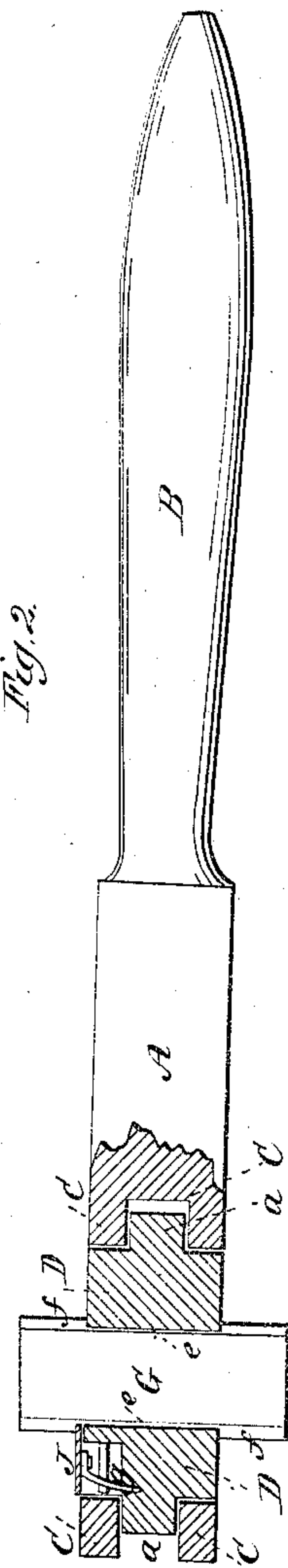
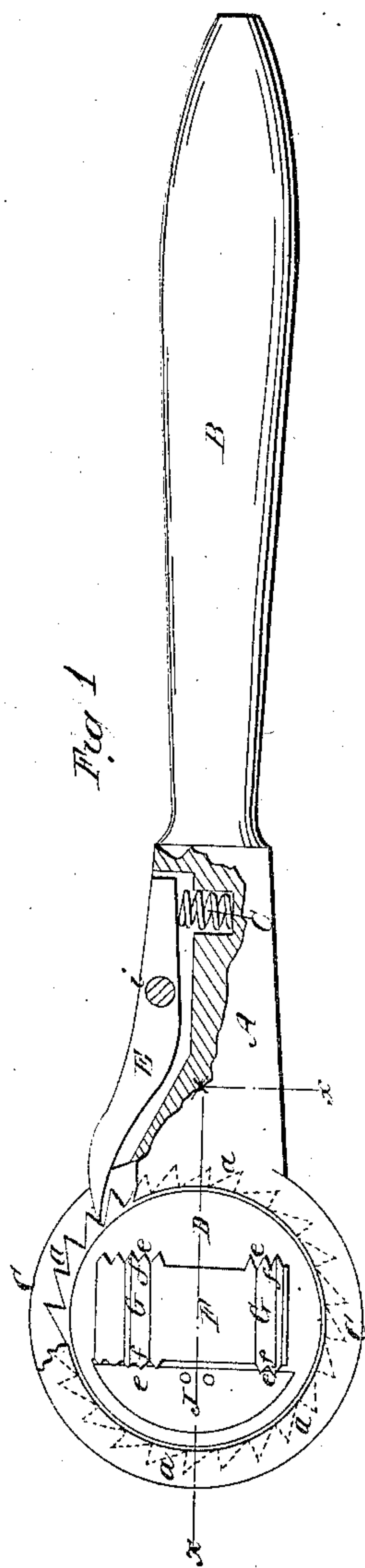


*G. Meader,*

*Wrench.*

*N<sup>o</sup> 32,838.*

*Patented July 16, 1861.*



*Witnesses.*

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# UNITED STATES PATENT OFFICE.

GEORGE MEADER, OF EARLVILLE, ILLINOIS.

## WRENCH.

Specification of Letters Patent No. 32,838, dated July 16, 1861.

*To all whom it may concern:*

Be it known that I, GEORGE MEADER, of Earlville, in the county of Lasalle and State of Illinois, have invented a new and Improved Wrench; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of the improved wrench with a portion of the stock broken away to exhibit the spring which acts upon the pawl. Fig. 2 is a transverse section through the middle of the wrench head of Fig. 1, indicated by red line *x, x*, thereon.

Similar letters of reference indicate corresponding parts in both figures.

This invention and improvement in wrenches for loosening and tightening nuts on screw bolts, etc., consists in combining with a circular ratchet head which is rotated between two rings formed on one end of the wrench stock as will be hereinafter described, two removable jaws, which are fitted between racks formed on each side of a hole through the ratchet head, and held in place by a spring dog; said jaws being so applied that they can be set closer together or moved farther apart, thus adapting the wrench jaws, to nuts of various sizes as will be hereinafter fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, is the stock, and B, the handle of the wrench, which latter may be made either of wood or metal and fitted into a socket in the stock A. On the end of stock A, two rings C, C, are formed which are parallel to each other and of a suitable diameter to receive a good-sized head D, which is to rotate within the rings C, C, and receive within a quadrangular hole through it, the various sized nuts which are to be loosened or tightened by the wrench. This circular head D, has ratchet teeth *a*, formed around it, as shown in Figs. 1, and 2, of the drawings, which are in width equal to the space between the two rings C, C, and that portion of the head D, on each side of the ratchet teeth *a*, is equal in thickness to the rings C, C, the diameter of these two portions being equal to the inside diameter of the rings C, C. The ratchet head D, is arranged within the rings C, C, and is allowed to rotate freely in these rings.

The pawl E, which is used to rotate the head D, is pivoted at *i*, to the stock A, and acted upon by a spring *e*, which is let into a recess in this stock, and which forces the tapering end of the pawl E, down on the ratchet teeth *a*, and holds it there. The hole F, through this rotating ratchet head is oblong and on the two longest sides of this hole F, angular teeth *e*, *e* are formed opposite each other which teeth receive the flat steel plates or jaws G, G, which have corresponding teeth *f*, *f*, formed on their longest edges. These jaws G, G, are passed transversely through the block D, and when properly fitted into their places they are parallel to each other, as shown in Fig. 1, of the drawings. Notches are cut into one of the edges of each jaw G, G, into which notches the edge of spring plate J, catches when the jaws are slipped into the block D. This spring plate J, is acted upon by a spring *g*, which holds this plate in place against the surface of block D, and at the same time forces the plate inward or toward the jaws G, G, so that in inserting these jaws in block D, the plate J, must be held back out of the way until the jaws are properly adjusted. In adjusting the jaws G, G, to adapt the wrench to nuts of different sizes they must be slipped out of the block D, and set closer together or farther apart as the case may be.

In using this wrench the nut to be tightened, or loosened is introduced between jaws G, G, and the handle B, is vibrated in turning the nut.

In practice the jaws G, G, need not be as long as is represented in the drawings, and they should be made of good steel, while the block D, rings C, C, and stock A, may be made of malleable iron.

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

1. The removable toothed jaws G, G, fitted between teeth *e*, *e*, in the rotating ratchet head D, as, and for the purposes herein set forth.

2. The spring plate J, arranged on rotating head D, in the relation to the jaws G, G, as, and for the purposes herein shown and described.

GEORGE MEADER.

Witnesses:

CLARK BRUNSON,  
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