W. T. BENNETT.

PIPE WRENCH.

APPLICATION FILED JULY 2, 1909.

966,300.

Patented Aug. 2, 1910.

Fig. 1.

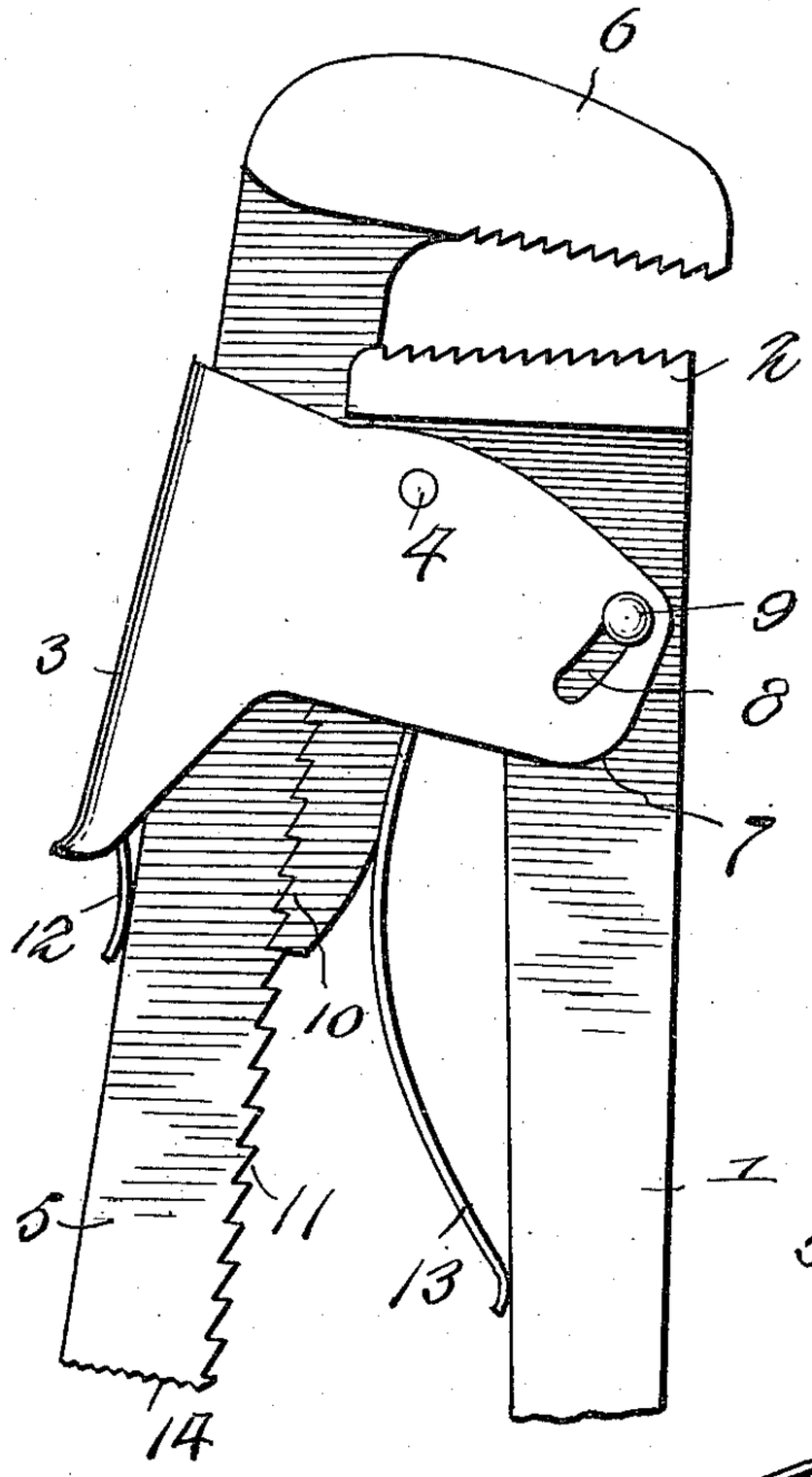


Fig. 2.

