

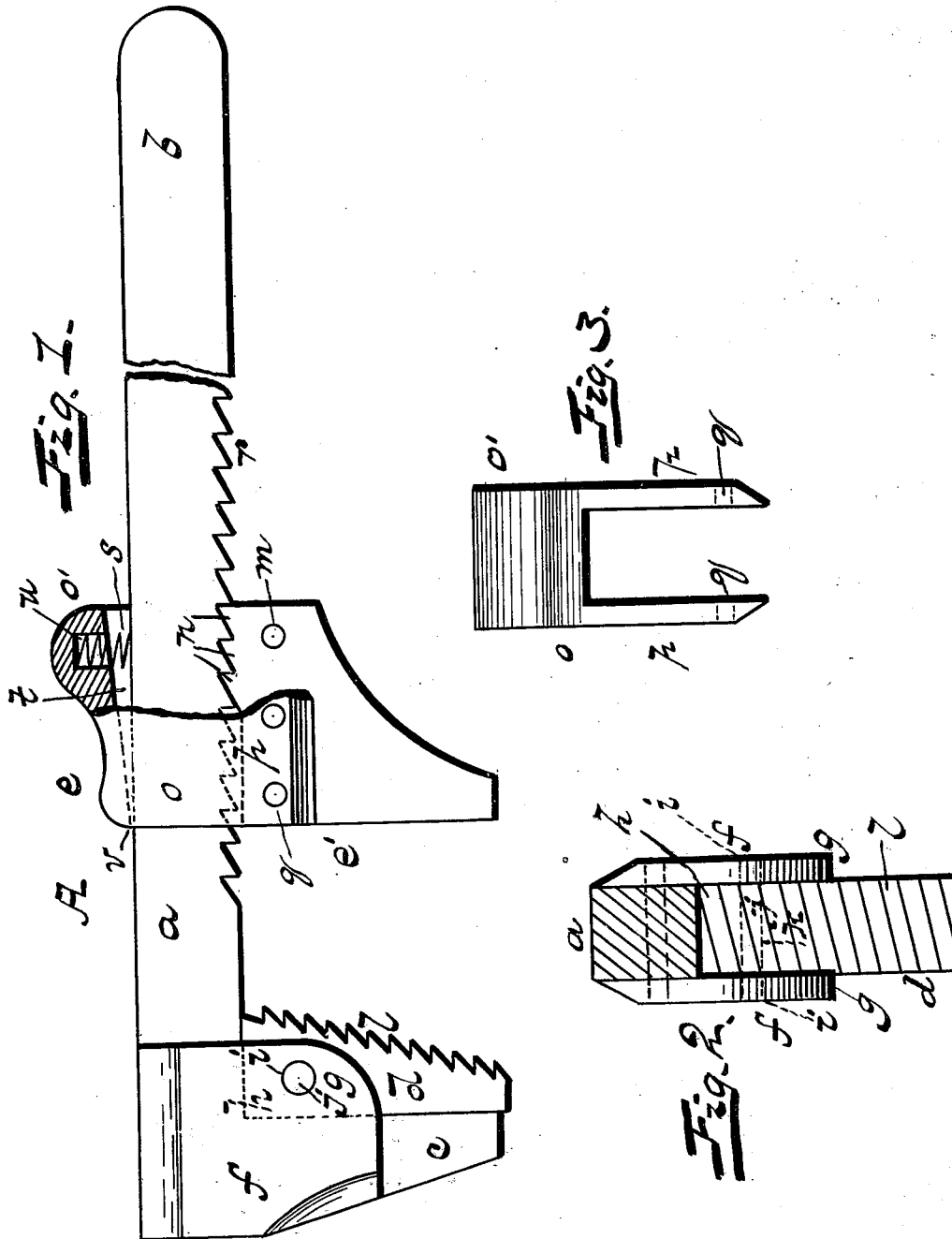
No. 649,055.

Patented May 8, 1900.

E. W. HUSTED.
WRENCH.

(Application filed July 12, 1899.)

(No Model.)



