

D. STEWART.
 PIPE WRENCH.
 APPLICATION FILED SEPT. 18, 1912.

1,060,374.

Patented Apr. 29, 1913.

Fig. 1.

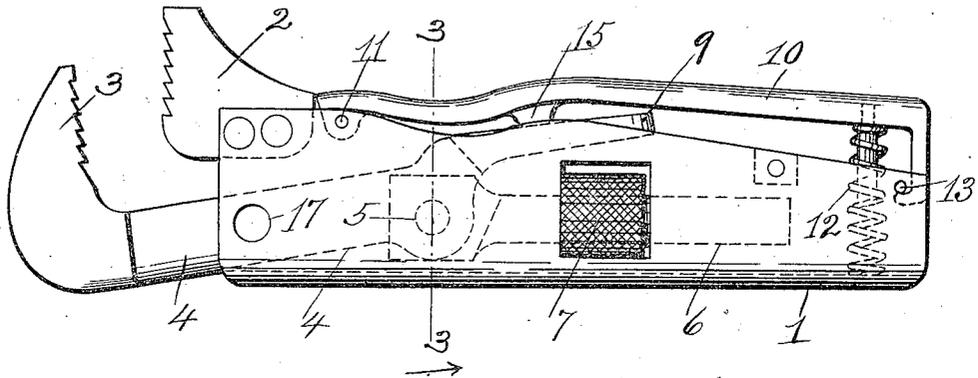


Fig. 2.

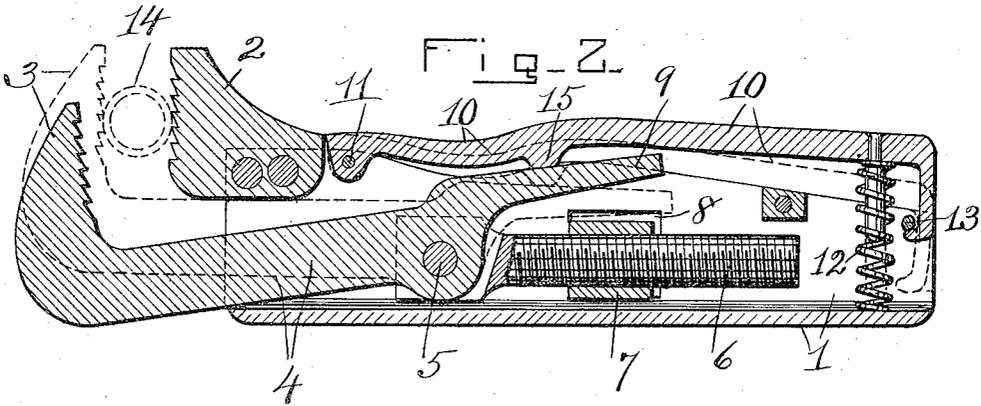
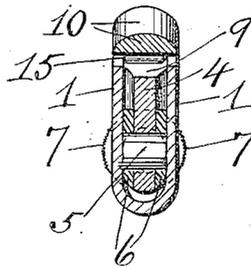


Fig. 3.



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PIPE-WRENCH.

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To all whom it may concern:

Be it known that I, DAVID STEWART, a subject of Great Britain, residing at Schenectady, county of Schenectady, and State of New York, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in side elevation of a pipe wrench embodying my invention. Fig. 2 is a central, vertical, longitudinal section of the same. Fig. 3 is a cross section of the same taken on the broken line 3—3 in Fig. 1.

This invention relates to the type of wrench which has toothed jaws, one of which is movable longitudinally toward and from, and also laterally with relation to, the other jaw, by reason of which lateral movement said jaws are adapted to bite or lock upon the pipe or other article to which the wrench is applied.

The principal objects of the invention are to permit the user to control the lateral movement of the pivoted jaw, and to provide a cheap and durable handle and housing for the operating mechanism of such a wrench.

Other objects will appear in connection with the following description.

Referring to the drawings wherein the invention is shown in preferred form, 1 represents a channeled housing formed by bending sheet-metal into U-form in cross section, as shown in Fig. 3, which housing forms an effective handle for the wrench. A stationary toothed jaw, 2, is riveted in between the walls at the open side of the housing at one end thereof. The complementary toothed jaw, 3, is on one end of a lever, 4, pivotally mounted at 5 upon the adjustable screw, 6, which passes through and fits a thumb-nut, 7, rotatively mounted in oppositely disposed apertures, 8, in the walls of the housing, and projecting from opposite sides of the housing as shown in

