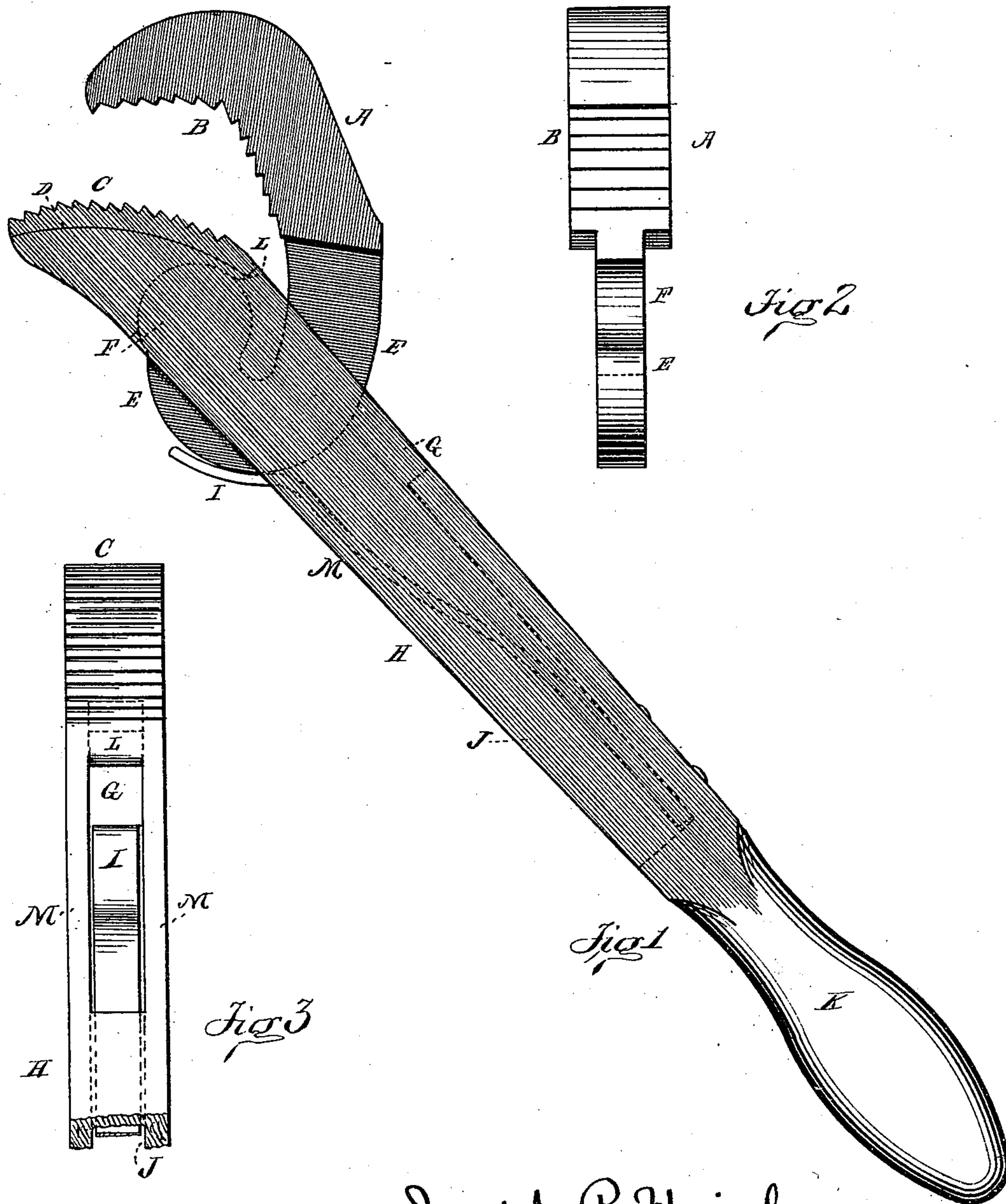


(No Model.)

J. P. HAIGH.
Wrench.

No. 235,083.

Patented Dec. 7, 1880.



WITNESSES:

E B Rogers
Geo W Jackson

Joseph P. Haigh INVENTOR

by James W. See

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UNITED STATES PATENT OFFICE.

JOSEPH P. HAIGH, OF HAMILTON, OHIO.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 235,083, dated December 7, 1880.

Application filed October 19, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. HAIGH, of Hamilton, Butler county, Ohio, have invented certain new and useful 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, a face view of the pivoted jaw, and Fig. 3 a face view of a portion of jaw bar or lever.

H is the lever of the wrench. It is provided with the handle K, and at its upper end with a serrated cam-formed gripping-surface, C. The lever H is hollow, the cavity within it being open nearly the entire length of the front of the body of the lever, and having an opening, G, at the back, near the top of the lever. The upper end of the cavity is of circular form, and is adapted to form a pivot-seat for the disk-like extremity F of the shank E of the pivoted jaw. The pivoted jaw A presents to the gripping-surface C a concave serrated surface, B. The opening G at the back of the lever permits the jaw-shank to be inserted into its place.

Within the body of the lever lies a spring, I, fixed to the lever at its lower end and arranged at its upper end to bear against shank of the pivoted jaw, as shown, and thus exert a closing tendency upon said jaw, and at the same time prevent its displacement from its pivot-seat. The pivot-disk F forms the termination of an upturned prolongation of the shank E.

The wrench is adapted to work on cylindrical pieces varying in diameter from zero 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 gripping power without, as shown in practice, tending to crush an article of such ordinary strength as 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 plates riveted or otherwise affixed in place. The line D indicates the juncture of such a plate with the body. The lever may be a malleable or steel casting, or it may be of wrought-iron. The pivoted jaw may be of any suitable material.

Instead of seating the pivot-disk within a cavity in the handle or lever, as shown, the shank of the pivoted jaw may be bifurcated, and the lever-body may have disk-seats arranged upon both sides of it, in an obvious manner. I much prefer the hollow lever and single-shanked jaw.

The spring, which I have set neatly within the lever, may be fixed against the front of the handle or lever, the lever in such case being solid instead of open at the front.

Other forms of gripping-surfaces might, in practice, suggest themselves, in combination with the form of pivoting shown.

I claim as my invention—

1. In a wrench, the combination, with a gripping-jaw having an upturned shank terminating in a pivot-disk, of a lever having a gripping-surface and a seat for the disk of said jaw-shank, and a spring fixed to said lever and adapted to bear against said shank, substantially as set forth.

2. In a wrench, the combination, with a gripping-jaw having an upturned shank terminating in a pivot-disk, of a lever having a gripping-surface and a mortise adapted to receive said shank and furnish a seat for the pivot-disk thereof, and a spring fixed to said lever and adapted to bear against said shank, substantially as set forth.

JOSEPH P. HAIGH.

Witnesses:

JAMES W. SEE,
ISRAEL WILLIAMS.