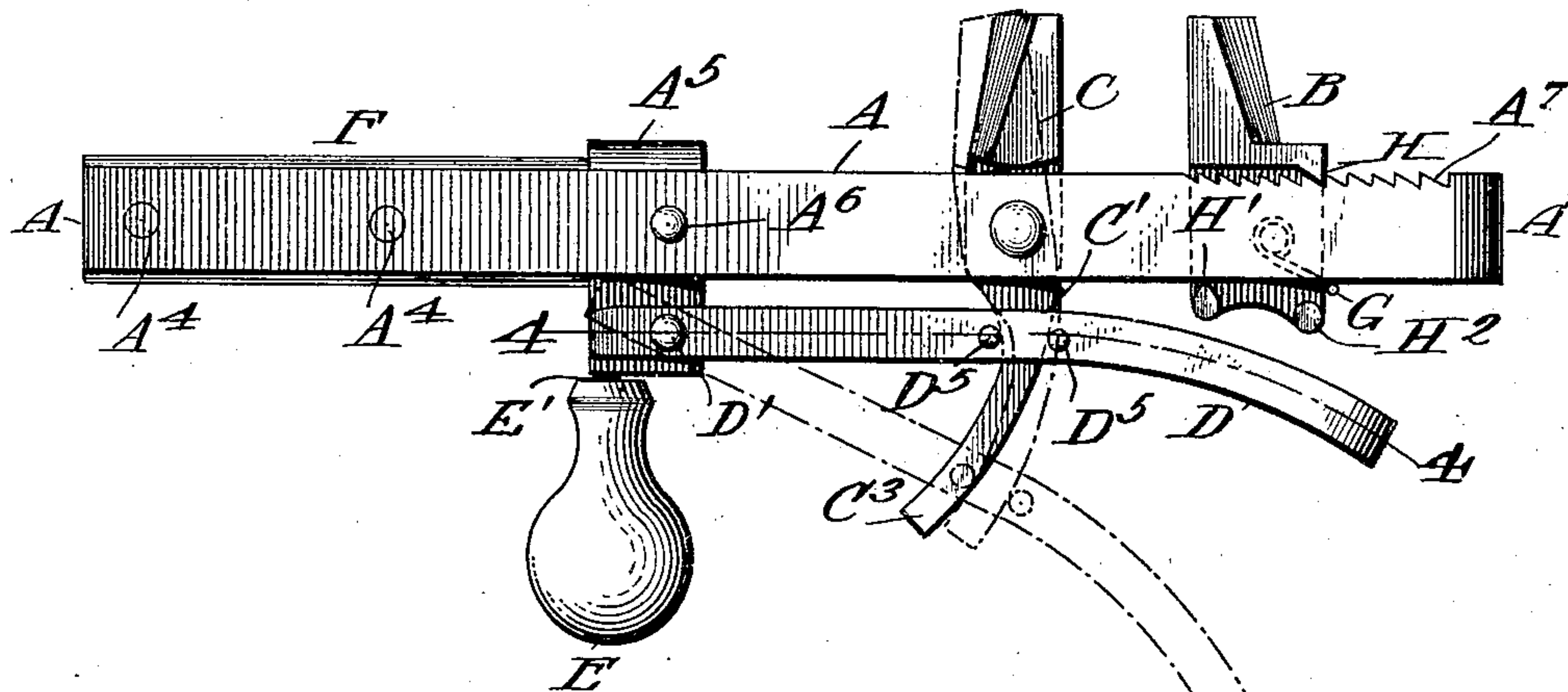


Fig. 4.

