

(No Model.)

J. S. HENRY.
WRENCH.

No. 405,259.

Patented June 18, 1889.

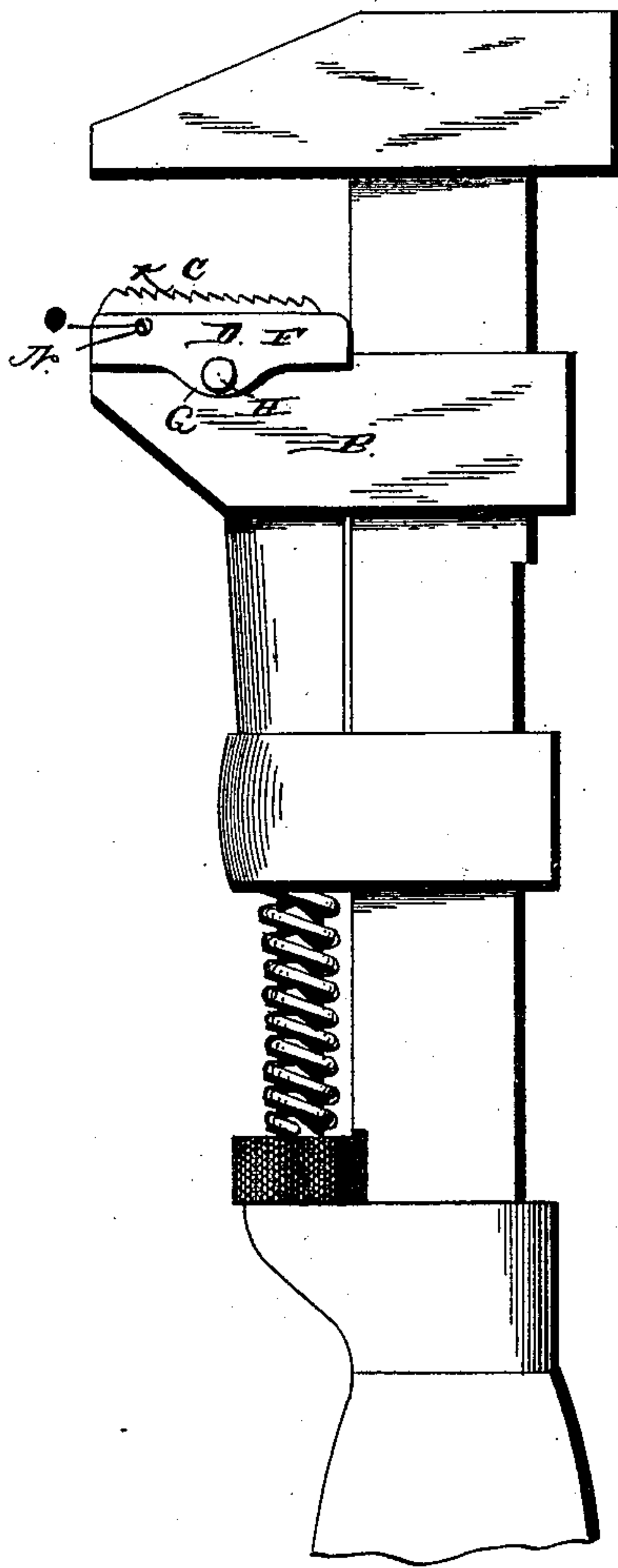


Fig. 1.