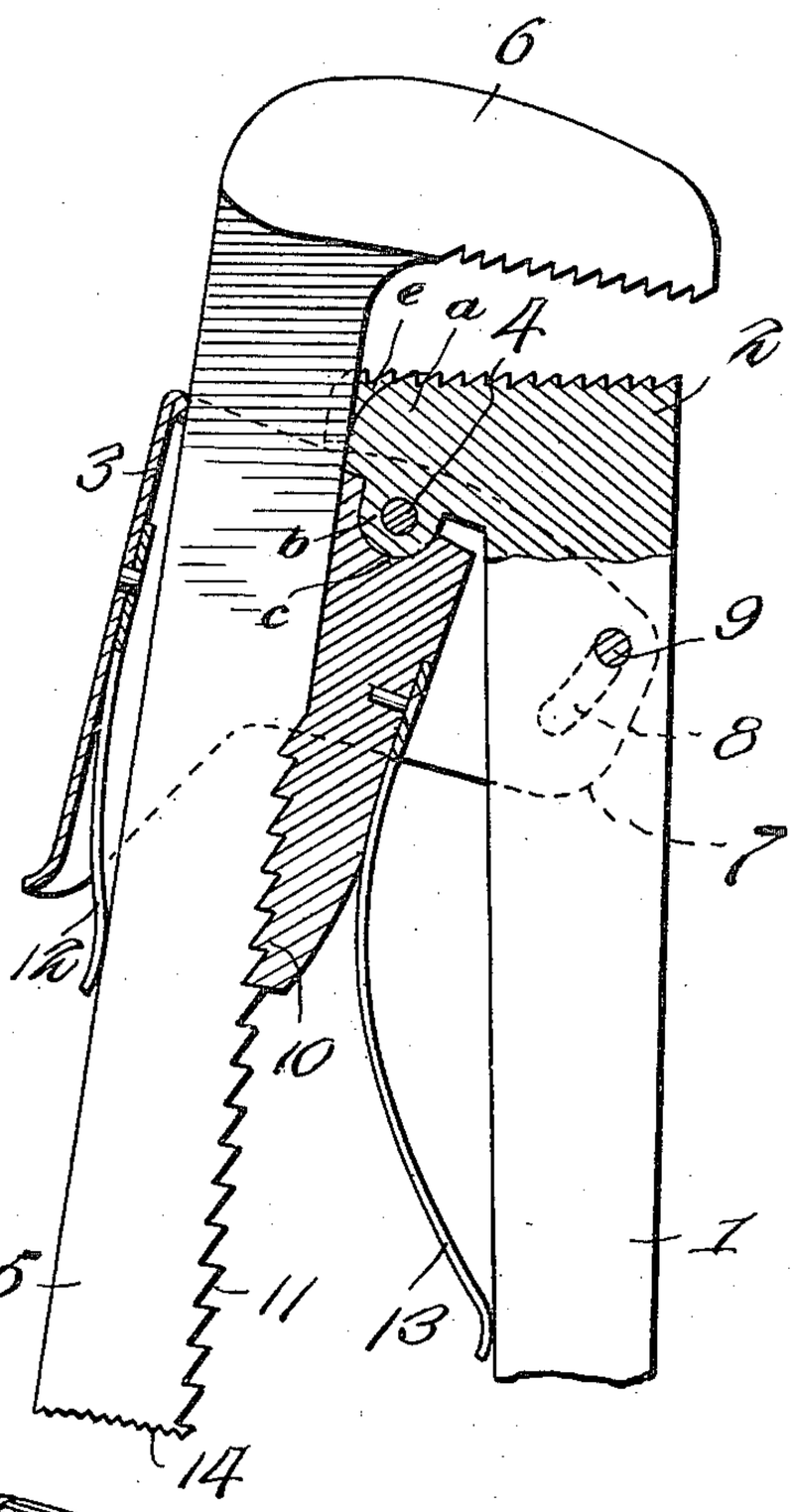
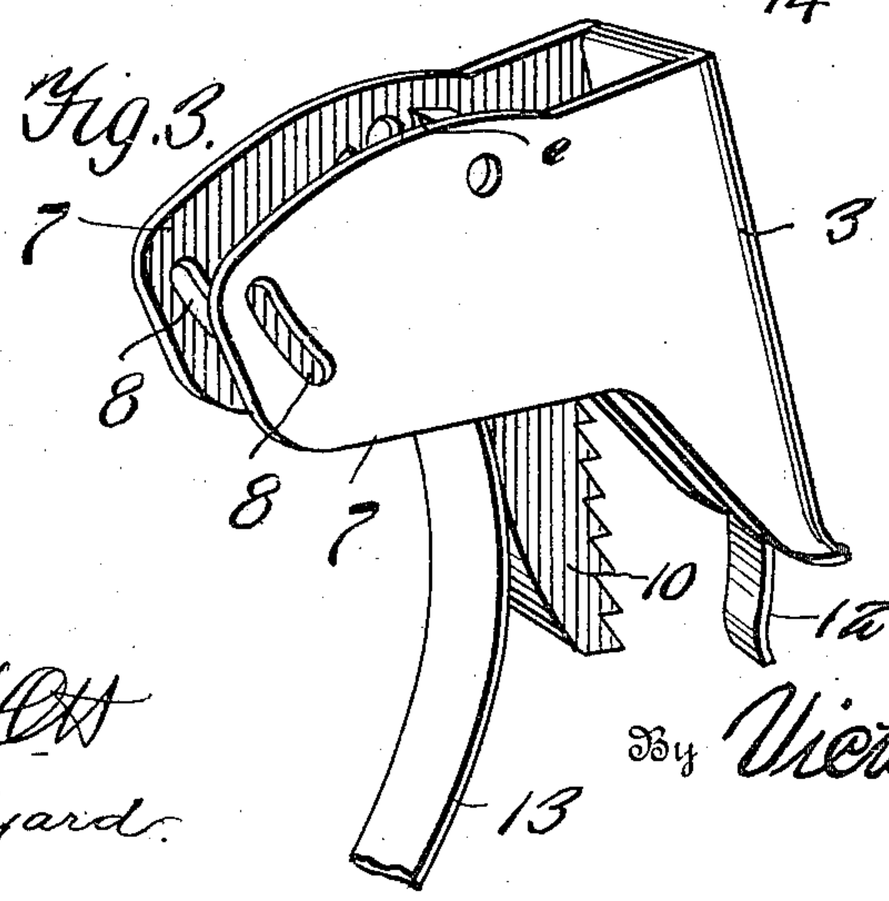


