

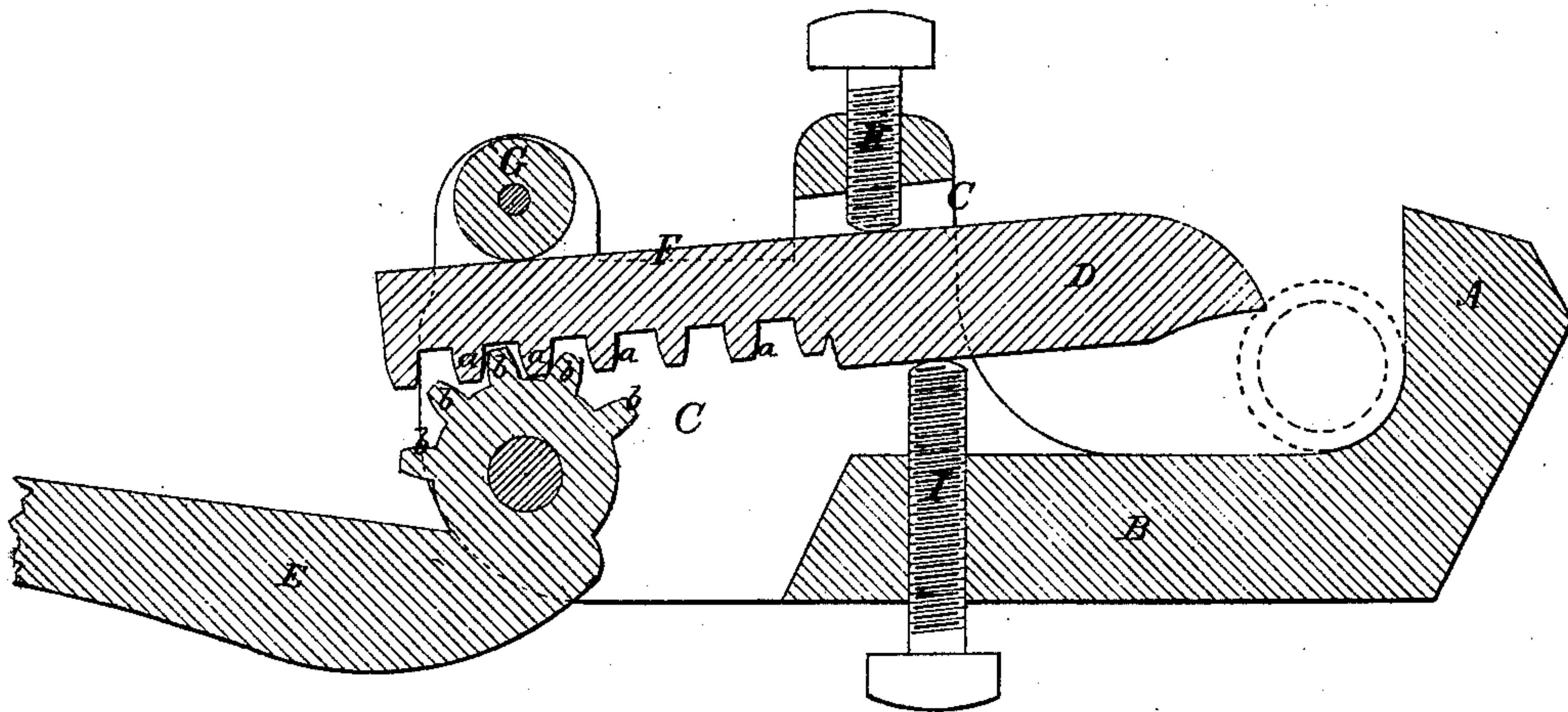
*E. Beach,*

*Wrench.*

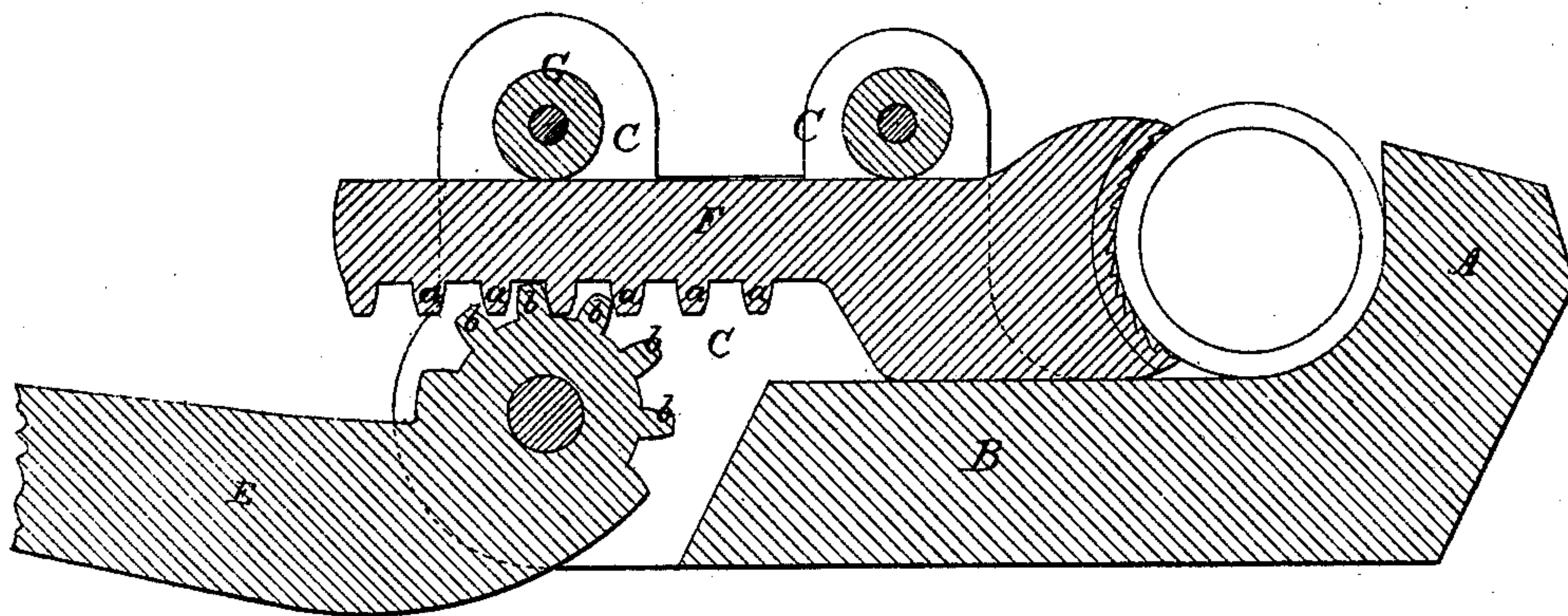
*No. 112,109.*

*Patented Feb. 28. 1871.*

*Fig. 1.*



*Fig. 2.*



Witnesses:

*W. Hamilton Johnson*  
*E. A. Dick*

Inventor:

*Elias Beach*  
By his Attorneys  
*Appermain Johnson*



# United States Patent Office.

ELIAS BEACH, OF TITUSVILLE, PENNSYLVANIA.

Letters Patent No. 112,109, dated February 28, 1871.

## IMPROVEMENT IN WRENCHES.

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

I, ELIAS BEACH, of Titusville, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

My invention relates to that class of wrenches known as pipe-wrenches, and in which the movable jaw is operated by a pivoted lever-handle; and

It consists in arranging and supporting the movable jaw and its cogged shank between guides of the fixed jaw and adjusting devices, for the purpose of allowing the movable jaw to be adjusted at different angles to suit different sizes of pipes without interfering with the opening and closing movement of the jaw, the said adjusting devices also serving to clamp the movable jaw and lock it to the work when desired.

In the accompanying drawing—

Figure 1 represents a section of a pipe-wrench embracing my improvement.

Figure 2 represents a wrench having a different form of jaw.

In the accompanying drawing—

The fixed jaw A is made with a stock, B, which forms guides C for the movable jaw D, and supports for the adjusting devices.

The movable jaw D is of the nipper form, and its shank has cogs a to interlock with the cogs b of the pivoted lever E.

This lever is pivoted to the rear end of the guides C, and the cogged shank F is held in gear with the cogged end of the lever E by means of a roller, G, also secured between the guides C.

The adjusting devices in the instance represented consist of two screws, H and I, passing through the stock B and guides C, so as to touch and sustain the movable jaw D in whatever angle it may be adjusted by said screws, with respect to the size of pipe and the point at which the nipper-jaw is desired to bite thereon.