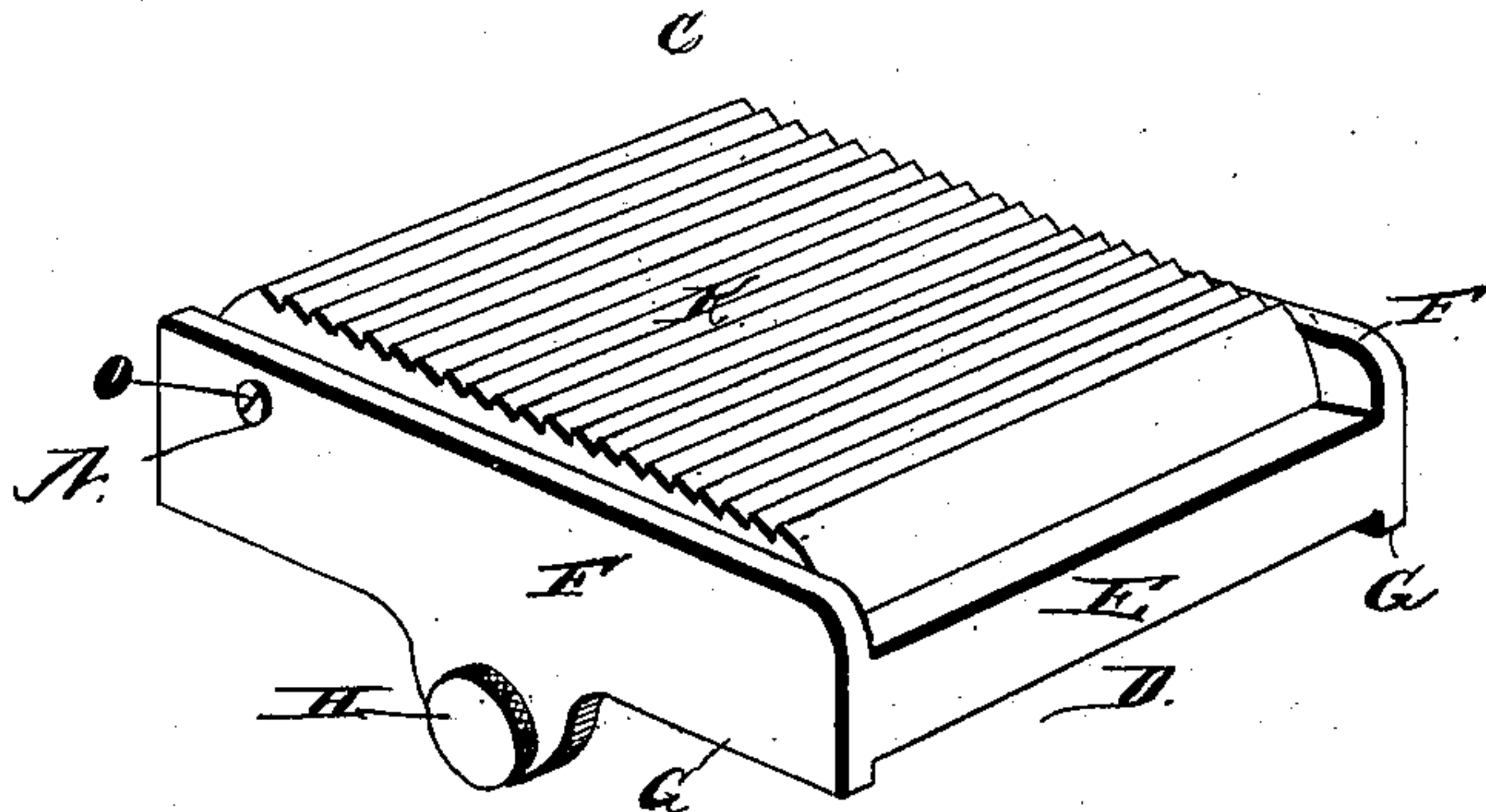


Fig. 2.

