

J. W. Close,

Wrench.

No 61,715.

Patented Feb. 5, 1867.

Fig. 2.

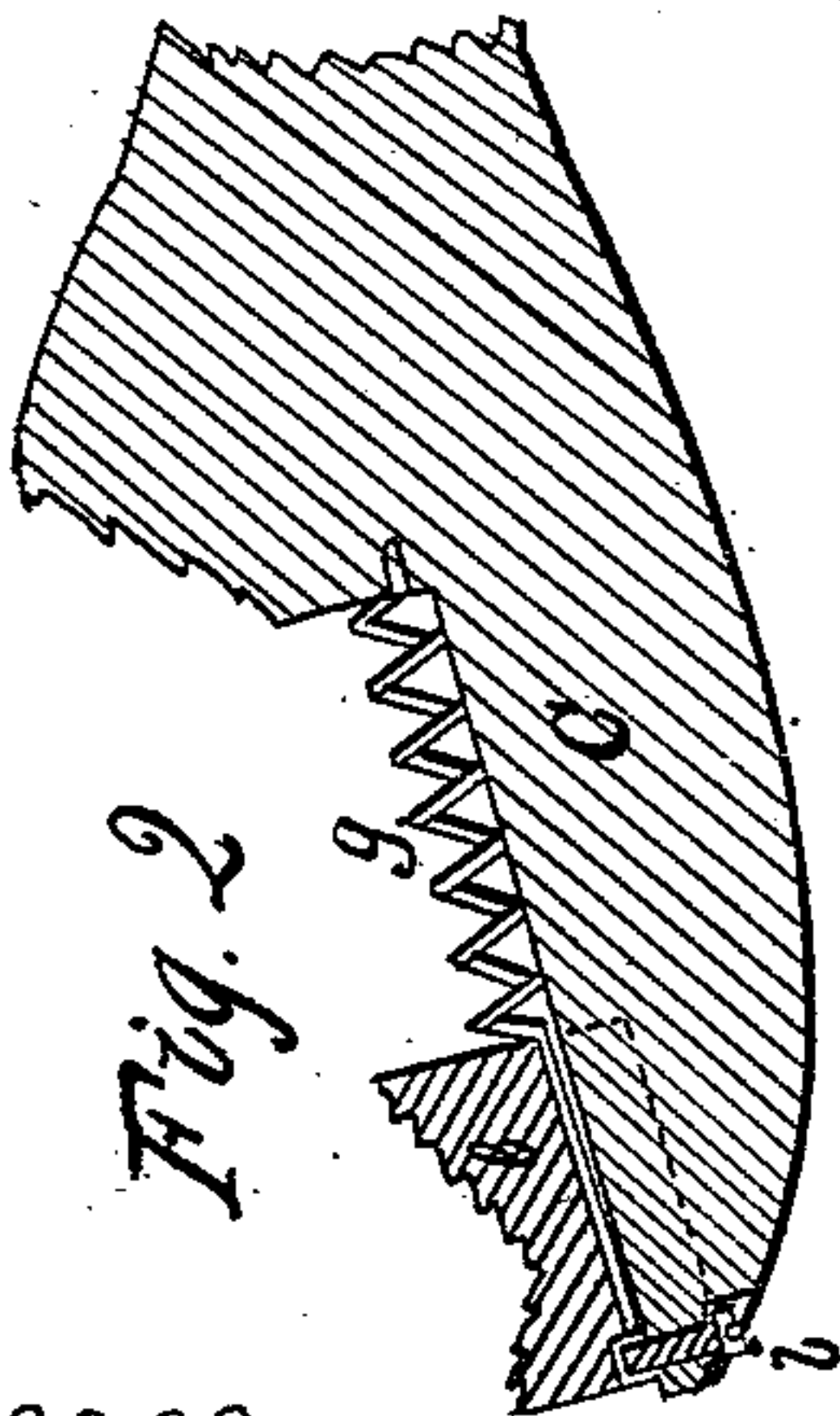
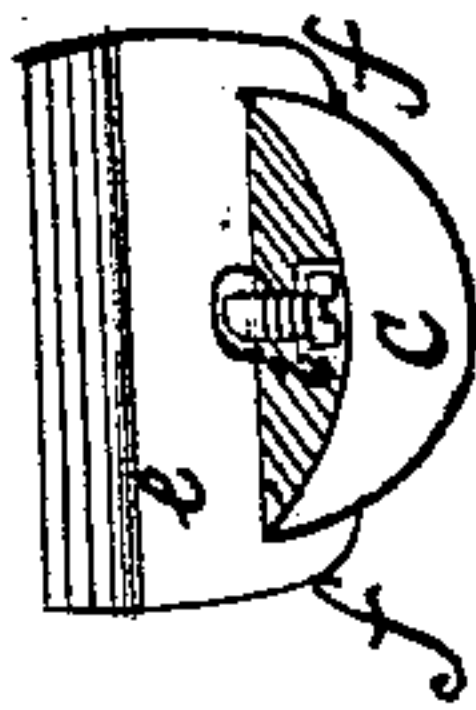
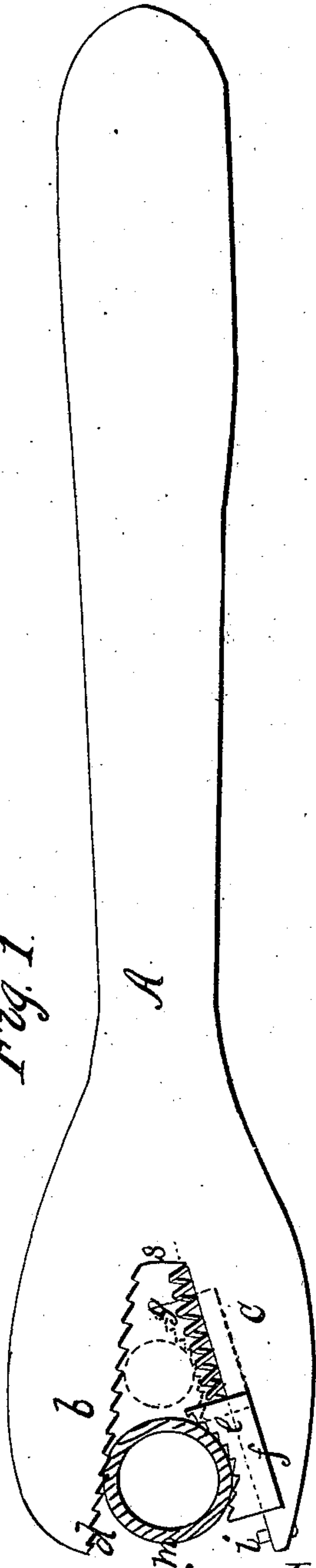