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM T. BENNETT, OF MASON CITY, ILLINOIS.

PIPE-WRENCH.

966,300. Specification of Letters Patent. Patented Aug. 2, 1910.

Application filed July 2, 1909. Serial No. 505,618.

To all whom it may concern:

Be it known that I, WILLIAM T. BENNETT, a citizen of the United States, residing at Mason City, in the county of Mason and State of Illinois, have invented new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

This invention appertains to wrenches, and has for its object to provide a tool of this character which will admit of adjustment to the work by the same hand in which the tool is held.

The invention also has for its object to provide a wrench which will occupy a comparatively small space thereby admitting of its operation in close quarters and in positions where the ordinary wrench could not be successfully or advantageously used.

A further purpose of the invention is the provision of a wrench embodying a minimum number of parts and which may be easily adjusted to the work by the same hand in which the tool is held, the movable jaw and the lock coöperating therewith being adapted to be operated by the thumb or finger of the hand when adapting the wrench to the work to be turned.

The invention consists of the novel features, details of construction, and combinations of parts which hereinafter will be more particularly set forth, illustrated in the drawings hereto attached and set forth in the appended claim.

Referring to the drawings forming a part of the specification: Figure 1 is a view in elevation of a wrench embodying the invention, a portion of the handle being broken away. Fig. 2 is a view similar to Fig. 1, a portion of the fixed jaw and the pivoted head being in section. Fig. 3 is a perspective view of the head which is pivoted to the fixed jaw and through which the shank of the movable jaw operates.

Corresponding and like parts are referred to in the following description and indicated in the views of the drawing by the same reference characters.

The wrench comprises a handle bar 1 having a fixed jaw 2 at one end. The handle bar 1 may be of any length, and the jaw 2 of any formation and is toothed to prevent slipping when gripping the work.