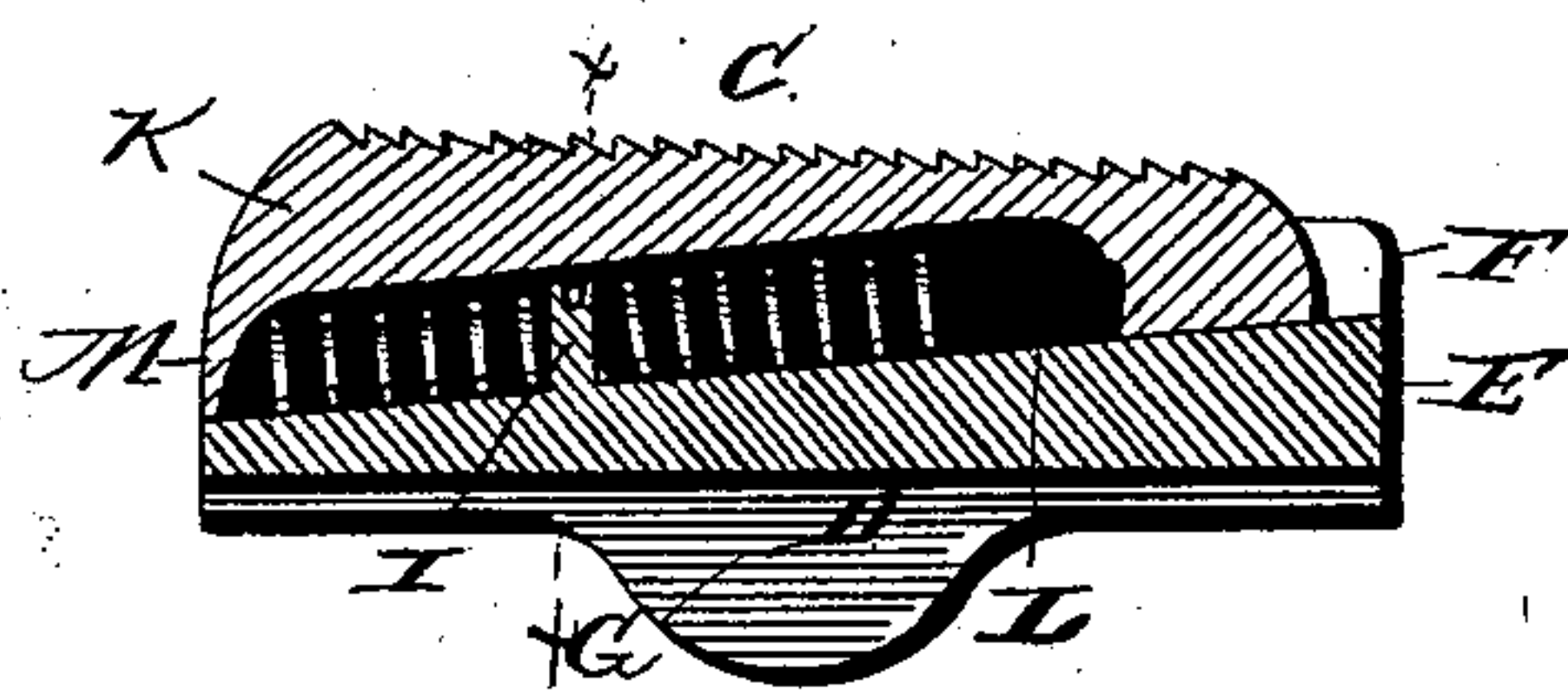


Fig. 3.

