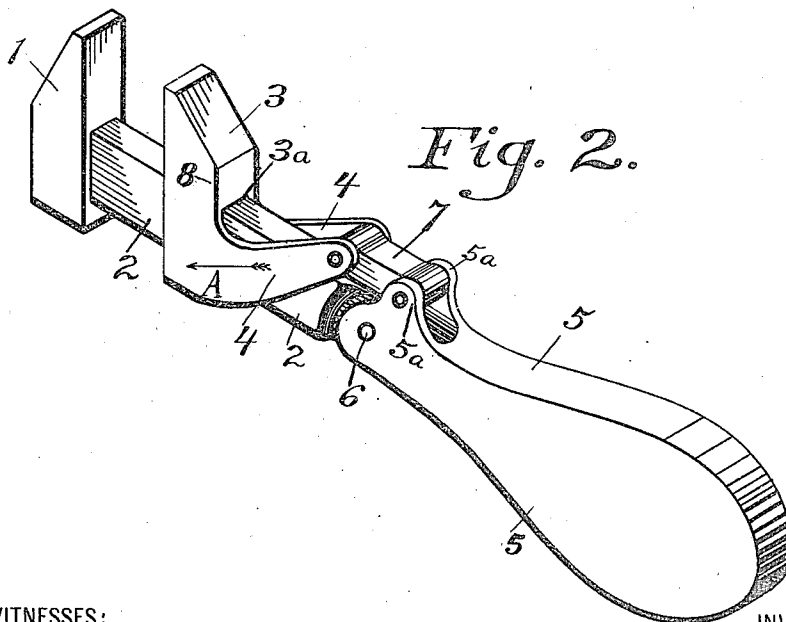
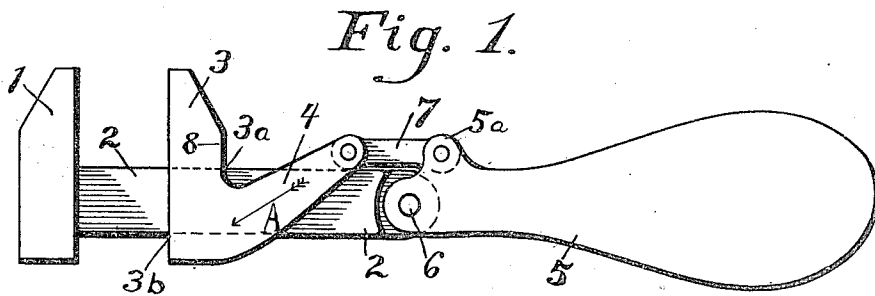


J. G. PORTEUS.
WRENCH.
APPLICATION FILED JAN. 7, 1910.

964,313.

Patented July 12, 1910.



WITNESSES:

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JAMES G. PORTEUS, OF MARION, INDIANA, ASSIGNOR OF ONE-HALF TO THEODORE PORTEUS, OF INDIANAPOLIS, INDIANA.

WRENCH.

964,313.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed January 7, 1910. Serial No. 536,949.

To all whom it may concern:

Be it known that I, JAMES G. PORTEUS, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented a new and useful Wrench, of which the following is a specification.

My invention relates to improvements in wrenches and the object of my improvement is to provide a wrench which will automatically adjust and lock itself to the different sizes of nuts by simply applying it to the nut with sufficient force to turn said nut. I attain these objects by means of the device illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the wrench, and Fig. 2 is a view, in perspective, of the same.

Similar numerals of reference indicate similar parts in both views.

In the drawings, the rigid jaw 1 is formed integral with the shank 2 and the movable jaw 3 is slidably mounted on said shank. The arms 4 are formed at an acute angle to and integral with the movable jaw 3 and extend diagonally across and close to the sides of said shank, see particularly Fig. 2. The handle 5 is pivotally connected to the shank 2, as at 6, and said handle is provided with the integrally formed ears 5^a, which ears are pivotally and operatively connected to the outer ends of the arms 4, by means of the link 7.

The special features of this invention are the automatic adjustment and the novel means for operating the movable jaw. The arms 4 are formed in such a position on said movable jaw that they will deliver the force applied to said movable jaw in the direction of the arrow A.

The operation of this wrench is very simple, it is automatically adjusted to fit any sized nut from one as large as will pass between its jaws when wide open to a very small one by swinging the handle 5 on the pivotal point 6. The jaws of the wrench are opened wide enough and placed in posi-

tion on the desired nut and sufficient force applied to the handle to turn said nut. This force is transmitted to the movable jaw through the link 7 and the arms 4 in the direction of the arrow A. By applying the force to this portion of the movable jaw and at this angle, the reaction caused by gripping the nut between the jaws, produces friction at the edges 3^a and 3^b of the opening through the movable jaw, which, tends to lock said movable jaw on the shank 2, thereby assisting in preventing the wrench from slipping and turning on the nut.

Teeth may be formed in the faces of the jaws to engage pipes, bolts and the like, instead of the smooth faces shown without departing from my invention.

What I claim as new and desire to secure by Letters Patent is as follows:

1. A wrench comprising a shank provided with a fixed jaw, a handle pivotally connected with said shank, a movable jaw slidably mounted on said shank, parallel arms formed at an acute angle and integral with said movable jaw and extending diagonally across and close to the sides of said shank, and a link operatively connecting said arms with said handle substantially as described and for the purpose set forth.

2. A wrench comprising a shank provided with a fixed jaw, a handle pivotally connected with said shank, a movable jaw slidably mounted on said shank, said movable jaw provided with parallel arms, said parallel arms formed at an acute angle with said movable jaw and extended diagonally across and close to the sides of said shank to cause the reaction produced by gripping the nut to lock said movable jaw on said shank in its adjusted position, and a link operatively connecting said arms with said handle substantially as set forth.

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

JAMES G. PORTEUS.

Witnesses:

EDUARD EHRET,
EARL E. THOMPSON.