

(No Model.)

J. P. HAIGH.

WRENCH.

No. 248,588.

Patented Oct. 25, 1881.

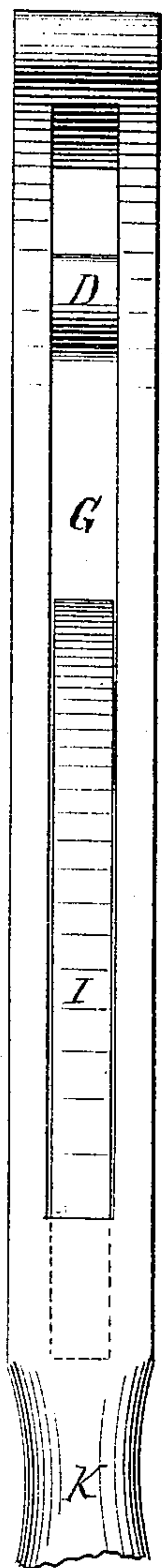


Fig. 2.

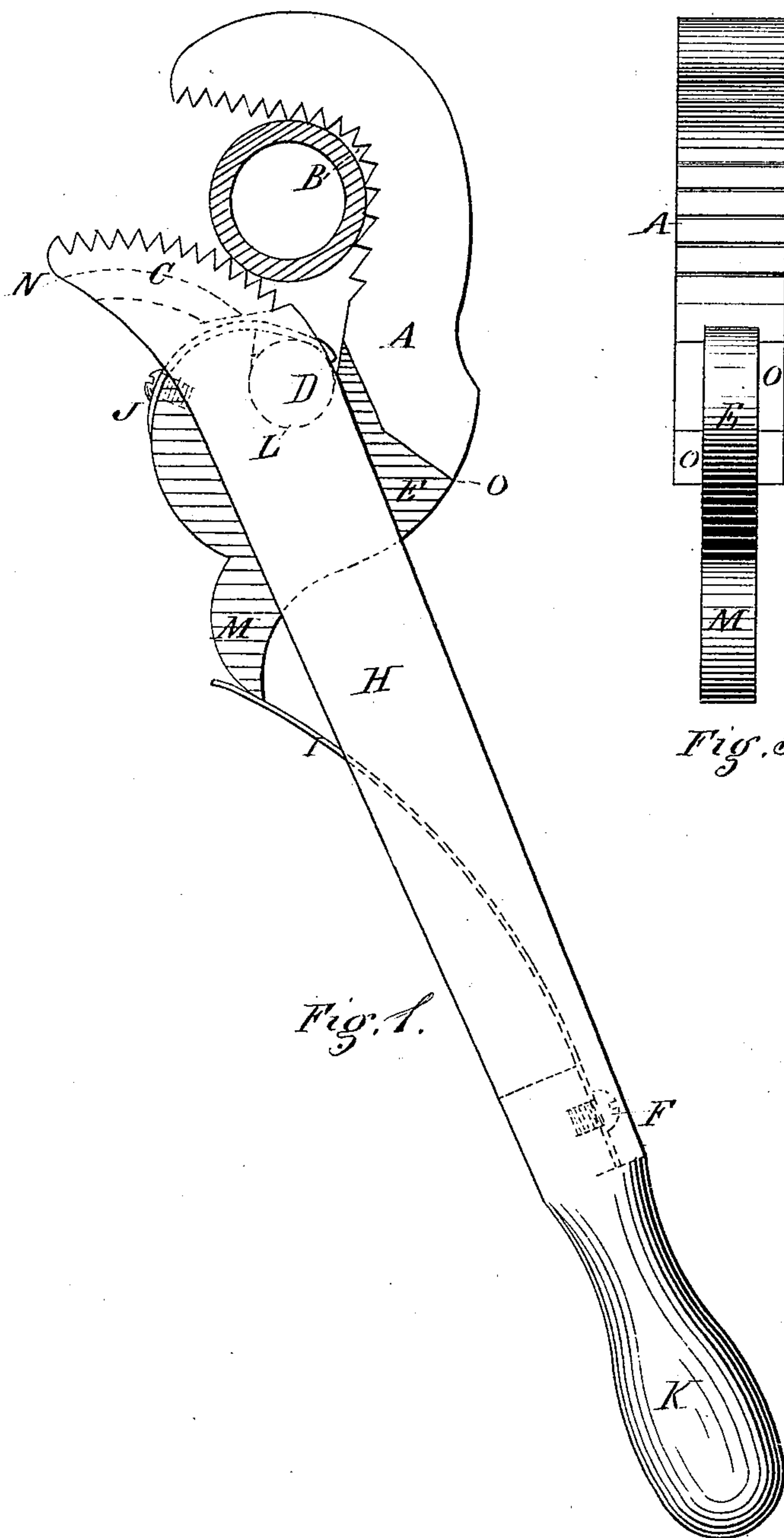


Fig. 1.

