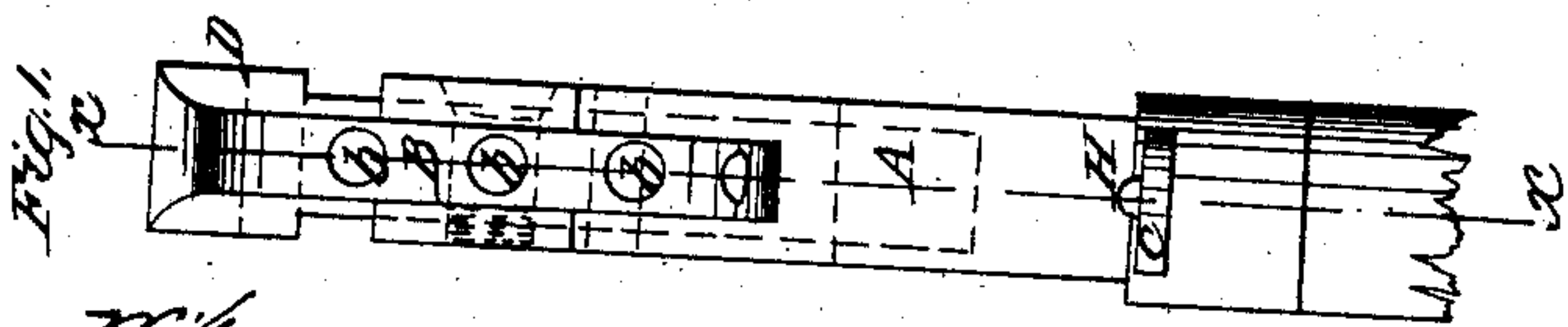
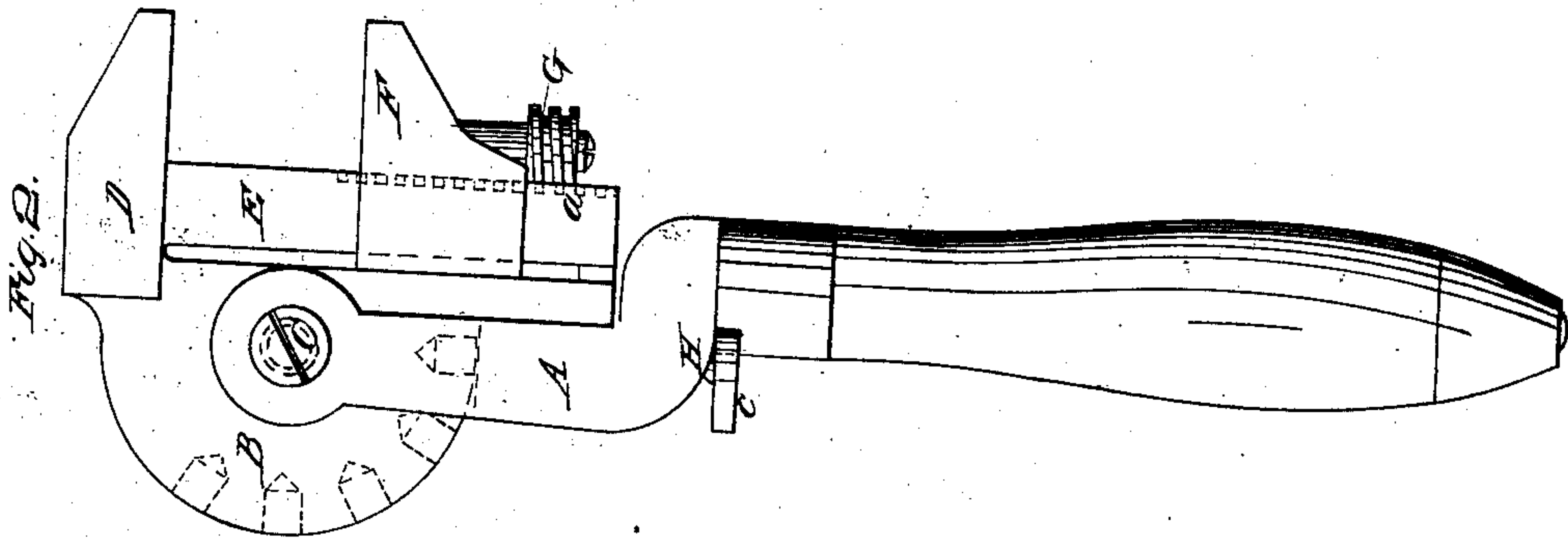