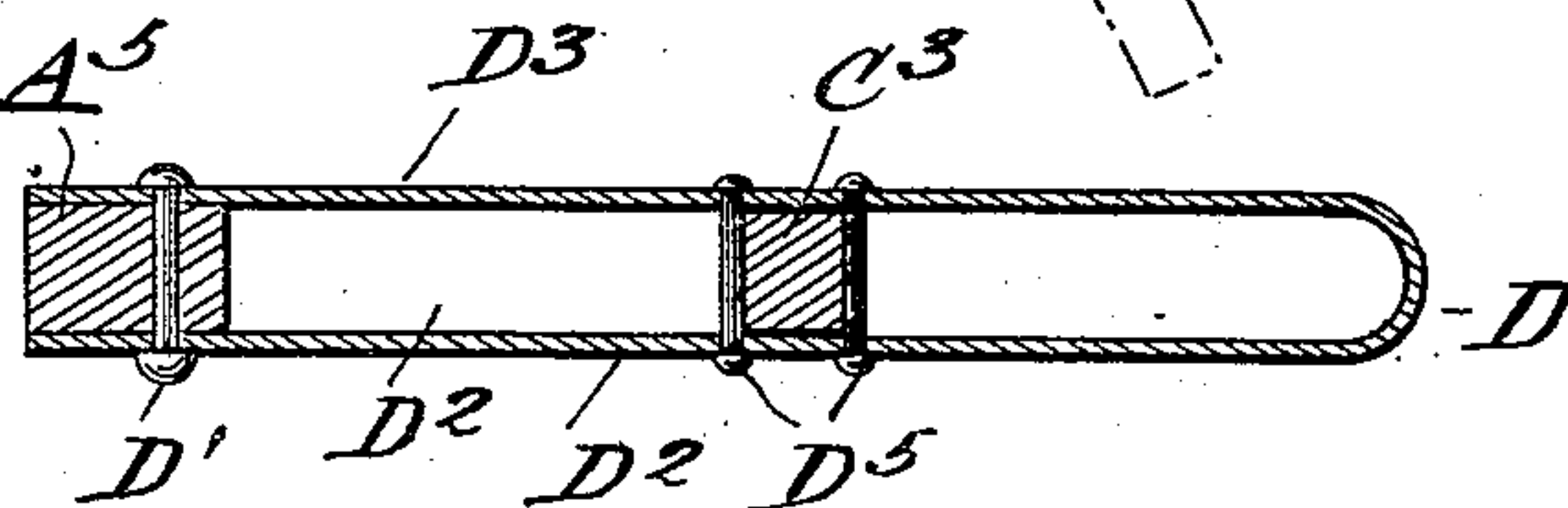


Fig. 2.