Fig. 3. The lever, 4, and screw, 6, are located within the housing and are adapted to be adjustably moved back and forth longitudinally thereof by means of the thumb-nut, 7. The inner end of the jaw-lever, 4, projects inward a considerable distance beyond the pivot, 5, into the path of a hand-operated lever, 10, pivoted at 11, upon the housing, 1, and complementary to the housing to form therewith a complete handle for the wrench. A coil-spring, 12, tends to yieldingly force the lever, 10, outward to the limit permitted by the stop, 13. In applying the wrench to a pipe or the like, the jaw, 3, is adjusted by means of the thumb-nut, 7, to closely confine the pipe, 14, between the toothed jaws without pressure upon the hand-lever, 10, and with the movable jaw 3, in the position shown by solid lines in Figs. 1 and 2. The complete handle is then compressed by the operator who exerts the desired degree of pressure upon the hand-lever, 10, to operate the lever, 4, and thereby forces the movable jaw, 3, more tightly against, and laterally along, the surface of the pipe to the position indicated by dotted lines in Fig. 2, causing the teeth on the jaws to bite or firmly lock upon the pipe. The teeth on the jaws, 2 and 3, face in opposite directions, and by a rocking movement of the wrench, accompanied in one direction by pressure upon the hand-lever, 10, while when moved in the opposite direction, the lever, 10, is relieved of pressure, the wrench can be made to bite or lock upon the pipe in one direction, and to slip thereon in the opposite direction, to impart an intermittent rotative movement to the pipe, permitting the wrench to be effectively used as a ratchet-wrench, where limitations of space prevent its use for continuously rotating the pipe; and when so used the wrench can be effectively operated by one hand only.

The hand-lever, 10, is pivoted adjacent to the jaw, 2, and extends practically the whole length of the open side of the housing.

For certain purposes of the invention the screw-mechanism for adjusting the movable jaw may be of any known form.

The several parts of the wrench are simple in construction and adapted to be finished and assembled with but little machine work, and at but small expense.

To facilitate the engagement of the hand-

lever, 10, with the inner end of the jaw-lever, 4, the hand-lever may be provided with a depending lug, 15.

An aperture, 17, in one of the housing walls permits the pivot, 5, to be inserted or removed therethrough when the pivot holes are brought into alinement therewith, permitting the jaw, 3, to be removed without removing the riveted jaw 2.

10 What I claim as new and desire to secure by Letters Patent is—

1. In a wrench and in combination, a handle; a jaw mounted upon the handle; adjustable screw-mechanism mounted upon the handle; a lever pivotally mounted upon an adjustable member of said screw-mechanism and having on its outer end a jaw complementary to said first-mentioned jaw; and a hand-operated member adapted to rock said jaw-lever.

2. In a wrench and in combination, a handle; a jaw mounted upon the handle; adjustable screw-mechanism mounted upon the handle; a lever pivotally mounted upon an adjustable member of said screw-mechanism and having on its outer end a jaw complementary to said first-mentioned jaw; a hand-operated member adapted to rock said jaw-lever; and a spring to yieldingly resist the hand-operated movement of said member.

3. In a wrench and in combination, a handle; a jaw mounted upon said handle; adjustable screw-mechanism mounted upon said handle; a hand-lever pivotally mounted upon said handle; and a jaw-lever pivotally mounted intermediately of its ends upon an adjustable member of said screw-mechanism and having on its outer end a jaw complementary to said first-mentioned jaw, the inner end of said jaw-lever projecting into the path of said hand-lever, whereby said jaw-lever is adapted to be rocked by said hand-lever.

4. In a wrench and in combination, a handle; a jaw mounted upon said handle; adjustable screw-mechanism mounted upon said handle; a hand-lever pivotally mounted at one end upon the handle adjacent to said jaw; a jaw-lever pivoted intermediately of its ends to said screw-mechanism and having on its outer end a jaw complementary to said first-mentioned jaw, the inner end of said jaw-lever projecting into the path

of said hand-lever; and a spring yieldingly resisting hand-actuated movement of said hand-lever.

5. In a wrench and in combination, a U-shaped housing formed of sheet-metal; a jaw mounted upon said housing; adjustable screw-mechanism mounted on the handle; a lever pivotally mounted upon an adjustable member of said screw-mechanism within said housing and having on its outer end a jaw complementary to said first-mentioned jaw; and a hand-operated member adapted to rock said jaw-lever.

6. In a wrench and in combination, a U-shaped housing formed of sheet-metal; a jaw mounted upon said housing; adjustable screw-mechanism having an adjustable member mounted within the housing; a jaw-lever pivotally mounted upon said adjustable member of the screw-mechanism within the housing and having on its outer end a jaw complementary to said first-mentioned jaw; and a hand-lever pivotally mounted upon the housing adjacent to its open side and complementary to said housing to form a handle, said hand-lever being adapted to engage and rock said jaw-lever.

7. In a wrench and in combination, a U-shaped housing, formed of sheet-metal, provided with oppositely located openings in its walls; a jaw riveted between the walls of said housing at one end of the open side thereof; screw-mechanism projecting through said openings in the housing-walls and having an adjustable member within the housing; a hand-lever pivotally mounted upon said housing adjacent to the open side thereof and complementary to said housing to form a handle; a jaw-lever pivotally mounted intermediately of its ends upon said adjustable member of said screw-mechanism within the housing and having on its outer end a jaw complementary to said first-mentioned jaw, the inner end of said jaw-lever projecting into the path of said hand-lever; and a spring within the housing opposed to the hand-operated movement of said hand-lever.

In testimony whereof, I have hereunto set my hand this 14th day of September, 1912.

DAVID STEWART.

Witnesses:

R. G. FRANCE,
EDW. CONKLIN.