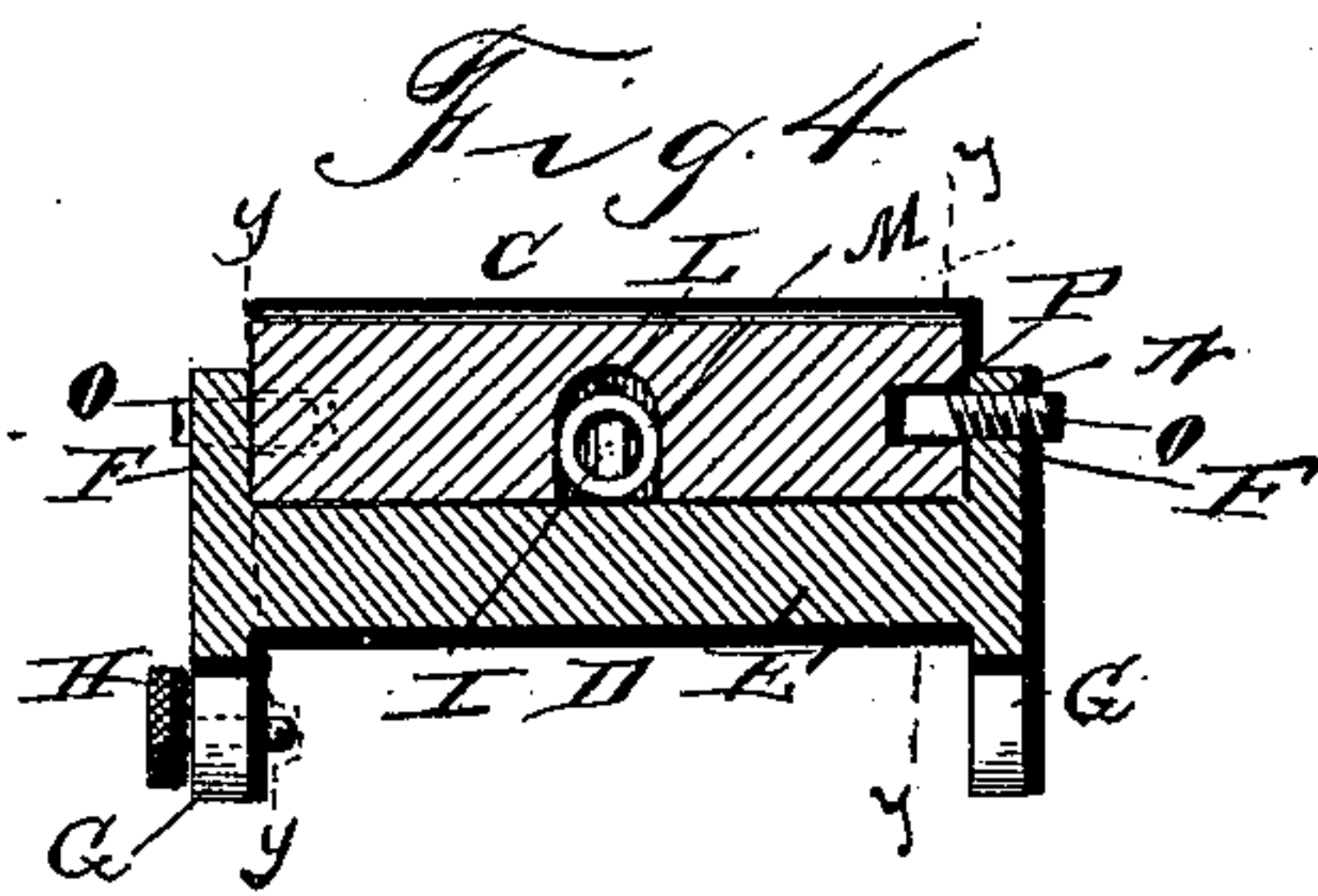


Fig. 4.