The points of the adjusting screws H and I, while thus serving as guides to the shank, serve also as pivots on which the nipper-jaw is adjusted to increase

or diminish its distance from the stock B of the fixed jaw.

These bearing points are so arranged that the jaw D will slide between them without the least binding in putting the jaw on and taking it off from the work. They also afford means for clamping the jaw D and holding it tightly in its bite upon the work, and thus afford opportunity for changing hands and releasing the force upon the lever without releasing the bite of the jaw or allowing it to slip over the work.

The roller G holds the cogged jaw in connection with the cogged lever E, so that the jaw is opened and closed upon the work by the same handle; but, when desired to disengage the cogs b of the lever E from those of the shank, the former is simply turned at right angles, or nearly so, to the stock, and the biting-jaw can be moved in and out, as desired.

In fig. 2 of the drawing I have shown a cogged jaw adapted to embrace and hold the pipe by a grasp, and which is operated by a direct motion of the lever without adjusting devices, and in which the grasping-jaw can be removed and others substituted for different sizes of pipes.

Having described my invention,

I claim—

1. The combination of the movable jaw D with the guides C of the fixed jaw A and the adjusting devices H and I, as described.

2. The combination of a movable cogged jaw D, made adjustable, as described, with the cogged lever-handle E, holding-roller G, and stock B C, of the fixed jaw A, as described.

3. The fixed jaw A, having a stock, B C, arranged to form guides C to the movable jaw D, supports for the adjusting-screws H I, and for the actuating-lever E, as described.

In testimony whereof I have hereunto signed my name.

ELIAS BEACH.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.