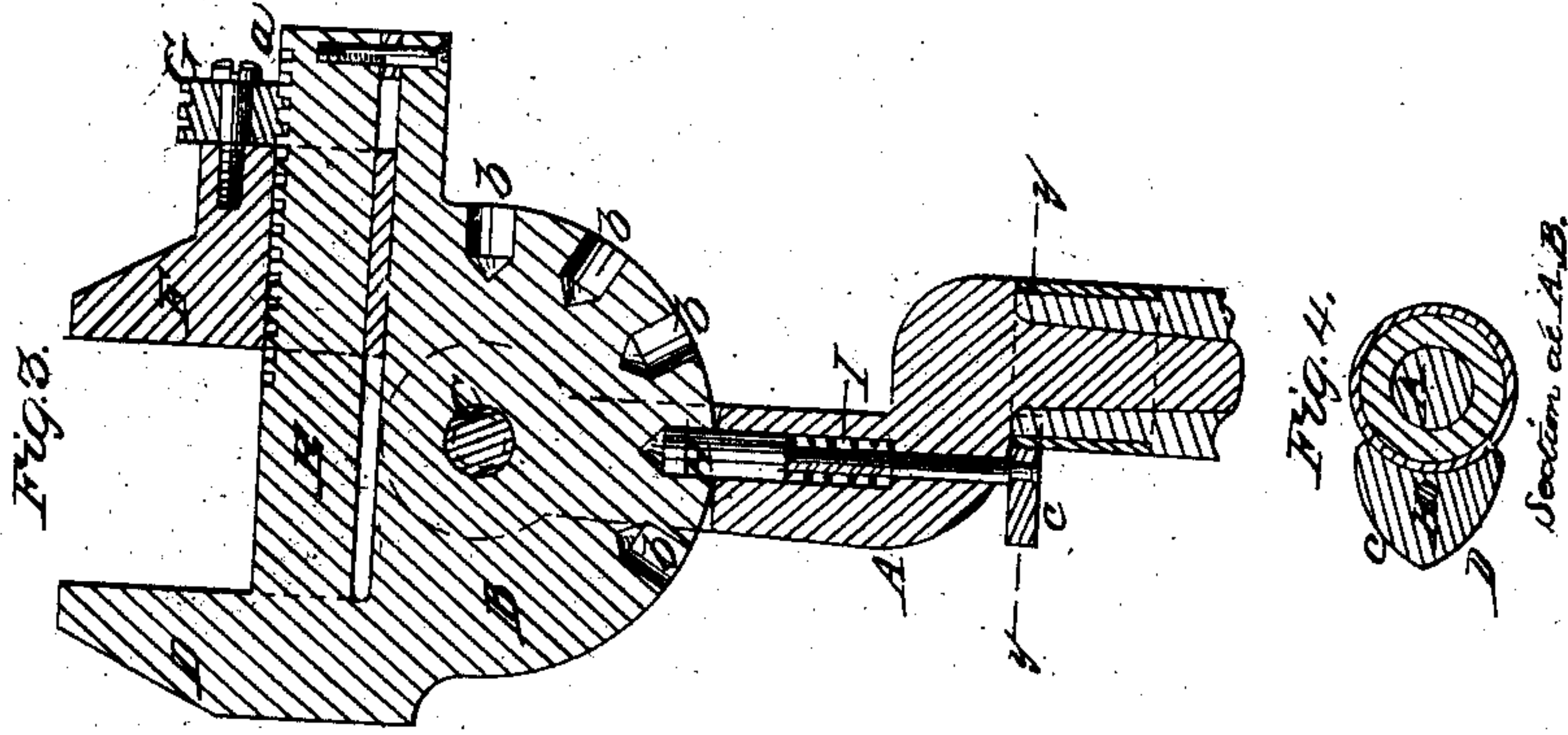