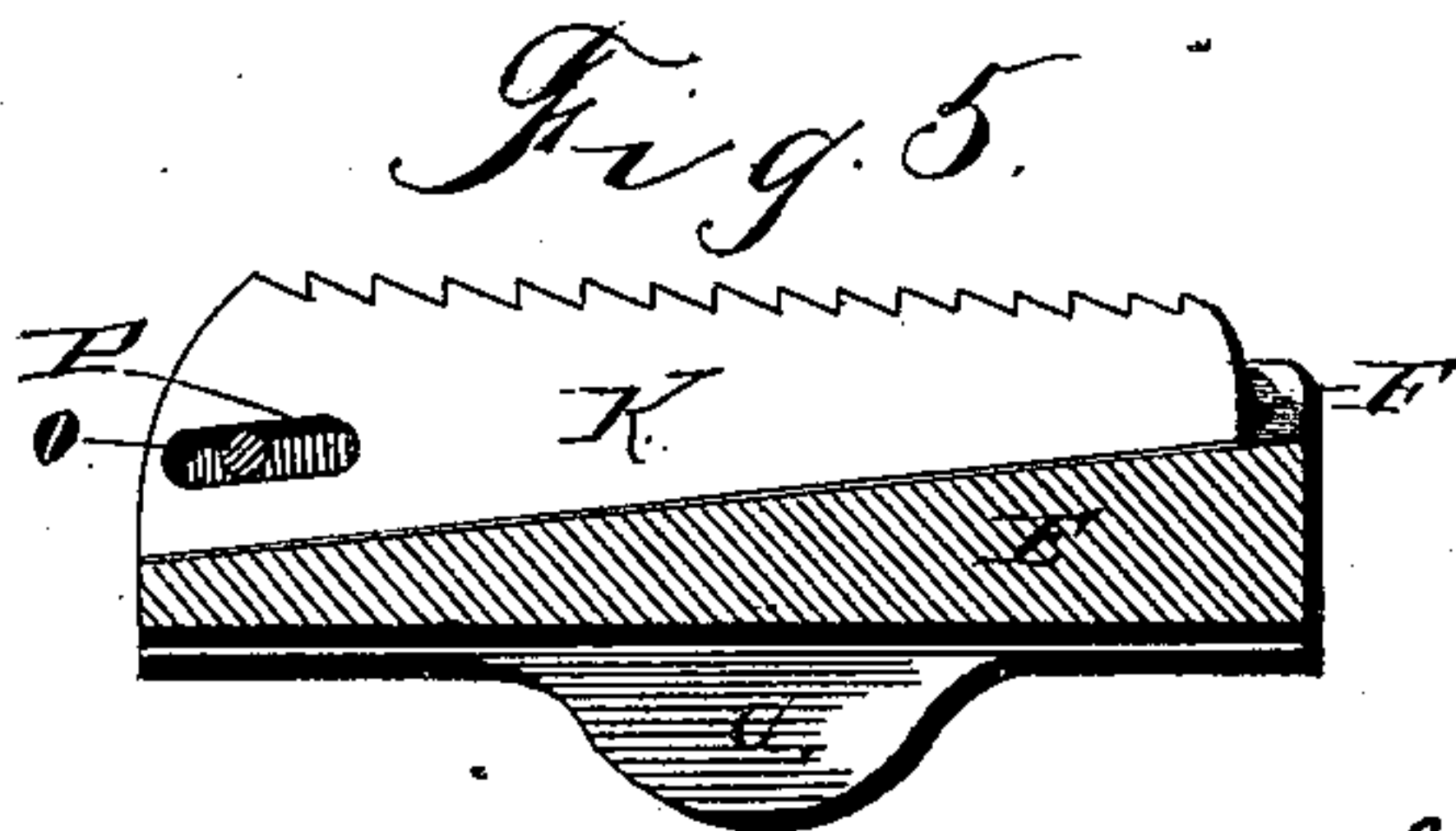


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN S. HENRY, OF STONINGTON, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO GEORGE L. DENISON, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 405,259, dated June 18, 1889.

Application filed December 29, 1887. Serial No. 259,357. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. HENRY, a citizen of the United States, residing at Stonington, in the county of New London and State of Connecticut, have invented new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to improvements in wrenches; and it consists in an attachment to be applied to the jaw of an ordinary sliding-jaw nut-wrench, whereby the tool may be used as a pipe or bolt wrench.

The object of the invention is to provide means whereby the advantages of a nut-wrench and a pipe-wrench are combined in one tool. I accomplish this object by the following means: A block-holder to be arranged on the lower jaw of an ordinary nut-wrench is provided with an inclined or tapered lower side and a serrated wedge-shaped block sliding in the holder and adapted when the wrench is applied to a pipe to slide up the incline and firmly grip the pipe. The holder is provided with a spring which operates in a groove in the under side of the sliding block, whereby after the latter has been drawn up the inclined plate by an application to a pipe and is released it is returned to its normal position by the spring.

The construction, operation, and advantages for this attachment are more fully pointed out hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a side view of a nut-wrench provided with my attachment. Fig. 2 is a perspective view of the attachment. Fig. 3 is a longitudinal section of the same. Fig. 4 is a transverse section, line *x x*, Fig. 3. Fig. 5 is a longitudinal section, line *y y*, Fig. 4.

Referring by letter to the drawings, A designates the wrench, having the movable jaw B, to which my improved attachment C is applied.

D represents the block-holder, which consists of a tapered or inclined plate E, which rests on the jaw of the wrench, and vertical side flanges F F at the edges of the said plate. The holder is further provided with depending side flanges G G, one of which is provided with a tapped aperture adapted to receive a

thumb-screw H. The depending flanges pass on opposite sides of the jaw B, and the thumb-screw is tightened to impinge against the side of the jaw to clamp the attachment in place. The holder is arranged on the jaw so that the plate E is inclined upward toward the inner end of the jaw, and at the center of the said plate is arranged a vertical stud I, for a purpose to be explained.

