No. 681,979. Patented Sept. 3, 1901.

M. A. RICHARDSON.

WRENCH.

(Application filed June 13, 1901.)

(No Model.)

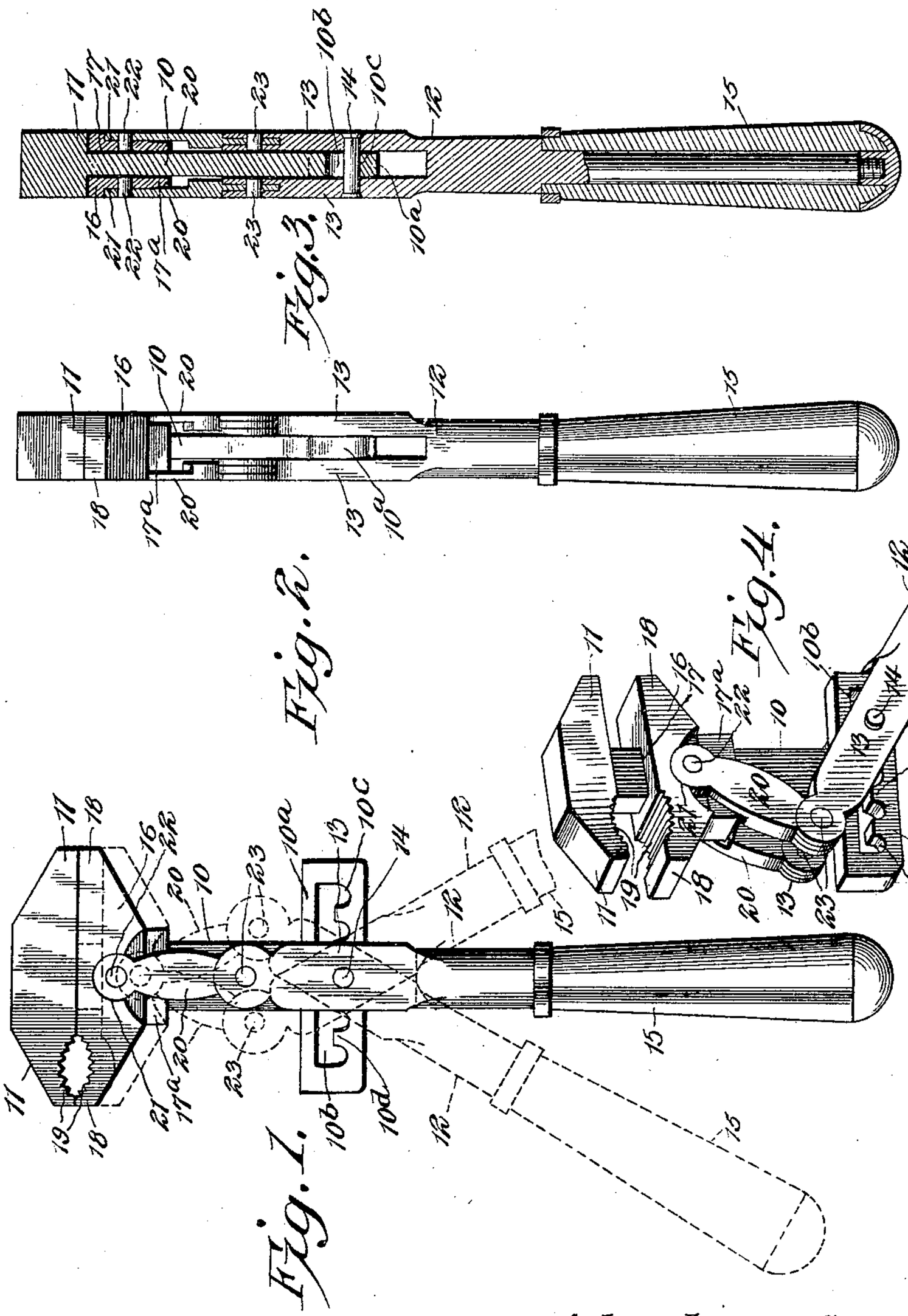

Fig. 3.

Fig. 2.

Fig. 4.

Fig. 1.

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UNITED STATES PATENT OFFICE.

MARSHAL A. RICHARDSON, OF WINDSOR, ILLINOIS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 681,979, dated September 3, 1901.

Application filed June 13, 1901. Serial No. 64,450. (No model.)

To all whom it may concern:

Be it known that I, MARSHAL A. RICHARDSON, a citizen of the United States, residing at Windsor, in the county of Shelby and State of Illinois, have invented a new and useful Wrench, of which the following is a specification.

The present invention relates to wrenches; and one of the objects thereof is to provide an article of this character that may be employed upon nuts or pipes of different sizes and will readily adjust itself to the same.

More particularly, the aim of the invention is to provide a novel construction having two sets of jaws and to employ in connection therewith reversible operating mechanism, so that either set may be used and employed for turning a nut or pipe in either direction.

Another feature of the invention resides in means whereby the position of the handle-fulcrum may be changed with relation to the shank, so that a greater space can be obtained between the movable and the fixed jaws.

The construction described in the following specification and shown in the accompanying drawings is considered preferable; but it will be understood that changes may be made therefrom provided they are within the scope of the appended claims.

