

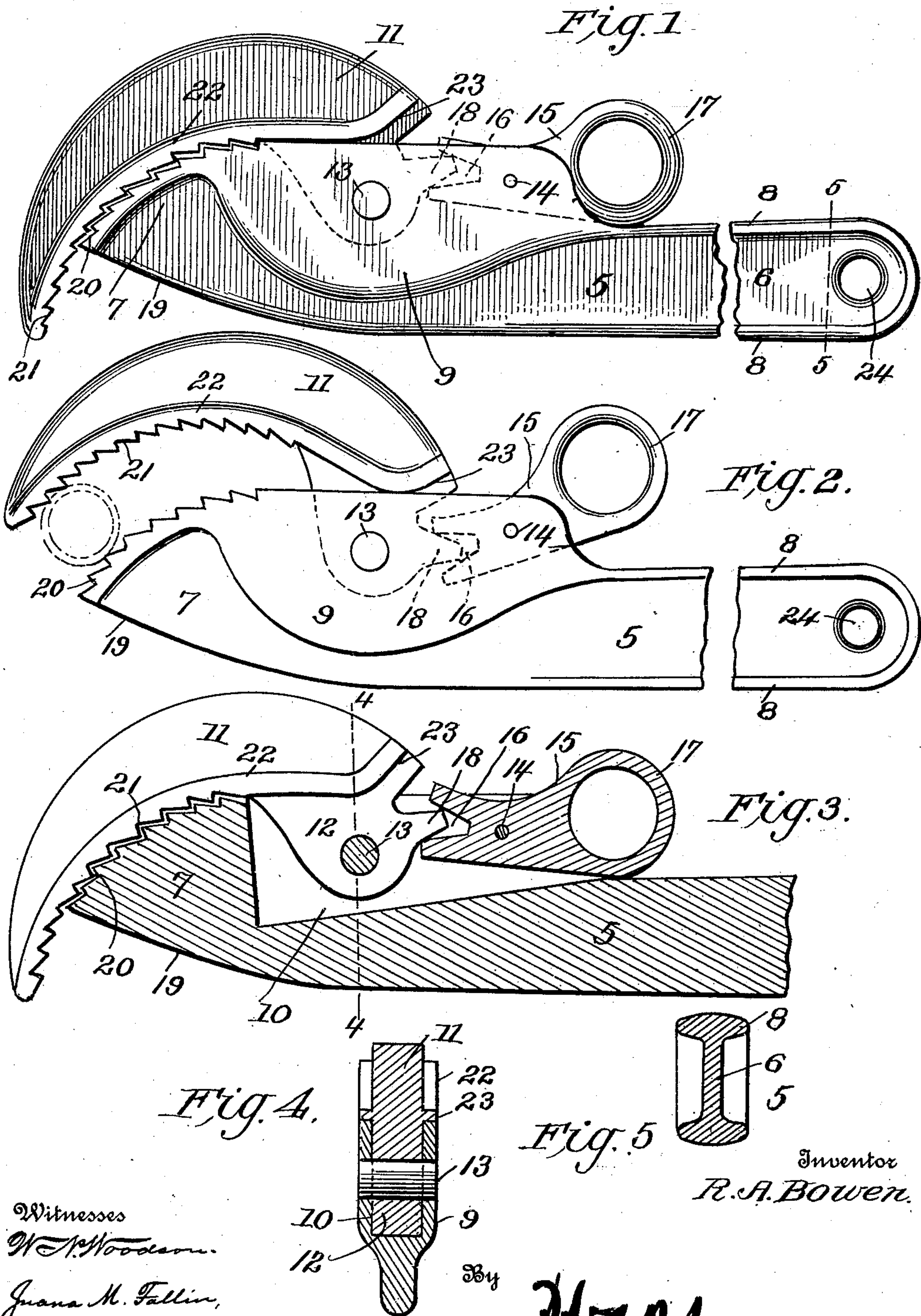
R. A. BOWEN.

PIPE WRENCH.

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PIPE-WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT A. BOWEN, citizen of the United States, residing at Colfax, in the county of Whitman and State of Washington, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

This invention relates to pipe wrenches and has for its object the provision of a strong, durable and thoroughly efficient wrench, the construction of which is such that the jaws thereof will effectually grip a pipe when turning the latter.

A further object of the invention is to provide a wrench, the pivoted jaw of which is movable to open and closed positions by means of a lever operatively connected therewith and provided with a terminal finger loop.

A further object is to provide means for limiting the opening movement of the pivoted jaw, and means carried by both jaws for gripping a pipe.

