

(No Model.)

J. H. BAKER & G. F. SHEVLIN.
WRENCH.

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No. 421,154. Patented Feb. 11, 1890.

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Witnesses:
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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 421,154, dated February 11, 1890.

Application filed June 27, 1889. Serial No. 315,804. (No model.)

To all whom it may concern:

Be it known that we, JAMES H. BAKER and GEORGE F. SHEVLIN, of Saratoga Springs, in the county of Saratoga and State of New York, have invented an Improvement in Wrenches, of which the following is a specification.

In this improved wrench the jaws are parallel, or nearly so, with the handle and project at the end of the same, so as to be more convenient for use than those wrenches in which the jaws are at right angles to the handle, because such jaws are adapted to grasping a pipe or other article lying close against a wall and the handle is free to receive a swinging movement. The screw that is connected with the movable jaw passes through the handle and through the adjusting-nut, and this adjusting-nut is within a rocking frame having a curved bearing and the parts are placed in such a manner that when the inclined teeth upon the respective jaws are pressed against the article to be moved the movable jaw swings toward the handle-jaw and grips the article with a force that is proportioned to the strain exerted upon the lever-handle, and the gripping action is released automatically by moving the lever-handle in the other direction, so that the handle of the wrench can be swung first in one direction and then in the other to alternately grip and release a pipe or other article that is acted upon.

In the drawings, Figure 1 is an elevation of the wrench. Fig. 2 is a cross-section at the line *x x* of Fig. 1, the movable jaw being in elevation.

The lever or handle C is of any desired shape or length, and at the extreme end is a lever-jaw B, the face of which is provided with transverse serrations or inclined teeth at 2, and through the lever-handle adjacent to the jaw B is a mortise for the screw D, and this screw D is upon the moving jaw A and at right angles thereto, or nearly so, and this screw is flat at the sides, so that it is properly guided in passing through the mortise in the lever-handle C, the screw-threads being on the edges, as represented.

The face of the jaw A is parallel with the face of the jaw B, or nearly so, and the serrations in the face thereof stand in the opposite directions to the serrations in the face of the jaw B, and around the screw D is a nut F within the rocking frame E. There is a bow 4 projecting out at the back of the jaw B adjacent to the lever-handle C, and in this bow 4 is received the rocking frame E, having a concave edge at 5 resting upon the convex bearing 3 adjacent to the jaw B, and the width of the slots in the jaw B and the bow 4 are sufficient to allow the screw D to swing or vibrate in a plane passing centrally through the handle C and jaw B, and in so doing the rocker-frame E bears against the surface 3, and slides thereon as the screw D may assume a different angle to the lever-handle C.

It is now to be understood that in using this wrench the screw D and nut F are employed to draw the jaw A into the proper proximity to the jaw B for grasping the article to be rotated, and that when the lever-handle C is moved in the direction of the arrow 6 the teeth 2 upon the jaw B will stick into the article to be acted upon and the teeth 8 upon the jaw A will hold against the opposite side of the article operated upon, and the screw D and rocking frame E will swing, the curved surfaces 3 and 5 sliding one upon the other, and in this swinging operation the jaw A will be caused to move nearer to the jaw B, and thereby the article operated upon will be grasped in the most firm and reliable manner, and when a movement is given to the lever-handle C in the direction of the arrows 7 the teeth 2 and 8 will slide automatically upon the surface of the article operated upon, thereby rendering it unnecessary to adjust the nut F, and when a reverse motion in the direction of the arrow 6 is given the handle C the article operated upon will be grasped and moved as aforesaid.

We are aware that the nut for the screw connected with the moving jaw has been within a cylindrical block in a circular recess in the handle-jaw. In this case the moving jaw swings upon the axis of the cylinder as such cylinder turns and the jaws swing toward each other, and are liable to crush a pipe or hollow article. In our improvement the rocking frame moves laterally upon its

concave surface and the extent of motion is limited by the surrounding bow, with which the end of the rocking frame comes into contact; hence movement is limited and the risk of injury to the article grasped is prevented, because the points of the teeth only are stuck into such article.

We claim as our invention—

1. The lever-handle C, having a jaw B at one end thereof, in combination with the moving jaw A, the screw D, connected therewith and passing through a mortise in the lever-handle C, the nut F around the screw D for adjusting the jaw A, and the rocking frame E, containing the nut F and having a concave surface 5 adjacent to the jaw B and resting against the convex surface 3 of the lever-handle C, the metal at the ends of the convex sur-

face limiting the movement of the rocking-frame, substantially as set forth. 20

2. The combination, with the moving jaw A, screw D, and nut F, of the lever-handle C, having a jaw B at one end thereof, the loop 4, and the rocking frame E, having mortises through which the screw D passes, and a mortise for the nut F, and a concave surface toward the jaw B resting upon a convex surface at the junction of the handle and jaw, the movement of the rocking frame being limited by the loop, substantially as set forth. 25

Signed by us this 20th day of June, 1889.

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Witnesses:

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