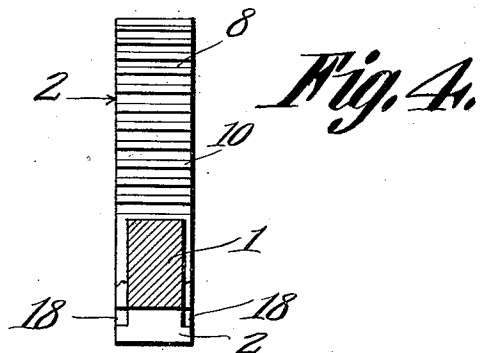
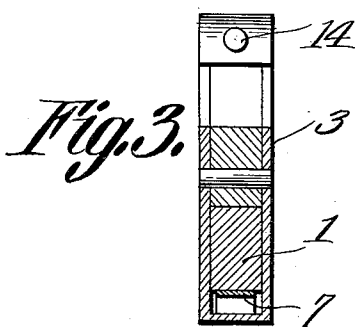
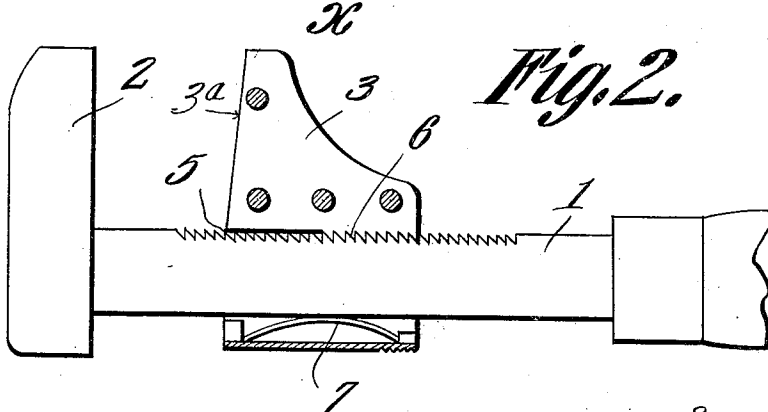
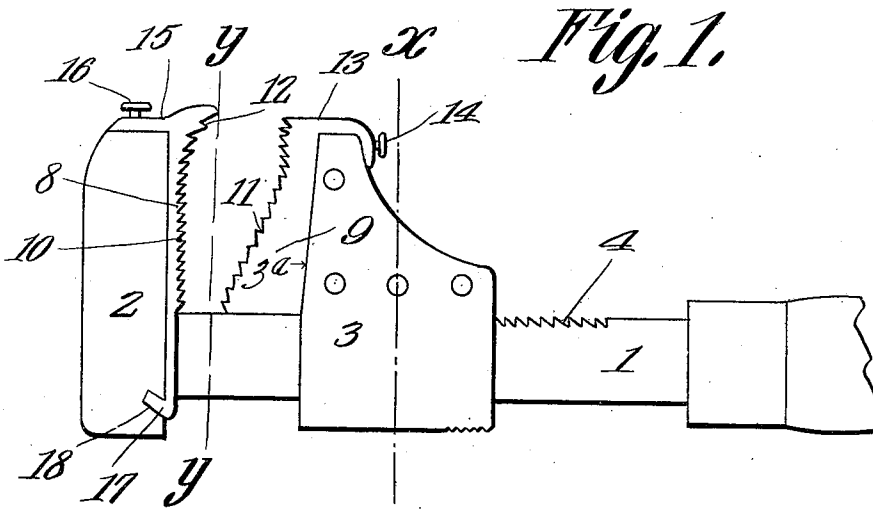


R. C. KING.
WRENCH.

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1,055,757.

Patented Mar. 11, 1913.



Witnesses
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UNITED STATES PATENT OFFICE.

RUSSELL C. KING, OF APOLLO, PENNSYLVANIA.

WRENCH.

1,055,757.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed July 31, 1911. Serial No. 641,503.

To all whom it may concern:

Be it known that I, RUSSELL C. KING, a citizen of the United States, residing at Apollo, in the county of Armstrong and State of Pennsylvania, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to improvements in wrenches.

The invention has for its object to provide for its use as a nut, or a pipe wrench.

A further object is to effect the ready interchangeability of the device according to the special use to which it may be desired to apply the same.

A still further object is to carry out the aforesaid ends in a simple, expeditious, inexpensive and effective manner.

The invention consists of certain instrumentalities and features substantially as hereinafter fully disclosed and defined by the claims.

In the accompanying drawing illustrating the preferred embodiment of my invention, wherein it will be understood that various changes and modifications may be made within the scope of what is claimed, without departing from the spirit of my invention, Figure 1 is a broken side elevation of the invention, parts being broken away. Fig. 2 is a sectional side elevation. Fig. 3 is a transverse section taken on the line $x-x$ of Fig. 1. Fig. 4 is a transverse section taken on the line $y-y$ of Fig. 1.