A head 3 is pivoted to the fixed jaw 2 at 4 and is of hollow or sleeve formation so as to receive the shank 5 provided with the movable jaw 6. The head 3 is provided with wings 7 which embrace opposite sides of the handle bar 1 and have arcuate slots 8 through which the ends of a pin 9 pass, said pin being mounted in an opening formed transversely of the handlebar 1. The projecting ends of the pin 9 are riveted or upset so as to overlap portions of the wings 7 bordering upon the slots 8. This construction prevents spreading of the wings 7 and holds the same close against the sides of the handlebar. The slots 8 are curved and are concentric with the pin 4 about which the head 3 turns or oscillates when in operation. The inner wall of the opening in the head through which the shank 5 slides is formed with a series of teeth 10 to coöperate with corresponding ratchet teeth 11 formed on the inner edge of the shank 5 so as to hold said shank and the movable jaw 6 in the adjusted position. A flat spring 12 secured at one end to the opposite wall of the opening of the head engages the outer edge of the shank 5 and exerts a pressure thereon to hold the two sets of teeth 10 and 11 in engagement. A spring 13 is secured to the inner side of the pivoted head 3 and exerts a pressure upon the opposing edge of the handlebar 1 to press the lower end of the head away from said handlebar and thereby bring the outer portion of the jaw 6 toward the fixed jaw, so as to grip the work. The rotary or oscillatory movements of the head 3 are limited by the pin 9 and the closed ends of the slots 8. The jaw 2 extends laterally from the handle bar 1 toward the shank 5 forming a projection *a*, whose outer end is notched to provide spaced portions which embrace opposite sides of the shank 5, thereby preventing lateral displacement of the parts 2 and 5. The inner wall of the notch is curved, as indicated at *e*, to admit of relative movement of the shank and handle bar. The projection *a* has a knuckle *b* upon its rear side and the forward end of the head 3 is formed with a socket *c*, which receives the knuckle *b*, thereby relieving the pivot fastening 4 of severe strain and preventing displacement of the jaw 2 and head 3.

The shank 5 is comparatively short and is formed at one end with the jaw 6 which is toothed upon its active face and arranged to coöperate with the fixed jaw 2. The inner end of the shank 5 is roughened as indicated at 14 to enable the thumb or finger of the hand to obtain a firm purchase thereon when

pressing the shank 5 outward to disengage its teeth 11 from the teeth 10 upon the inner wall of the head 3.

From the foregoing, taken in connection with the accompanying drawings, it will be understood that I provide a wrench embodying a small number of parts and which is of compact structure to enable its successful operation in close spaces where the ordinary wrench could not be advantageously employed. It is also to be understood that the wrench is of such construction as to enable it to be held firmly in one hand and at the same time be adjusted by the fingers of said hand to fit the work, thereby leaving the other hand free either for holding the work or to steady the operator or for any other desired purpose.

From the foregoing description taken in connection with the accompanying drawings, the advantages of this construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device, which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claim appended hereto.

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

A wrench comprising a hollow head having its inner and outer walls outwardly extended and outwardly flared, and having teeth upon the extension of the inner wall, said head having a socket in the inner end of the inner wall and provided with laterally extending spaced wings having curved slots concentric with said socket, a shank slidable within the head and having teeth along its inner side to engage the teeth upon said inner wall extension of the head and provided at its forward end with a jaw, a handle bar having a jaw at its forward end projected laterally to overlap the inner wall of the head and having a knuckle upon the outer side of the projection to fit within the socket at the outer end of the inner wall of said head, said lateral projection having its outer end notched to receive the inner portion of the shank, and said handle bar passing between the spaced wings, a pin pivotally connecting the knuckle of the handle bar to the head and passing through said knuckle and the walls of the knuckle-receiving socket, a pin supported in the handle bar and having its end portions projecting and arranged to operate in the curved slots of said wings, and having their extremities upset to overlap portions of the wings bordering upon the curved slots formed therein, and springs attached to the inner and the outer walls of said head, one of said springs exerting an outward pressure upon the handle bar and the other spring serving to hold the teeth of said shank in engagement with the teeth of the head.

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

WILLIAM T. BENNETT.

Witnesses:

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V. B. HILLYARD.