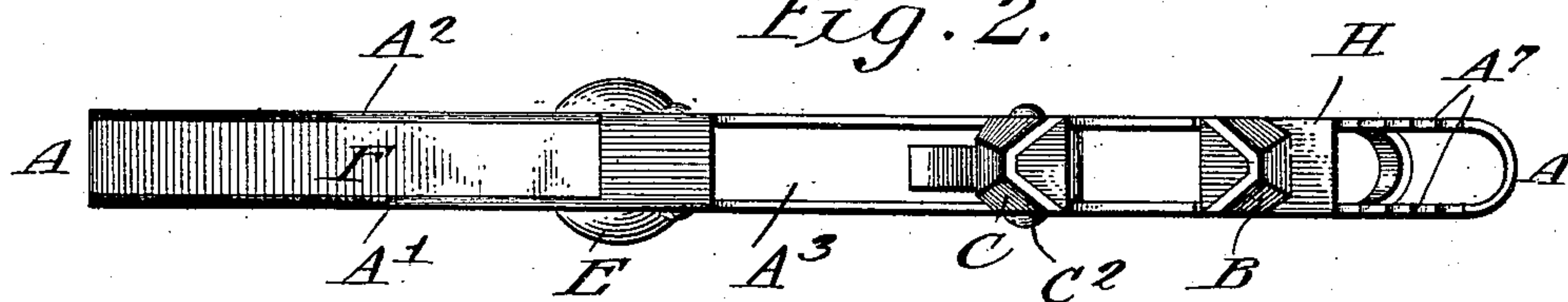
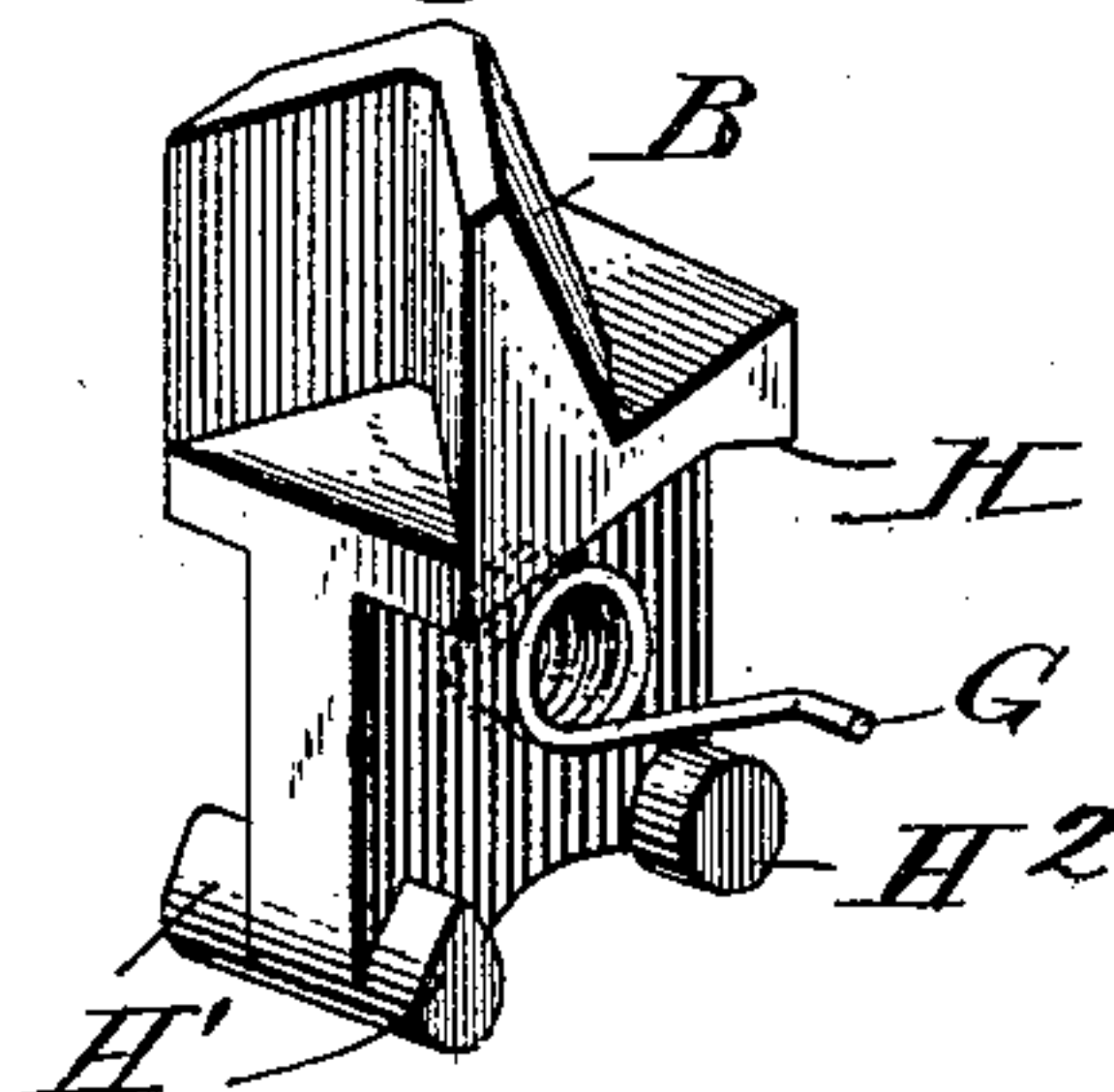


Fig. 3.



Witnesses:

Ott Curtis
W. L. Palmer

Inventor:

Chester A. Winchenbach

UNITED STATES PATENT OFFICE.

CHESTER A. WINCHENBACH, OF WALDOBORO, MAINE.

CARRIAGE-WRENCH.

991,681.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed August 15, 1910. Serial No. 577,301.

To all whom it may concern:

Be it known that I, CHESTER A. WINCHENBACH, a citizen of the United States, residing in Waldoboro, in the county of Lincoln and State of Maine, have invented a new and convenient Carriage-Wrench, of which the following is a specification.

This invention relates to an improved wrench, particularly adapted to be used in connection with nuts such as the nuts on carriage axles and the like.

The object of the invention is to provide a wrench which is strong and durable and which can be manufactured cheaply and in which there are no loose or detachable parts.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings: Figure 1 is a front elevation of my improved wrench, the jaw operating lever being shown in two positions, one in full lines, the other in broken and dotted lines. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective view of the slidable jaw. Fig. 4 is a sectional elevation taken on line 4—4 of Fig. 1.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, A is the wrench bar which is formed of a metal strip bent intermediate its ends to form a U. The legs A' and A² of the wrench bar are separated one from the other by a slot A³. The free ends of the legs A' and A² have inserted therebetween a block F, constituting a handle, said legs A' and A² and the block F being rigidly fastened together by rivets A⁴, A⁴. A bracket A⁵ extends through the slot A³ between the legs A' and A² and is rigidly fastened thereto by means of a rivet A⁶. This bracket A⁵ thus forms, in effect, a portion of the bar A, it being rigidly fastened thereto.