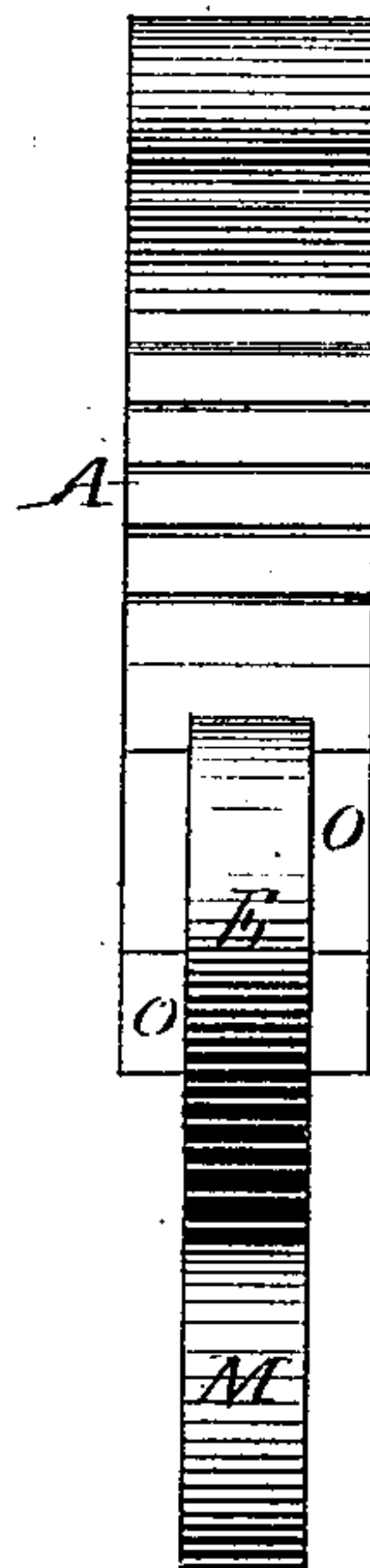


Fig. 3.

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JOSEPH P. HAIGH, OF PITTSBURG, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 248,588, dated October 25, 1881.

Application filed March 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. HAIGH, of Pittsburgh, county of Allegheny, and State of Pennsylvania, have invented certain Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches for use in operating upon cylindrical articles. Such wrenches are commonly called "pipe-wrenches" or "cylinder-wrenches."

In the accompanying drawings, Figure 1 is a side view of my wrench. Fig. 2 is an edge view of the cam or handle lever, and Fig. 3 is a face view of the clutch or pivoted jaw A with its shank E.

H is the lever of the wrench, made of suitable cast metal. It is provided with a handle, K, at one end, and at the other with a serrated cam-formed gripping-surface, C, and has a mortise, G, through the body of it, and a wrist-pin, D, cast between and with its sides near the end next the cam.

A is a pivoted jaw or clutch, and is provided with a concave serrated gripping-surface, B, at one end, and at the other with a shank, E, having a circular cavity or pivot-seat, L, adapted to fit the wrist-pin D, and a tang, M, on the heel of said shank. The pivoted jaw or clutch A presents opposite to the gripping-surface C a concave serrated surface, B. The mortise G permits the insertion of both the shank E and spring I into their seats. One end of said spring is fastened in a recess near the handle K with screws, and the other end rests upon the tang M and gives the clutch A a closing tendency, and at the same time prevents its displacement from its pivot-seat when the keeper J is not in use. The keeper J is a thin plate of steel of the same width as the shank, and bent to fit the curve of shank E, and fastened to the same by a screw, as shown, with one end of the keeper projecting over the top of the wrist-pin D to keep clutch A in its seat when the spring I is not in use. Both the spring I and keeper J are fastened on with screws, so as to be readily detached, because, when the wrench is used to screw up gas-pipe that is in a close corner of an angle, it sometimes becomes necessary to detach the clutch from the lever and hook it on the pipe first, and then hook the shank E on the wrist D afterward. In such case the keeper must first be

removed, and again, when the wrench is used to turn four-square nuts rapidly, it is sometimes better to remove the spring and work the clutch with the hand.

The wrench is adapted to work on cylindrical pieces varying in size from zero up to its maximum capacity.

The gripping-surface C is in the form of a scroll, as shown, and power applied to turn an article grasped by the wrench will tend to increase the grasping power only as the article resists the power applied to turn it, and thus, as shown in practice, it does not crush even very light gas-pipe.

The wrench is a most excellent one, and the construction is cheap. The material may be iron or steel, and, if desired, the serrated surfaces may be formed of fine steel plates riveted or otherwise affixed in place. The line N indicates the juncture of such a plate with the body.

The lever may be a malleable or steel casting, or for some purposes it may be of wrought-iron.

The pivoted jaw or clutch may be of any suitable material.

Instead of hooking the clutch A on the wrist-pin D, as shown, the clutch A may be bifurcated and the lever made solid and recessed on its sides to, say, half the thickness, and disks or bosses cast or forged on each side of it, and the two forks of the clutch hooked on them. In such case the spring which I have inclosed within the mortise, out of harm's way, might be placed one on each side of lever, and thus act on both forks of the clutch. I much prefer the single shank and spring.

The shoulder O at the junction of the shank E with the jaw A prevents the jaw from coming out while in ordinary use, even if the keeper and spring both be removed, since it will be observed that with this shoulder arranged approximately as shown the jaw can be removed and inserted only after bringing the serrated faces B C nearly in contact.

It is an important feature of the present wrench that the pin D is, by preference, cast with the rest of the handle.

Heretofore it has been usual to insert a loose pin, or in some cases to rivet a pin in place. The holes made through the handle for this purpose weaken it considerably, since, as the

strain all comes on the pin, the holes have to be made comparatively large.

I claim herein as my invention—

1. The combination, with a mortised or recessed lever having wrist-pin D and gripping-surface, of a gripping-jaw provided with a curved seat and a removable keeper, J, substantially as and for the purposes set forth.

2. The combination, with mortised or recessed lever H, having a wrist-pin, D, and gripping-surface C, of jaw A, having shank E, provided with a curved seat and tang M, keeper J, and spring I, substantially as and for the purpose set forth.

3. A cast-metal mortised or recessed wrench-lever, having wrist-pin D cast therewith as a part thereof, in combination with jaw A, having shank M, shoulder O, and a pivot-seat in the shank, substantially as set forth.

In witness whereof I have hereunto subscribed my name.

JOSEPH P. HAIGH.

Witnesses:

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JAS. E. BRANDON.