Fig. 2.

Witnesses.

Jay Keyatt.
James C. Brown

Fig. 1.



Inventor,

J. W. Close.

United States Patent Office.

JOHN W. CLOSE, OF BUFFALO, NEW YORK.

Letters Patent No. 61,715, dated February 5, 1867.

IMPROVEMENT IN PIPE 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 W. CLOSE, of the city of Buffalo, in the county of Erie, and State of New York, have invented a new and improved Pipe or Cylinder Wrench; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my improved wrench, represented as grasping a pipe.

Figures 2 and 3 are detached sectional views of the jaw *c*.

My invention relates to that class of wrenches used for grasping and turning round bolts, gas and water pipes, and other articles of cylindrical form; and it consists in the combination of a sliding tooth-block, with divergent jaws rigidly attached to the wrench handle, and also, in combination therewith, of a spring, for the purpose hereinafter set forth.

In the drawings, *A* represents the stock or lever, made either of wrought or cast iron, or of iron and wood, which is divided at the end into forked or diverging jaws, *b c*. The jaw *b* is roughened or indented on its face, preferably, as shown, with teeth, *d*, pointed or inclined inward toward the angle *s*, so as to engage with the pipe *m*, or other cylindrical article, and prevent its slipping or turning outward. This indented face, *d*, should be made of steel, and may be secured to the jaw or stock by welding, dove-tailing, or in any other suitable manner, or the indentations may be formed in the face of the jaw *b* itself, as desired. It is not absolutely essential that the block *e* be roughened on its face, as the wrench will operate effectively without. The jaw *c* I provide with a movable block, *e*, indented in an opposite direction, so as to prevent the article grasped from turning inward. This block *e* may be secured to the jaw in the manner shown, (most clearly in fig. 3,) by means of flanges, *f f*, which overlap the jaw, which is widest on the face, so as to form a dove-tail, which secures it to the jaw, while it is allowed a free sliding movement thereon. Although I prefer this mode of attachment, any other suitable one may be employed which leaves the face-block free to slide, as above stated. Between this indented and adjustable face, *e*, and the angle or forks of the jaws, I employ a coiled or spiral spring, *g*, or equivalent, in the manner shown, which serves to keep the block *e* pressed out near the end of the jaw when the wrench is not in use, in which position it should be when applying the instrument to a pipe or other article, as will presently be described. I do not wish to confine myself to this kind or arrangement of the spring, as various others may be employed with like effect; such, for instance, as a spring on the outside, at either or both edges of the block. While the use of the spring renders the instrument more perfect and automatic in its operation, yet it may be dispensed with. A screw or pin, *i*, passing through the end of the jaw, as shown, prevents the block being removed, or other suitable means may be employed for the purpose. The face of the block may be made either straight, curved, or V-shaped, but I prefer the form shown. The degree of divergence of the jaws may also be varied, if required.

The operation of my improved wrench is as follows: It is placed on the pipe *m*, or other cylinder to be held or turned, in the position shown in fig. 1, the movable face *e* adjusting backward toward the angle of the jaws, according to the size of the cylinder, when, by moving the lever in the direction of the arrow, the teeth or otherwise roughened surfaces of the jaws engage with the article between them in such a manner as to prevent the possibility of its slipping. The face of the jaw being rigid, and immovably holding the surface of the cylinder in contact with it, the tendency of the opposite side to turn as the handle is moved operates in a direction to cause the movable face to wedge toward the angle *s*, thereby grasping the pipe or rod in a most unyielding manner, and carrying it around with the instrument; and by reversing the motion of the handle, the cylinder is instantly released for a new hold, the recoil of the now partially compressed spring forcing the block *e* into its normal position again.

The principal advantages of my improvement over others employed for a similar purpose are, its simplicity of construction, and its consequent cheapness, dispensing, as it does, with pivoted jaws, which require the instrument to be made of wrought iron, and fitted with great labor and care; the facility with which it is operated, being automatic, by means of the spring, in adjusting itself to pipes of different sizes, and in turning them; its great durability and strength—dispensing with joints and pivots, it may be formed of greatly increased strength, in proportion to the weight of metal employed. Another great advantage is, that a set of faces, *e*,

varying in size, form, and indentation, may be used with the same wrench, as occasion may require. All that is necessary to make the change is to remove the stop *i*, when the required face may be readily substituted, thereby adapting the same instrument to almost every variety of article and use.

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

The sliding jaw-block *e*, in combination with the diverging jaws *b c*, and lever *A*, substantially as and for the purpose set forth.

In combination therewith I also claim the use of the spring *g*, or its equivalent, operating substantially in the manner and for the purpose described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

J. W. CLOSE.

Witnesses:

JAY HYATT,

JAMES C. BROWN.