The wrench is provided with two jaws B and C. The jaw B is slidably mounted upon the bar A and extends through the slot A³, having two teeth H and H' and stops H² thereon. The tooth H extends entirely across the rear end of the jaw B and is adapted to engage teeth A⁷, A⁷ formed upon the edges of the legs A' and A². A spiral spring G is fastened to the jaw B and is located between the opposite legs A' and A² of the bar A, the free end of said spring G bearing against the side of the leg A' oppo-

site to that upon which the teeth A⁷ are cut, the tooth H' bearing against the same side of said leg A' and a like tooth H' upon the opposite face of the jaw B bearing against the edge of the leg A². The action of the spring G is to cause the tooth H to be kept in engagement with the teeth A⁷, A⁷ while at the same time the teeth H', H', engage the opposite sides of the legs A' and A² to that upon which the teeth A⁷ are located.

Stops H² on opposite sides of the jaw B, one of which stops is shown in Figs. 1 and 3, bear against the edges of the legs A' and A² opposite to that upon which the teeth A⁷ are cut, when the jaw B is tipped against the action of the spring to disengage the tooth H from the teeth A⁷, A⁷. When the jaw B has thus been tipped to disengage the tooth H from the teeth A⁷, the same may be slid along the bar A toward the handle or away therefrom, and when the jaw B is released, the spring G will cause the tooth H to engage the teeth A⁷ and lock said jaw against movement toward the right (Fig. 1.) The other jaw C forms a part of a lever C' which is pivoted at C² to the bar A, the jaw C constituting one arm of the lever, the other arm C³ being formed upon a curve eccentric to the pivot D' of a lever D, which lever is pivoted to the bracket A⁵ at D'. The curved or cam-shaped arm C³ extends through a slot D² formed between the opposite sides D³ and D⁴ of the lever D.

The lever D is formed of a strip of metal bent to form a U, the free ends of which are pivoted by the pin D' to the bracket A⁵, and this lever has two pins D⁵, D⁵ extending transversely thereof from one leg D³ to the other leg D⁴. The arm C³ extends through the slot D² between the pins D⁵, D⁵ and thus slidably engages the lever D, so that when the lever D is rocked upon its pivot D' it will rock the lever C' upon its pivot C² and thus move the jaw C toward or away from the jaw B from the position indicated in dotted lines to the position indicated in full lines and vice versa. The distance to which the lever D can be rocked upon its pivot D' is limited by the free end of said lever abutting against the bar A.

A handle E, rotatably mounted upon a stud E' fast to the bracket A⁵, is provided by means of which the wrench may be rotated after the jaws B and C are clamped to a nut.

It will be noted that the jaws B and C

are V-shaped on their opposing faces, in order that the same may securely engage opposite corners of the nut which is to be manipulated.

5 Having now specifically described my invention, I will proceed to describe the manner in which the same may be used. The jaw C is placed against one corner of the nut which is to be turned and the jaw B
10 is slid up against the diagonally opposite corner by tipping said jaw until the tooth H is disengaged from the teeth A', then moving the jaw longitudinally of the bar A in the desired direction, the V-shaped engaging face of the jaw B is brought into engagement with one corner of the nut which is to be manipulated and then released, when it is snapped back into position with the tooth H engaging the teeth A' by the spring
20 G. A final and strong grip of the jaws upon the nut is obtained by swinging the lever D upon its pivot D' from the position shown in dotted lines (Fig. 1) toward the position shown in full lines therein until the desired
25 grip of the jaws C and B upon the nut is obtained.

To release the jaws from the nut, the lever D is swung outwardly from the handle from the position shown in full lines (Fig. 1)
30 toward that illustrated in dotted lines therein.

Where nuts of the same size are being operated upon with the wrench, the operation hereinbefore described for changing the
35 distance of the jaw B from the jaw C is unnecessary, and only the rocking movement of the jaw C by means of the lever D, as hereinbefore described, is necessary to grip or release the nut.

40 Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. A wrench having, in combination, a bar, a jaw thereon, a lever pivoted to said
45 bar, a second lever extending transversely of said bar and pivoted thereto, one arm of said lever constituting a jaw, the other arm slidably interengaging and eccentric to said first-named lever, whereby said jaw lever
50 may be rocked upon its pivot.