K represents a wedge-shaped block, which is arranged and slides on a holder between its vertical flanges, with the smaller end toward the inner end of the jaw. It will be seen that the block is tapered in the opposite direction to the plate E, and it is also tapered more abruptly than the latter, so that its upper side is inclined downward toward the inner end of the jaw, for a purpose to be hereinafter explained. The upper side of the block is further serrated, and it is provided in the lower side with a longitudinal groove L, which operates over the stud I. To this stud is attached a spring M, which extends inward and outward and bears against the end of the groove L.

In threaded apertures N in the vertical flanges F are arranged guide-screws O O, which engage at their inner ends in grooves P in the sides of the sliding block K, to guide the motion of the latter and hold it in proper position between the vertical flanges.

The manner of securing the attachment on the jaw will be readily understood from the foregoing description. Simply adjust the plate E on the bearing-surface of the jaw, with the depending flanges G G on opposite sides of the latter, and then tighten the thumb-screw H.

The operation of a wrench to which one of my attachments is applied is as follows: Grasp the pipe with the jaws in the same manner as with an ordinary pipe-wrench and swing the handle in the direction indicated by the arrow in Fig. 1. The serrations on the sliding block will engage the pipe, and the block will slide up the inclined plate E, thereby more tightly engaging the pipe. When the handle is swung in the reverse direction, the block springs outward, thereby clearing itself, and a new grip may be taken. Thus the wrench operates in the same way as any or-

dinary spring-jaw pipe-wrench—namely, the handle is swung forward and backward, and the jaws alternately engage and release the pipe.

5 The construction of this device is extremely simple, comprising merely a sliding block and a holder to be attached to the jaw of a wrench, and by its use an ordinary parallel-jaw wrench may be caused to serve the purposes
10 of a pipe-wrench, and it will operate as effectively as the latter.

The object in having the upper side of the sliding block inclined slightly downward toward the inner end is to enable the jaws to obtain a more certain hold of the pipe and prevent the wrench from slipping from the pipe when the handle is swung in the reverse direction.
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Having thus described my invention, I
20 claim—

1. An attachment for wrenches, comprising the holder D, adapted to bear on the jaw of the wrench, and having the flanges G G embracing the same, the clamping-screw mounted
25 in one of the flanges and engaging the jaw, and the spring-actuated block sliding in the holder, substantially as specified.

2. An attachment for wrenches, comprising the holder D, having side flanges F, the serrated block mounted between the flanges and having inclined guide-slots P in its sides, and the guide-screws O, mounted in the flanges F and engaging the guide-slots P, substantially
30 as specified.

3. An attachment for wrenches, comprising the holder D, adapted to be attached to either jaw of the wrench and having the inclined plate E, the tapered or wedge-shaped block K, mounted on this plate and having its outer
35 face serrated, and the spring attached to the plate and connected to the block, whereby the latter is normally held in the engaging position, substantially as and for the purpose specified.
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4. The combination, with the wrench having parallel-faced jaws, of the block-holder D, adapted to be clamped on either jaw, and the sliding block mounted on the block-holder and having a free sliding movement, substantially as specified.
45 50

5. The attachment for wrenches, comprising the block-holder D, having a plate E, provided with a vertical stud I, the sliding wedge-shaped block K, mounted on the plate and having a groove in its under side engaging
55 the said stud, and the spring M, attached to the stud I and bearing against the end of the said groove, substantially as specified.

6. The attachment for wrenches, comprising the block-holder D, having vertical side flanges F F, provided with threaded apertures N, the vertical stud I, the wedge-shaped serrated block K, sliding between the flanges F, and having grooves P in its sides and the groove
60 L in its lower side, the spring M, attached to the stud I and operating in the groove L, and the guide-screws O, arranged in the apertures N and engaging at their inner ends in the grooves P, substantially as specified.
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7. As an attachment for wrenches, the holder D, adapted to be attached to either jaw of a wrench, and having the side flanges F, and the serrated block K, fitted between the flanges, and sliding freely outward and inward over the outer face of the holder between the
75 flanges, and the spring housed within and between the block and its holder and connected to said parts, respectively, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in
80 presence of two witnesses.

JOHN S. HENRY.

Witnesses:

OTHO P. SULLIVAN,
MOSES A. PENDLETON.