

(No Model.)

N. ECCLES.
WRENCH.

No. 510,414.

Patented Dec. 12, 1893.

Fig. 1.

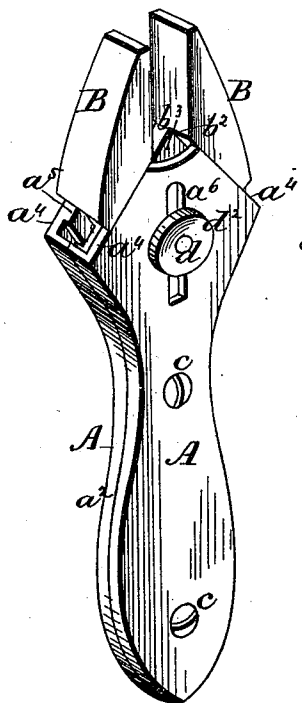


Fig. 2.

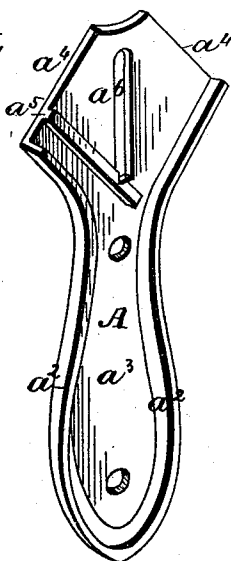


Fig. 3.

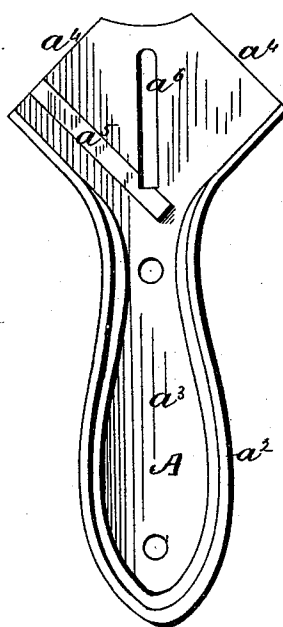


Fig. 4.

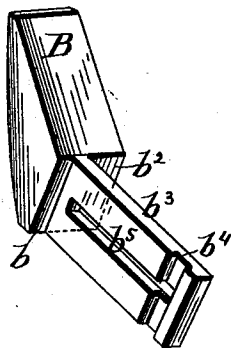
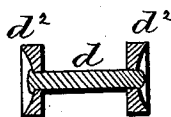


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 510,414, dated December 12, 1893.

Application filed September 28, 1893. Serial No. 486,679. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS ECCLES, a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to wrenches having sliding jaws; and the objects of my improvement are to construct a wrench of this class which will have the elements of simplicity and great strength, and will also be relatively inexpensive. I attain these objects by the construction illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of a wrench constructed in accordance with my invention, the jaws appearing therein about half opened. Fig. 2 is a perspective view showing the inner side of one of the concaved side plates of the jaw-carrying frame. Fig. 3 is a front view of the inner side of the frame on a slightly larger scale. Fig. 4 is a perspective view of one of the jaws. Fig. 5 is a longitudinal section through the jaw-operating pin, and the buttons or heads thereon by which it is moved lengthwise of the slots in the side plates of frame and lengthwise of the stem of each jaw.

In said drawings A A represent the side plates of the frame. Said plates have flanges a^2 to form, when their edges are brought in contact with each other, a chamber a^3 to receive in its upper end the jaws B B of the wrench. The lower portions of the side plates are suitably curved and their edges rounded to constitute a suitable handle for the wrench. The upper edges a^4 of each plate A have not any flange but form with each other an angle of ninety degrees, and said edges a^4 constitute strong bearing surfaces for the shoulders b^2 formed on the under side of each jaw, on the sides of its stem b^3 . Said bearing surfaces a^4 are also used as guides for the jaws adjacent to their points of junction with the stem b^3 ; but to guide the outer end of said stem in a direction parallel with one of the edges a^4 , at right angles to the other edge a^4

of each plate A, said stem b^3 has a groove b^4 transversely thereof and adjacent to said outer end. Said groove b^4 is made to engage with a rectangular rib a^5 projecting from the inner face of each plate A, and said rib is located parallel with one of the edges a^4 .

To permit a person using the wrench, to bring the two jaws simultaneously toward each other, or away from each other, as may be desired, the stem of each jaw has a slot b^5 lengthwise thereof in a position parallel with its edges. Each plate A has also a slot a^6 through its side, in the axis thereof; said slot a^6 being formed at an angle of forty-five degrees with either one of the edges a^4 . When the jaws have been placed in proper position with the flat faces of their stems in contact with each other, a pin d is made to pass through the slots a^6 of the frame, and through the slots b^5 of the stems of the jaws to move the latter. Said pin d is provided with heads d^2 preferably in the form of disks concaved on their outer faces to serve as handles in moving the pin d up or down in the slots made for its reception. Said heads d^2 are either screwed upon or riveted on the ends of the pin d after it has been received in the slots.

The two plates A are united together by rivets or screws c passing through them and in engagement therewith at suitable points upon the hand portion thereof.

The jaws of this wrench are capable of resisting great pressure as their shoulders b^2 constantly bear upon the edges a^4 of the frame.

Said wrench is of very simple construction. Each plate A is identical in form to the other, and the castings thereof can be molded from the same pattern; each jaw is also identical in form to that of its mate. The shoulder b thereon is narrower than the shoulder b^2 to permit the stem of another jaw to be placed alongside of the stem of the first, and have besides a shoulder equal in width to the shoulder b .

Although in the two interlocking members b^4 and a^5 , I prefer to have the groove b^4 in the stem of the jaw and the rib a^5 on the plate of the frame, it is evident that the arrangement may be inverse, by providing the side of the jaw stem with a rib in the same position as

the groove b^4 and the frame with a groove in place of the rib a^5 , without departing from the spirit of my invention.

Having now fully described my invention,
5 I claim—

1. In a wrench the combination of two chambered plates, each having two edges a^4 inclined at an angle of ninety degrees to each other, a rib parallel with one of said edges,
10 and a slot midway of said edges, with two jaws, each provided with a stem having a groove transversely thereof and a slot parallel with its edges, and a pin passing through said slots and through the slots of the plates of
15 the frame substantially as described.

2. In a wrench the combination of the frame

consisting of two chambered plates having edges inclined at an angle of ninety degrees to each other, and a slot midway of said edges, two jaws, each provided with a stem having 20 a slot parallel with its edges, and interlocking members as described uniting said stems with the plates of the frame and a pin passing through the slots of said plates and through the slots in the stems of the jaws 25 substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

NICHOLAS ECCLES.

Witnesses:

JNO. VAN SEICKLE,
ARTHUR E. BLAUVELT.