In putting my invention into practice, I provide a handled member 1 having a fixed jaw 2 at one end, the member 1 supporting a slidable jaw 3. The shank of the handled member 1 has a series of serrations 4 in its edge, and the slidable jaw 3 which is adapted to receive said handled member, also has in one wall of the passage 5 extending through it, a plurality of serrations 6 which extend only about half the length of the said wall, the remaining portion of said wall being plane. The serrated surfaces 4 and 6 of the handled member 1 and of the movable jaw member 3 respectively are opposed to each other, and are adapted for mutual engagement, this engagement being effected by the action of a spring 7 arranged intermediate said jaw and the handled member and delivering its pressure upon said jaw.

The movable jaw-member 3, when pressed upon its rear corner edge, at the bottom, may be released from engagement with the han-

dled member 1, and be moved toward or away from the fixed jaw-member 2 as may be required in applying it to the nut to be engaged. The face of the jaw-member 3 is outwardly inclined, as at 3^a, whereby, by holding the jaw up against a nut and then sliding the wrench upon the nut, a perfect adjustment of the wrench to its work is obtainable. This is apparent from the fact that the outward inclination of the face 3^a of the jaw 3 will allow a nut to be received between the jaws 2 and 3 even though the adjustment of the jaw 3 upon the teeth 4 of the handle-shank would otherwise not admit of such application of the wrench to the nut.

Supplemental pipe gripping jaws 8 and 9 adapted to be applied to the primary jaw-members 2 and 3, are shown. The supplemental pipe jaw-members 8 and 9 are suitably held in effective position upon the respective primary jaw-members, preferably as disclosed in Fig. 1, and by retaining means which will be described in connection with the further disclosure of the structural features of the supplemental jaws. The jaws 8 and 9 are equipped with teeth 10 and 11 respectively. The supplemental jaw 8 which is bifurcated to form resilient arms which straddle the shank of the handled member 1 and the jaw 8, is straight for the greater portion of its toothed length, upon its face but has a portion 12, at its upper end which is deflected from a straight line, the deflection being toward the opposed supplemental jaw-member 9, to enable the supplemental jaws to coact in gripping the pipe or other cylindrical body to which the jaws may be applied. The jaw 9 has its serrated face 11 inclined toward the opposite jaw 8 for coöperation with the overhanging portion 12 of said jaw, in engaging the interposed pipe. The jaw 9 at its inner end abuts against the shank of the handled member 1, while its outer end is angular in general outline as at 13 to enable it to engage or receive the outer end of the primary jaw-member 3. The angular terminal portion 13 of the supplemental jaw-member 9 is equipped with a holding screw 14 engaging the primary jaw-member 3 for the retention of said supplemental jaw-member in effective position. The supplemental jaw-member 8 is similarly provided at its outer end with an angular extension 15 fitting upon the corresponding end of the primary jaw-member 2, said ex-

tension being equipped with a holding screw 16 for engagement with the primary jaw to retain the outer end of said supplemental jaw thereon. The supplemental jaw-member 8 has also opposite lateral lugs 17 at the ends of its bifurcations, extending at an incline as indicated, and received within correspondingly inclined sockets 18 formed in the jaw 2, which inclined lugs serve to hold the lower end of said supplemental jaw in place.

What is claimed is:—

1. In a wrench, a handled member having a fixed jaw provided in its side faces and adjacent its inner end with superficial, inclined sockets; a jaw slidable upon the handled member; supplemental jaws applied to the gripping faces of the fixed and slidable jaws, the supplemental jaws having angular portions engaging the outer end faces of the fixed and slidable jaws; means in the angular portions of the supplemental jaws for engaging the fixed and slidable jaws; that supplemental jaw which is adjacent the slidable jaw bearing terminally upon the handled member, and that supplemental jaw which is adjacent the fixed jaw having resilient arms lying along the working faces of the fixed jaw, and extended across the handled member, the arms terminating in inclined lugs engaged in the sockets, the resiliency of the arms permitting the lugs to be sprung into the sockets in a direction at right angles to the side faces of the fixed jaw.

2. A wrench of the type described, including a handled member having a fixed jaw at one end, a slidable jaw upon said handled member, and supplemental jaws having right-angled outer end-portions adapted to fit the inner corner-edges and the outer ends of the aforesaid or primary jaws, said right-angled outer end-portions being equipped with retaining means, the inner end of one supplemental jaw resting upon said handled member, the other supplemental jaw being bifurcated at its inner end to fit astride of said handled member, the resulting branches of such bifurcation extending laterally with respect to said handled member, said branches having inclined lugs at their lower ends, the primary jaw to which said supplemental jaw is applied having sockets of corresponding outline and inclination as said lugs, said sockets opening laterally for the reception of said lugs, said branches or furcations being applied to said primary jaw reversely to its gripping action, said lugs being adapted to be sprung into its receiving sockets at right angles to the trend of said branches.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

RUSSELL C. KING.

Witnesses:

D. C. SHULL,
S. MARTIN JAMISON.

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