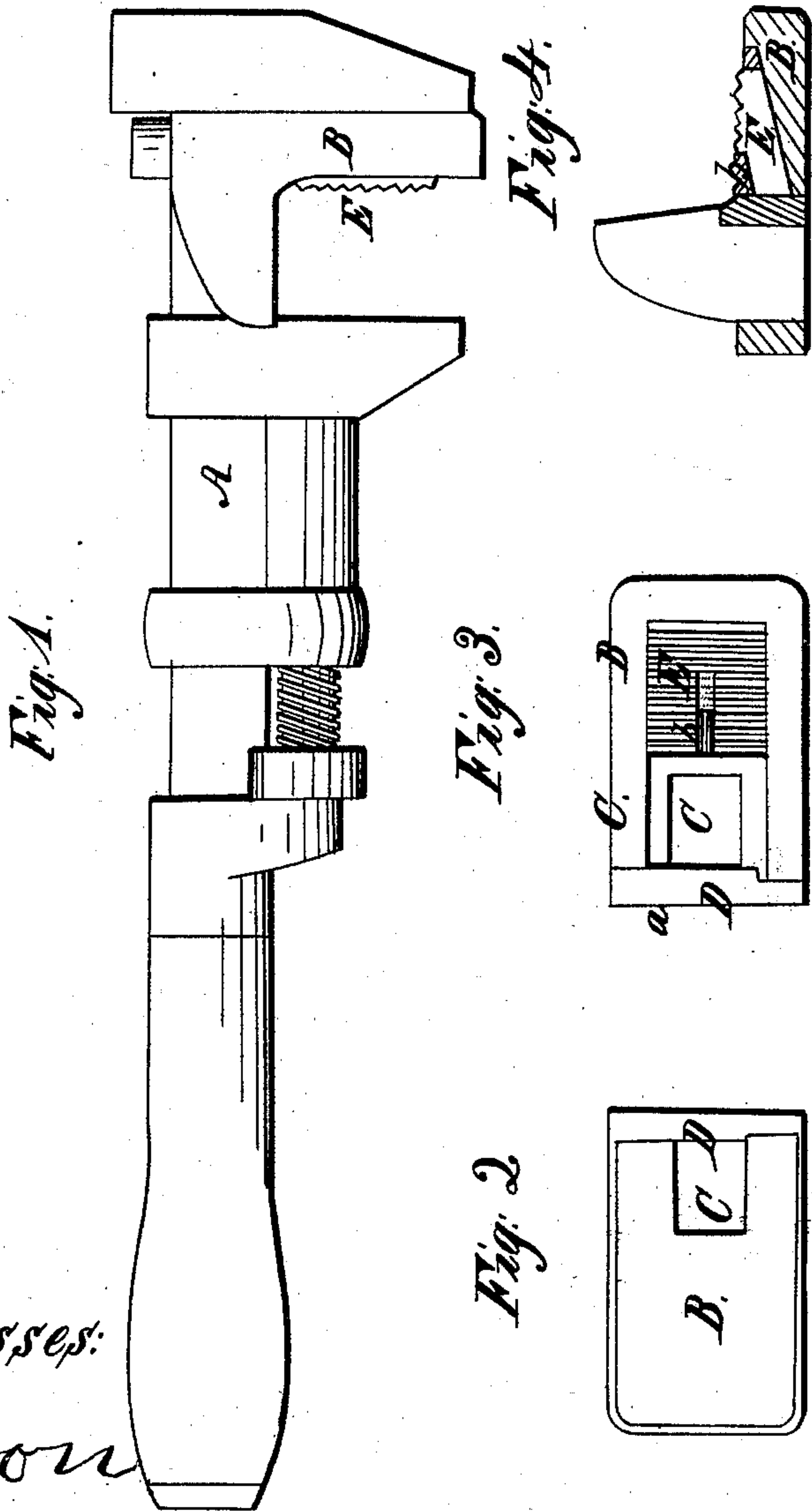


*J. Madden,*

*Wrench.*

*N<sup>o</sup> 79,665.*

*Patented July 7, 1868.*



*Witnesses:*

*K. Coon*

*M. Burdige.*

*Inventor:*

*John Madden*

# United States Patent Office.

JOHN MADDEN, OF CLEVELAND, OHIO.

*Letters Patent No. 79,665, dated July 7, 1868.*

## IMPROVEMENT IN WRENCHES.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN MADDEN, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Pipe-Wrenches; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of the wrench.

Figures 2, 3, and 4 are detached sections.

Like letters of reference refer to like parts in the views.

In fig. 1, A represents an ordinary monkey-wrench, to the outer jaw of which is fitted a supplementary jaw, B, and secured to the same by the shank of the wrench, being embraced by the cheeks of the slot C, into which it is fitted, and retained therein by the stay D, said stay being provided with a short threaded stud, screwed into the cheek of the supplementary jaw at the point *a*, so that, as the stay is moved around, it will draw the stay down upon the shank, and thereby hold the jaw firmly and securely in place.

In the roof of the jaw B is fitted a pallet, E, the upper side of which lies in the same plane as the face of the lower jaw of the wrench. Across the face of the pallet are cut short angular teeth, the purpose of which will hereinafter be shown.

The lower side of the pallet is smooth, and is made slanting from the inner end outward. The bottom of the recess on which the pallet lies is also made slanting, as shown in fig. 4, forming an inclined plane from the outer end downward, and up which the pallet slides as the wrench is being used. *b* is a pin, by which the pallet is prevented from falling from the recess.

The practical use and application of this wrench are as follows:

The lower jaw is screwed down or up, in the ordinary way, so as to adapt the jaws to the size of the pipe or bolt, which is grasped by them on forcing the lower jaw down upon it.

Now, in pulling the wrench towards you, the result will be to cause the pallet to move outward, and, at the same time, upwards, in consequence of the inclination of the bottom of the recess, up which the pallet moves, thereby shortening up the distance between the fixed and movable jaws, so that the pipe is gripped with stronger force, the greater the strain applied to the handle of the wrench. On pushing the handle in the opposite direction, the pipe or bolt will be loosened from the jaws by the pallet slipping back or down the inclined plane, so that the wrench can be removed from the pipe or bolt, without loosening the jaws, by means of the screw, or turning back the pipe in the least, in order to remove the wrench, as the grasp of the jaws is immediately relaxed on the least reverse movement given to the wrench.

This wrench, with the attachment of the supplementary jaw, can be effectually used as a pawl-wrench, for working a drill, as the play of the pallet will be such as to hold the drill for cutting, and releasing it immediately on the reverse movement of the handle.

Should the wrench be not needed for screwing sections of pipe together, or holding or screwing a bolt, the supplementary jaw is easily and readily detached, and the wrench then used for ordinary purposes.

What I claim as my improvement, and desire to secure by Letters Patent, is—

The pallet E, supplementary jaw B, as arranged in combination with a wrench, in the manner and for the purpose substantially as set forth.

JOHN MADDEN.

Witnesses:

W. H. BURRIDGE,

J. H. BURRIDGE.