

H. D. ROUSE.
Wrenches.

No. 157,082.

Patented Nov. 24, 1874.

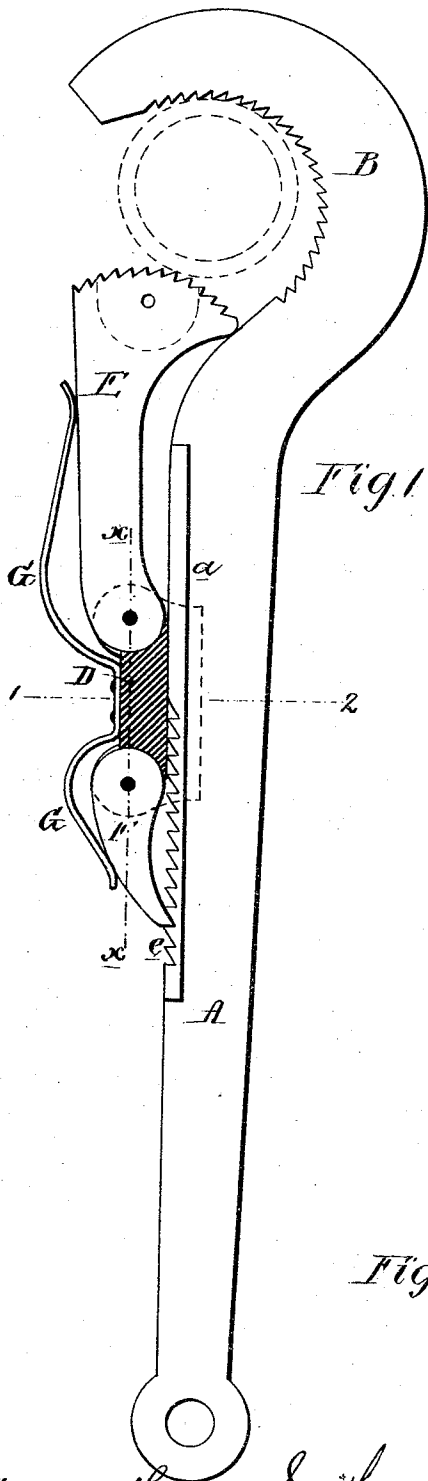


Fig. 2.

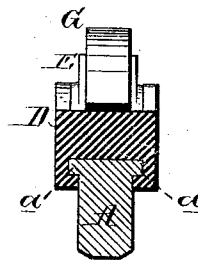


Fig. 3.

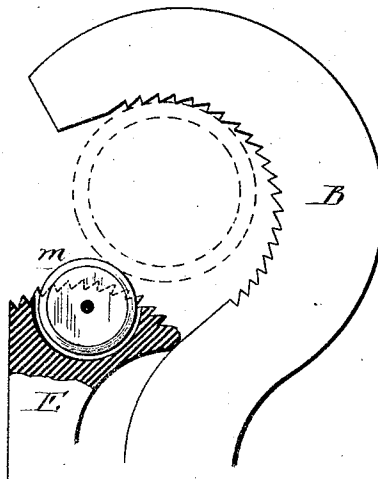
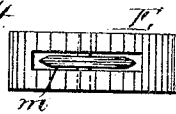


Fig. 4.



Witnesses, Harry Smith
Thomas M. Swan

Henry D. Rouse
by his attys.
Housens and Son.

UNITED STATES PATENT OFFICE.

HENRY D. ROUSE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND CHARLES O. RICHARDS, OF SAME PLACE.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **157,082**, dated November 24, 1874; application filed March 7, 1874.

To all whom it may concern:

Be it known that I, HENRY D. ROUSE, of Philadelphia, Pennsylvania, have invented an Improved Wrench, of which the following is a specification:

My invention relates to that class of pipe-wrenches in which one of the griping-jaws is adjustable, for the purpose of accommodating the wrench to pipes or cylindrical rods of different diameters; and the object of my invention is to construct a simple wrench of this class, and one which will effectually resist the strain to which the adjustable griping-jaw is subjected.

In the accompanying drawing, Figure 1 is a side view of the wrench, partly in section; Fig. 2, a transverse section on the line 1 2, Fig. 1.

A is the stem of the wrench, and B the permanent jaw, the inner curved edge of which is furnished with the usual inclined teeth. At opposite sides of the stem, near one edge of the same, are two ribs, *a a*, to which a sliding block, D, is adapted in the manner shown in the transverse section, Fig. 2, so that the block can be moved to and fro in a longitudinal direction only on the stem. To one end of the block is hinged the movable jaw E, having the cam shaped and toothed end common to the jaws of wrenches of this class. At the opposite end of the block is hinged a pawl, F, the outer end of which is adapted to the teeth *e* of a rack on the stem A, and a spring, G, secured to the block, has two arms, one bearing against the jaw E, and the other against the pawl. The center of the pivot of the movable jaw E and that of the pawl are in a line, *x x*, which is parallel, or nearly so, with the toothed edge of the stem. This arrangement

prevents the block and its guides from being subjected to the strain which would occur, owing to the tilting of the block, if the pivots were not arranged in the manner described. The pivot-pins merely serve to connect the jaw and pawl to the block, and are comparatively loose, so that the end strain to which the jaw is subjected is transmitted directly to the block, against which the rounded end of the said jaw bears; in like manner the block is adapted to, and bears directly against, the pawl F, so that the pivot-pins are subjected to no strain whatever.

The operation of the instrument, when applied to the turning of a pipe or cylindrical rod, will be readily understood without explanation.

I wish it to be understood that I do not claim any of the parts herein described, separately considered; but

I claim as my invention—

The within-described pipe-wrench, consisting of the stem A, its serrated jaw B, guides *a a*, and rack *e*, combined with the sliding block D, adapted to the said guides, and carrying at one end the spring-jaw E, and at the opposite end the spring-pawl F, adapted to the rack, the said jaw and pawl being fitted to the block, and hinged to the same by pins arranged in a line, *x x*, parallel, or thereabout, with the guides *a a*, all constructed and arranged as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

H. D. ROUSE.

Witnesses:

WM. A. STEEL,
HARRY SMITH.