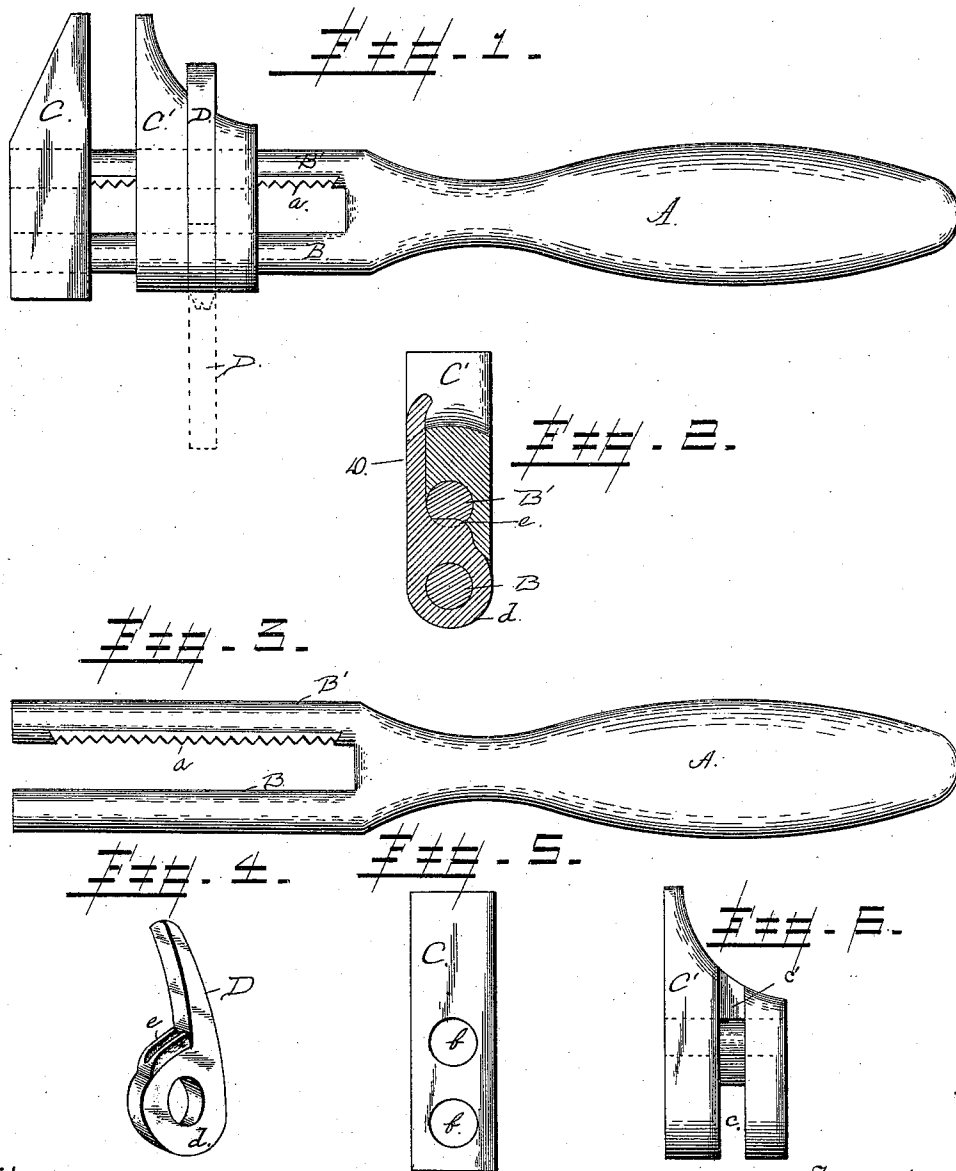


(No Model.)

G. J. CLINE.
WRENCH.

No. 466,456.

Patented Jan. 5, 1892.



Witnesses

Albert B. Blackwood
Jos N Blackwood

Inventor

George J. Cline

By his Attorneys Smith & Claggett

UNITED STATES PATENT OFFICE.

GEORGE J. CLINE, OF GOSHEN, INDIANA, ASSIGNOR OF ONE-HALF TO
CONRAD L. LANDGRAVER, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 466,456, dated January 5, 1892.

Application filed December 21, 1889. Serial No. 334,544. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. CLINE, a citizen of the United States, residing at Goshen, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to monkey-wrenches, and is designed as an improvement on the wrench disclosed in the Letters Patent granted to me December 8, 1885, and numbered 332,051.

The present invention further consists in the construction, novel combination, and adaptation of parts hereinafter described, and particularly pointed out in the claim appended.

In the accompanying drawings, Figure 1 is a side elevation of my improved wrench. Fig. 2 is a transverse section of the same, taken through the sliding jaw and locking-cam, with the latter in a locked position. Fig. 3 is a side elevation of the forked or bifurcated handle-bar. Fig. 4 is a perspective view of the locking-cam removed. Fig. 5 is rear elevation of the fixed jaw, and Fig. 6 is a side elevation of the sliding jaw.

Referring by letter to said drawings, A indicates the handle of my improved wrench, which is shaped to afford a convenient grasp, and is bifurcated at one end to form the parallel branches B B', the branch B of which is round in cross-section, and serves as a slide for the sliding jaw and as a fulcrum or pivot for the locking-cam, while the branch B' is provided on its inner side for the greater portion of its length with rack-teeth *a*, which are preferably formed integral with said branch, but may be formed upon a plate suitably keyed in the inside thereof.

C indicates the fixed jaw of the wrench, which is provided with eyes *b* to receive the ends of the branches B B', upon which the jaw is fixed in any desirable manner. The sliding jaw C' of my improved wrench is also provided with eyes to receive the branches B B' of the handle-bar, and said jaw is further provided in its lower portion with a transverse slot *c*, which merges into a recess *c'* in one of

its vertical sides, which recess extends to the top of the jaw and serves to seat the handle *d* of the locking-cam D, which is provided with an eye, as illustrated, to receive the branch B of the handle-bar on which said cam is pivoted. This cam D, which rests in the slot *c* of the sliding jaw, is provided at a suitable point upon its periphery with teeth *e*, designed to engage the rack-teeth of the branch B' of the handle-bar, and leading tangentially from the periphery of the cam adjacent the teeth *e* is the handle *d*, which when the cam is in a locked position rests in the recess *c'* of the sliding jaw. By this construction it will be readily seen that by manipulating the handle *d* the cam may be readily disengaged from the teeth of the branch B' and the sliding jaw moved to the point desired, when by seating the handle *d* in the recess *c'* of the sliding jaw said jaw will be securely locked in position.

By the provision of the recess *c'* in the side of the sliding jaw it will be readily perceived that the handle of the cam may be seated or nested in said jaw and rest flush with the side thereof, whereby the liability of casually unlocking the cam is reduced to a minimum.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

In a pipe-wrench, the combination, with the handle-bar having the integral parallel branches at one end, one of which is provided with rack-teeth on its inner side, and the fixed jaw mounted on the ends of said branches, of the sliding jaw having eyes to receive the parallel branches of the handle-bar and provided with a transverse slot in its lower portion and a vertical recess in one of its sides, and the cam pivoted on one of the branches of the handle-bar within the slot of the sliding jaw and having the teeth on its periphery and the handle leading tangentially from the periphery adjacent the teeth thereof, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE J. CLINE.

Witnesses:

J. A. BEANE,
W. A. BEANE.