*D. Harrigan,
Wrench.*

No 69,911.

Patented Oct. 15, 1867.



*Witness:
W. J. J. J.
Thos. J. J.*

*Inventor:
Deum. Harrigan
for M. J. J.
Attorney.*

United States Patent Office.

DENNIS HARRIGAN, OF CHARLESTOWN, MASSACHUSETTS,

Letters Patent No. 69,911, dated October 15, 1867.

IMPROVEMENT IN WRENCHES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, DENNIS HARRIGAN, of Charlestown, in the county of Middlesex, and State of Massachusetts, have invented an Improved Wrench, and do hereby declare that the following is a full, clear, and exact description thereof, one which will enable those skilled in the art to which my invention appertains to make and use it, reference being had to the accompanying drawings, constituting a part of such specification. Of such drawings—

Figure 1 is an edge view of my invention.

Figure 2, a side elevation of it.

Figure 3, a section taken on the line *x x* of fig. 1.

Figure 4 is a section of it, such section being taken on line *y y* of fig. 3.

Similar letters of reference in the different figures indicate corresponding parts.

The invention consists in an improved wrench, as made not only with one of its jaws stationary with respect to and projecting from its rotary segmental plate, and with the other jaw movable upon a bar parallel with the cord of such plate, and projecting from the stationary jaw, but as having a screw and a screw-rack applied to the movable jaw and its supporting bar, the whole being arranged substantially in manner and so as to operate as hereinafter explained; and my invention further consists in the combination of such a wrench and means, substantially as hereinafter specified, whereby its segmental plate, after a movement in either direction on its centre-pin, can be held firmly in position with respect to the handle or shank in which it is placed.

In the aforesaid drawings, A represents the handle or shank of the wrench, such shank being furcated to receive a segmental plate, B, which works on a rod, pin, or screw, C, passing through it and the shank; and being screwed into the latter. From the straight or plane side of this plate B, at one end, there projects at right angles a jaw, D, and from said jaw there extends, at right angles, and parallel with the cord of the plate B, a bar, E, on which the movable jaw F is fitted, so as to be capable of sliding freely thereon, the said jaw being operated by a screw, G, which works in a rack, *a*, formed in the outer side of the bar E. In the curved edge of the plate B there is a series of holes, *b*, they being at equal distances apart. A pin or bolt, H, fitted in a socket in the shank A, and having a spiral spring, I, acting against it, which has a tendency to throw the pin into the holes *b*, (see fig. 3,) is to operate with either of such holes. The pin H has a button, *e*, on its outer end, to enable the operator to draw it out of any one of the holes *b* in which it may chance to be, when he may be desirous of turning the plate B so as to bring the jaws in any desirable position with the shank.

In my wrench the segmental plate can be so fixed by the bolt, when in either of its holes *b*, that it cannot be moved in either direction on its centre-pin. This is of much importance, as it enables the handle or shank to operate the wrench in one direction as well as in its opposite when the jaws are grasping an article.

I do not claim a wrench constructed as represented in the United States Patent No. 45,931; nor do I claim one made with a rotary jaw-plate or series of jaws combined with a handle, and having a stop-catch to fix the said rotary jaw-plate in any desirable position.

With my invention I have one stationary and one movable jaw; instead of two movable or two fixed jaws. The movable jaw can be set up close to the stationary jaw, and both jaws are supported by or combined with the rotary plate, so as not easily to be broken away from it. Thus it will be seen that my wrench presents peculiar and important advantages with reference to the patented wrench above mentioned.

What I claim as my invention, is—

My improved wrench, as made not only with one of its jaws stationary with respect to and projecting from its rotary segmental plate, and with the other jaw movable upon a bar parallel with the cord of such plate, and projecting from the stationary jaw, but as having a screw and a screw-rack applied to the movable jaw and its supporting bar, the whole being arranged substantially in manner and so as to operate as specified.

I also claim the combination of such a wrench and means, substantially as described, (viz, the bolt-holes *b b b* and the spring-bolt H,) whereby its segmental plate may be fixed in position so as to cause it to move with the handle when moved in either direction, that is, forward or backward, while the jaws may be hold of an object.

DENNIS HARRIGAN,

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.