2. A wrench having, in combination, a bar, a jaw thereon, a lever pivoted to said bar, a second lever extending transversely of said bar and pivoted thereto, one arm of
55 said lever constituting a jaw, the other arm having a cam-shaped form and slidably interengaging said first-named lever, whereby said jaw lever may be rocked upon its pivot.

3. A wrench having, in combination, a
60 bar, a jaw thereon, a lever pivoted to said bar provided with a slot, a second lever extending transversely of said bar and pivoted thereto, one arm of said lever constituting a jaw, the other arm extending through
65 said slot and eccentric to said first-named

lever, whereby said jaw lever may be rocked upon its pivot.

4. A wrench having, in combination, a bar, a jaw thereon, a lever formed of a strip of metal bent to form a U, the free ends of
70 said U being pivoted to said bar, two pins on said lever extending transversely thereof from one leg of said U to the other, a second lever extending transversely of said bar and pivoted thereto, one arm of said last-
75 named lever constituting a jaw, the other arm extending through said lever between said pins and curved eccentrically to said first-named lever.

5. A wrench having, in combination, a
80 bar with teeth on one side thereof and two jaws thereon, one of said jaws slidably mounted on said bar and extending through a slot provided in said bar and having two teeth diagonally located on opposite sides
85 thereof, one of said teeth adapted to engage one side of said bar, the other tooth adapted to engage the teeth on said bar.

6. A wrench having, in combination, a
90 bar with teeth on one side thereof and two jaws thereon, one of said jaws slidably mounted on said bar and extending through a slot provided in said bar and having two teeth diagonally located on opposite sides
95 thereof, one of said teeth adapted to engage one side of said bar, the other tooth adapted to engage the teeth on said bar, and a spring fast to said last-named jaw adapted to hold said last-named jaw in engagement with the teeth on said bar.
100

7. A wrench having, in combination, a bar with teeth on one side thereof and two jaws thereon, one of said jaws slidably mounted on said bar and extending through
105 a slot provided in said bar and having two teeth diagonally located on opposite sides thereof, one of said teeth adapted to engage one side of said bar, the other tooth adapted to engage the teeth on said bar, and a stop
110 on said last-named jaw adapted to engage the side of said bar opposite to that side which is provided with teeth and a spring fast to said last-named jaw adapted to hold the same in engagement with the teeth on said bar.
115

8. A wrench having, in combination, a bar with teeth on one side thereof, a jaw slidably mounted on said bar and extending through a slot provided in said bar and
120 having two teeth diagonally located on opposite sides thereof, one of said teeth adapted to engage one side of said bar, the other tooth adapted to engage the teeth on said bar, a lever pivoted to said bar, and a second lever extending transversely of said bar and
125 pivoted thereto, one arm of said lever constituting a jaw, the other arm slidably interengaging and eccentric to said first-named lever, whereby said jaw lever may be rocked upon its pivot.
130

9. A wrench having, in combination, a
bar consisting of a metal strip bent inter-
mediate its ends to form a U, a bracket ex-
tending through between the legs of said U
and rigidly fastened thereto, a lever formed
of a strip of metal bent to form a U, the
free ends of said lever-U being pivoted to
said bracket, two pins on said lever-U ex-
tending transversely thereof from one leg
of said lever-U to the other, a second lever
extending transversely of said bar and piv-
oted thereto, one arm of said second lever
constituting a jaw, the other arm slidably
interengaging and eccentric to said first-
named lever, whereby said jaw lever may be
rocked upon its pivot, another jaw slidably
mounted on said bar, and means to lock
said last-named jaw to said bar.

10. A wrench having, in combination, a

bar consisting of a metal strip bent inter- 20
mediate its ends to form a U, a bracket ex-
tending through between the legs of said U
and rigidly fastened thereto, a handle
mounted on said bracket and extending
transversely thereof, a lever pivoted to said 25
bracket, a second lever extending trans-
versely of said bar and pivoted thereto, one
arm of said last-named lever constituting a
jaw, the other arm slidably interengaging
and eccentric to said first-named lever, 30
whereby said jaw lever may be rocked upon
its pivot, a jaw slidably mounted on said
bar, and means to lock said slidable jaw
to said bar.

CHESTER A. WINCHENBACH.

Witnesses:

C. H. CURTIS,

E. S. CROWELL.

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