WITNESSES
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EUGENE W. HUSTED, OF HOLTON, MICHIGAN.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 649,055, dated May 8, 1900.

Application filed July 12, 1899. Serial No. 723,602. (No model.)

To all whom it may concern:

Be it known that I, EUGENE W. HUSTED, a citizen of the United States, residing at Holton, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has relation to improvements in wrenches; and it consists in the novel construction, combination, and arrangement of parts of which it is composed, all as will be hereinafter fully explained, and particularly pointed out in the appended claim.

The annexed drawings, to which reference is made, fully illustrate my invention, in which—

Figure 1 represents a side view, part sectional, of my device. Fig. 2 is a cross-sectional view of the same, and Fig. 3 is an edge view of the sliding jaw detached from the wrench and having the solid jaw removed therefrom.

Referring by letter to the accompanying drawings, A designates the wrench, comprising the handle-bar *a*, handle *b*, the fixed jaw *c*, the inserted toothed jaw *d*, and the sliding jaw *e*. This fixed jaw is provided with two side plates *f f*, which when in position provide side flanges *g g*, that extend downward and inward, forming, in connection with the fixed jaw, a recess *h* to receive the upper portion of the inserted jaw. These flanges are provided with perforations *i*, through which pass a rivet *j*, that also passes through a perforation *k* in the jaw aforesaid. Thus by such construction the inserted jaw is held firmly between the plates. This jaw is provided with teeth *l*, the same being cut transversely across the face thereof and in an inclined direction for a purpose presently explained. The sliding jaw *e* comprises two pieces, the jaw proper, *e'*, being solid, having transverse perforations *m* and teeth *n*, while the upper portion *o* is constructed with a solid upper portion *o'*, having side flanges *p p*, that are perforated at *q* to receive rivets that pass

also through the perforations in the jaw, whereby the two parts of the sliding jaw are firmly fixed to each other. This jaw slides back and forth upon the handle-bar, and when adjusted the teeth of the sliding jaw engage the teeth *r* of the handle-bar by means of a spring *s*, forcing the teeth *n* upward, and said spring is interposed between the upper edge of the handle-bar and the roof of the sliding jaw. A space *t* is left between the roof of the sliding jaw and the handle-bar in which the spring is located, the upper portion of said spring being arranged within a recess *u* in the roof and the lower portion bearing upon the bar, which causes the teeth *n* to readily engage the teeth of the handle-bar aforesaid. The end *v* of the sliding jaw fits neatly the bar that passes through it, and this end of the sliding jaw serves as a fulcrum in operating the movable jaw in disengaging the teeth, as the opposite end of said jaw is somewhat larger, presenting a wedge-shaped space between the two parts.

The cheeks of the seat for the supplemental toothed jaw extend inward and project beyond the inner face of the fixed jaw, and the recess is open at the bottom and at the side facing the sliding jaw, and said cheeks serving a twofold purpose—viz., that of providing side flanges to the immovable jaw and retaining the supplemental toothed jaw in position, preventing lateral play to the same, and that of bracing bars or ribs, whereby the fixed jaw is strengthened longitudinally and laterally.

It will be observed from the above description, when taken in connection with the annexed drawings, that my wrench may be used as a nut or a pipe wrench, without any alteration, by inserting the toothed jaw within the recess and inserting the holding-rivet, and the teeth thereof being cut diagonally the same give a firm grip to the wrench and cannot slip when turning a pipe, and the implement can be readily used on nuts and the like without any alteration, and a wrench as herein described and shown is durable, easily and quickly adjusted, and at the same time cheap to manufacture.

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

In a combined nut and pipe wrench, the within-described wrench, comprising the handle-bar, sliding jaw and fixed jaw, said fixed jaw having lateral cheeks or strengthening-
5 braces projecting from the inner face of the fixed jaw, and forming a socket or seat for the supplemental toothed jaw, and a rivet passing through the cheeks and toothed jaw, said cheeks forming bracing and strengthen-

ing ribs and a socket, substantially as described.

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

EUGENE W. HUSTED.

Witnesses:

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