In the drawings, Figure 1 is a side elevation of a wrench embodying the present improvement. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical longitudinal section. Fig. 4 is a detail perspective view more clearly illustrating the position of the stock when moved to one side of the shank.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In carrying out the present invention a shank 10 is provided having oppositely-disposed jaws 11 at one end and a cross-bar 10^a at the other, said cross-bar being provided with a longitudinally-disposed slot 10^b, one edge of which has a plurality of notches 10^c, forming a series of shoulders 10^d. A stock 12 has a pivotal and sliding engagement intermediate its ends with the cross-bar 10^a, and for this purpose said stock has one end bifurcated to form a pair of spaced arms 13, between which the end of the shank 10 is located. A transverse pivot-pin 14 passes through the spaced arms contiguous to their bases and through the slot 10^b. The opposite end of the stock is formed into a suitable handle 15.

Slidably mounted upon the shank 10 is a head 16, said head being provided with a central opening 17 and a collar 17^a, through which the shank 10 passes. This head is furthermore provided with oppositely-disposed jaws 18, that coact with the jaws 11 of the shank. In the embodiment shown the operative faces of one set of jaws are flat and are designed for use upon a nut, while those of the opposing set are curved and serrated, as at 19, this set being designed for use upon a pipe. It will of course be understood that jaws of other forms may be employed, if desired. The head 16 is connected to the free ends of the stock-arms 13 by means of links 20. To this end the side faces of the head are provided with inset seats 21, in which the ends of the links are mounted by means of pivot-pins 22. The free ends of the arms 13 are forked and embrace the other ends of the links, which are secured thereto by means of the pivot-pins 23.

By reference to Fig. 1 it will be seen that when the pivot 14 is in the central notch of the slot 10^b and the stock and shank are in alinement the several pivots 14, 22, and 23 will also be in alinement. This permits of the swinging of the handle portion of the stock to either side of the shank, and therefore either set of jaws may be employed and their action can be reversed by reversing the position of the handle. For nuts or pipes of ordinary size this central position of the pivot 14 will be sufficient. In case, however, it is desired to employ the wrench upon a large nut or pipe it is only necessary to shift the pivot 14 in the slot 10^b and engage it behind one of the shoulders thereof. This will permit the stock being swung through a greater arc than when a pivot is in its central position, and the jaws may therefore be spread farther apart. The reversing action, however, is still maintained, for the reason that the slot extends on both sides of the central line. By this construction it will therefore be seen that an exceedingly simple and inexpensive wrench is provided having a comparatively large adjustment between the jaws.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a wrench, the combination with a shank having a jaw, of a stock pivoted intermediate its ends to the shank and having a handle at one end, a movable jaw having a longitudinal sliding engagement with the shank and coacting with the jaw thereof, and a link secured to the movable jaw and having a pivotal connection with that portion of the stock which is on the opposite side of the pivot from the handle.

2. In a wrench, the combination with a shank having oppositely-disposed jaws at one end, of a stock pivoted intermediate its ends to the opposite end of the shank, and having a handle at one end, a movable head having a longitudinal sliding engagement with the shank and provided with oppositely-disposed jaws that coact with those of said shank, and a link secured to the movable head and having a pivotal connection with that portion of the stock which is on the opposite side of the pivot from the handle.

3. In a wrench, the combination with a shank having oppositely-disposed jaws at one end, of a stock pivoted intermediate its ends to the opposite end of the shank and having a handle at one end, a movable head having a longitudinal sliding engagement with the shank and provided with oppositely-disposed jaws that coact with those of said shank, and a link pivotally secured to the movable head and having a pivotal connection with that portion of the stock which is on the opposite side of the pivot from the handle, said several pivots being so located that when the shank and stock are in alinement the pivots will also be in substantial alinement.

4. In a wrench, the combination with a shank having oppositely-disposed jaws at one end, of a stock bifurcated at one end to form spaced arms that embrace the shank, the said arms being pivotally secured at their bases to the end of the shank, the other end of the shank constituting an operating-handle, a head mounted upon the shank and slidable longitudinally thereof, said head being provided with oppositely-disposed jaws that coact with those of the shank, and links pivotally secured to the opposite sides of the head and having a pivotal connection with the free ends of the stock-arms.

5. In a wrench, the combination with a shank carrying a jaw, of another jaw having a slidable connection with the shank, and a stock connected with the slidable jaw and having a fulcrum connection with the shank, said fulcrum connection being movable transversely of said shank.

6. In a wrench, the combination with a shank carrying a jaw, of another jaw having a slidable connection with the shank, and a stock pivotally and slidably connected to the shank and having an operative connection with the sliding jaw.

7. In a wrench, the combination with a shank carrying a jaw and provided with a transversely-disposed slot, of another jaw slidably mounted upon the shank, and a stock connected to the sliding jaw and having a pivot engaging in the slot of the shank and slidable therein.

8. In a wrench, the combination with a shank carrying a jaw and provided with a transversely-disposed slot having a plurality of shoulders, of another jaw slidably mounted upon the shank, and a stock connected to the sliding jaw and having a pivot slidably mounted in the slot of the shank and arranged to engage behind the shoulders thereof.

9. In a wrench, the combination with a shank carrying a jaw and provided with a transversely-disposed bar having a slot, said slot being provided with a plurality of shoulders, of another jaw slidably mounted upon the shank, a stock having a pivot intermediate its ends which engages in the slot of the transverse bar and is arranged to engage behind the shoulders thereof, and a link pivotally connecting one end of the stock and the sliding jaw.

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

MARSHAL A. RICHARDSON.

Witnesses:

J. R. MOOBERRY,

CHRIS WEISERTH.