A further object is to provide a wrench, capable of being used either as a right or left hand tool and in which the employment of springs and the like are entirely dispensed with.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency, as well as to reduce the cost of manufacture.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a pipe wrench constructed in accordance with my invention, a portion of the handle being broken away to more clearly illustrate the same; Fig. 2 is a similar view, showing the movable jaw in open position; Fig. 3 is a longitudinal sectional view partly in elevation; Fig. 4 is a vertical sectional view taken on the line 4-4 of Fig. 3; Fig. 5 is a vertical sectional view taken on the line 5-5 of Fig. 1.

Corresponding and like parts are referred to in the following description and indi-

cated in all the views of the drawings by the same reference characters.

The improved wrench forming the subject matter of the present invention comprises a shank 5 having one end thereof reduced to form an operating handle 6 and its opposite end provided with a stationary jaw 7. The upper and lower longitudinal edges of the shank 5 are provided with oppositely disposed strengthening ribs 8, the edges of which are curved or rounded so as to present a smooth surface for contact with the hand.

One end of the shank 5 is provided with an enlargement 9 having a socket 10 formed therein and in which is pivotally mounted a movable jaw 11. The movable jaw 11 is provided with a depending ear or extension 12 which fits within the socket 10 and is pierced by a transverse opening for the reception of a pivot pin or bolt 13. Arranged at the rear of the movable jaw 11 and pivotally mounted at 14 within the socket 10, is an operating lever 15, the inner end of which is bifurcated at 16, while the outer end thereof projects longitudinally beyond the enlargement 9 and is provided with a terminal finger loop 17.

The extension 12 of the movable jaw 11 is provided with a laterally extending lug 18 which fits within the bifurcated portion 16 of the operating lever so that when an upward pull is exerted on the finger piece 17, said jaw 11 will be moved to open position, and when the finger loop is forced downwardly in the direction of the shank, the jaw will be moved into engagement with a pipe or other object inserted between said jaws.

The forward end of the shank 5 is curved upwardly at 19, while the active face of the stationary jaw 7 intersects the curved portion 19 and is provided with teeth or serrations 20 which bite into the surface of a pipe or other object and serve to prevent slipping of the same.

The free end of the movable jaw 11 extends longitudinally beyond the active face of the stationary jaw 7 when said movable jaw is in closed position, while the active face of the movable jaw is formed with teeth or serrations 21 inclined in a direction opposite the teeth 20, as shown. The movable jaw 11 is also preferably reinforced and strengthened by the provision of oppositely disposed ribs 22, the rear ends of

which are curved laterally to form stop shoulders 23 adapted to bear against the upper longitudinal edge of the shank at the socket 10, and thus limit the rearward tilting movement of the jaw 11. Thus it will be seen that by grasping the handle 6 in the right hand with the fore-finger inserted in the loop 17 and exerting an upward pressure on said loop, the jaw 11 may be moved to open position so as to permit the insertion of a pipe. By pressing downwardly on the finger loop 17, the movable jaw 11 will be forced into engagement with the pipe, thus causing the teeth or serrations 20 and 21 to bite into the surface of the pipe and prevent rotation of said pipe between the jaws when securing the pipe to or removing said pipe from an adjacent pipe.

An opening 24 is preferably formed in the end of the handle between the ribs 8 so that the wrench may be suspended from a nail or other suitable support when not in use.

The wrenches may be made in different sizes and shapes and constructed of metal or other suitable material.

When the wrench is made of soft iron, the teeth or serrations of the clamping jaw will preferably be case hardened so as to prevent undue wear thereon.

Having thus described the invention, what is claimed as new is:

1. A wrench including a shank having one end thereof curved laterally and provided with a stationary jaw having a serrated face and its other end reduced to form a handle having oppositely disposed strengthening ribs, there being an opening formed in the handle between said ribs, and an enlargement formed on the shank be-

tween the opening and stationary jaw and provided with a socket, a movable jaw having an extension pivotally mounted in said socket and provided with a lug, a lever pivotally mounted in the socket and having one end thereof bifurcated to receive the lug and its other end extending longitudinally beyond the enlargement and formed with a finger loop, and oppositely disposed ribs formed on the movable jaw, and each having one end thereof bent laterally to form a stop shoulder adapted to engage the enlargement for limiting the tilting movement of the movable jaw, there being serrations formed on the face of said movable jaw and inclined in a direction opposite the serrations on the stationary jaw.

2. A wrench including a shank having one end thereof provided with a stationary jaw and its other end reduced to form a handle, an enlargement formed on the shank and provided with a socket, a movable jaw having an extension pivotally mounted in said socket and provided with a lug, a lever pivotally mounted in the socket and having one end thereof bifurcated to receive the lug and its other end extending longitudinally beyond the enlargement and formed with a finger loop, and oppositely disposed ribs formed on the movable jaw and each having one end thereof bent laterally to form a stop shoulder adapted to engage the enlargement for limiting the tilting movement of the movable jaw.

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

ROBERT A. BOWEN. [L.S.]

Witnesses:

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