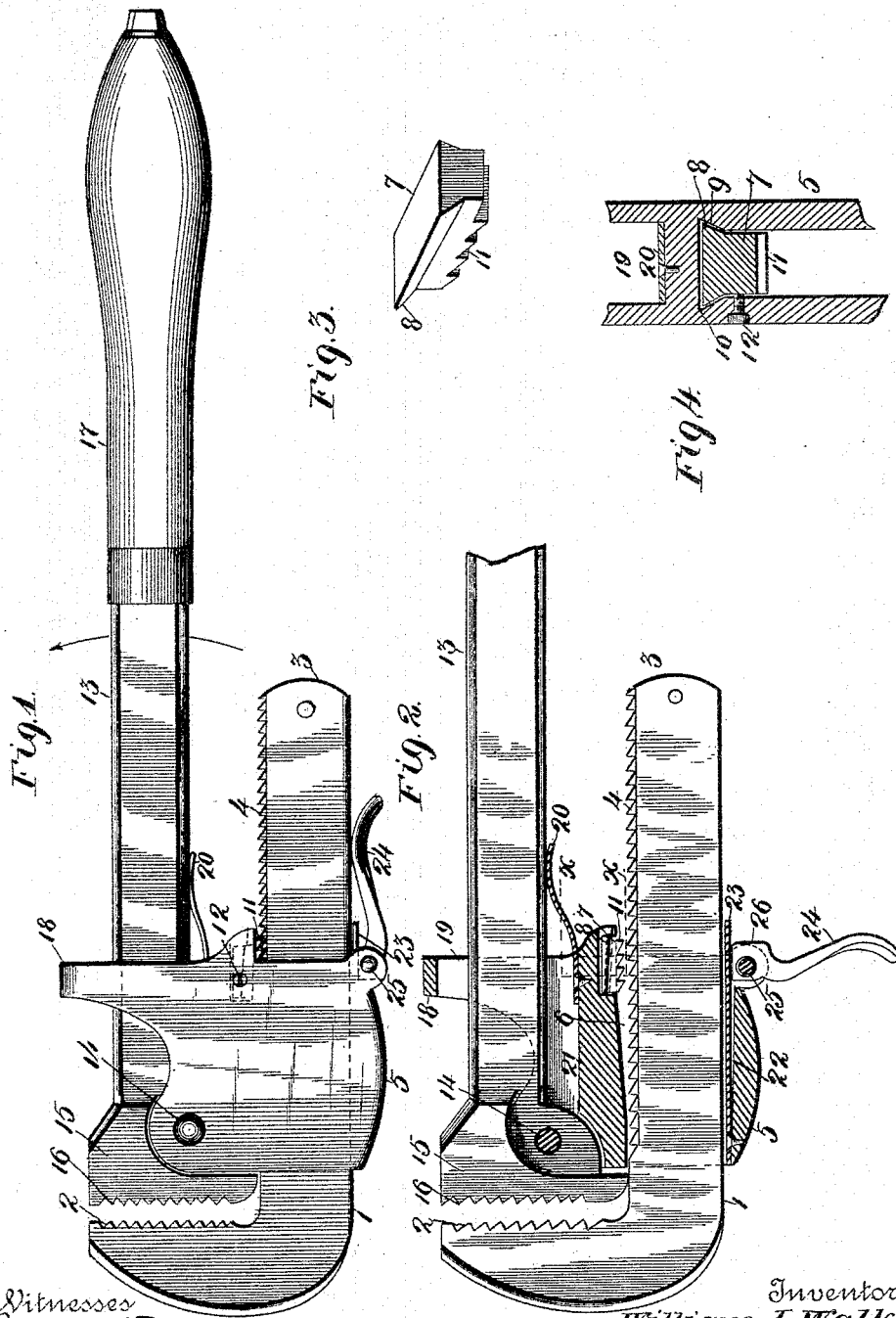


(No Model.)

W. J. WALKER.  
PIPE WRENCH.

No. 491,255.

Patented Feb. 7, 1893.



Witnesses  
*J. B. Clark*

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# UNITED STATES PATENT OFFICE.

WILLIAM J. WALKER, OF ST. LOUIS, MISSOURI.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 491,255, dated February 7, 1893.

Application filed November 11, 1892. Serial No. 451,617. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. WALKER, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in pipe wrenches, and consists in the novel arrangement and construction of parts more particularly set out in the specification and pointed out in the claims.

In the drawings Figure 1 is a side elevation of my complete invention showing the parts in their normal position; Fig. 2 is a combined side elevation and longitudinal section of the same, with the movable member thereof in position to be adjusted; Fig. 3 is an enlarged perspective view of the detachable toothed block forming a part of my invention; and Fig. 4 is an enlarged transverse section taken on the line  $x-x$  of Fig. 2.

My present invention is an improvement on the patent issued to me September 6, 1892, No. 482,109, and it consists particularly in means for locking the movable member of the wrench after the same has been adjusted, and other details hereinafter to be described.

Referring to the drawings, 1 represents the stationary jaw the inner surface of which is provided with the usual teeth 2, to prevent slipping when the same is brought in contact with the pipe.

3 represents the horizontal extension which is formed with or attached to the stationary jaw 1, the upperside of which is provided with teeth 4 for the purpose hereinafter stated.

5 represents the movable member of the wrench which carries the remaining parts comprising my invention, and is provided with a longitudinal passage 6 for the admission of the horizontal extension 3 of the stationary jaw, allowing the same to be moved independently of the said member, premising however that the said passage is of sufficient size as to allow the said member 5 to be slightly tilted when the same is desired to be moved, thereby releasing its engagement with the horizontal extension 3.

7 represents a block the upper portion of

which is dovetailed as shown at 8, which portion is adapted to be received by the dovetailed groove 9 formed in the upperside walls 10 of the movable member 5. The lower surface of the said block is provided with teeth 11 which project a suitable distance in order to come in contact or engagement with the teeth 4 formed on extension 3, as shown in Fig. 1. It will thus be observed that the block 7 is removable and is held in position within the movable member by binding screw 12. By referring to Fig. 2 it will also be seen that the dovetails formed on the block 7 are inclined longitudinally, and likewise the grooves for receiving them are formed in a like manner, which construction causes said block to firmly lock itself when strain is brought to bear upon the same.

13 represents a lever one end of which is movably attached to the member 5 above the passage 6 formed therein by a bolt or rivet 14 passing through the said member and lever, allowing the said lever to be operated independently of the remaining parts. 15 represents the enlarged end of said lever which forms the second jaw of the wrench the engaging surface of which is provided with teeth 16 which are adapted to be brought in contact with the pipe and grip the same when the lever is moved in the direction shown by the arrow in Fig. 1. The opposite or free end of the lever 13 is provided with an ordinary handle 17 for easy manipulation and convenience in handling.

18 represents an extension which is formed with the member 5 and is provided with a space 19 through which the lever 13 passes and is free to move therein for limiting the movement of the lever in one direction.

20 represents a flat spring one end of which is attached to the flat surface 21 of the member 5 and the opposite or free end of said spring bears against the lower surface of the lever 13, causing the enlarged end 15 of said lever to come in contact with the pipe after the jaws have been adjusted and in a position for applying the power to the handle. To the lower flat wall 22 of the member 5 is attached one end of a flat spring 23 the upper surface of which is adapted to be brought in contact with the lower edge of the extension 3, caus-

ing the teeth 11 formed on the block 7 to be brought in engagement with the teeth 4 formed on the said extension.

24 represents a cam lever which is movably 5 attached to the member 5 below the spring 23, and at the end of the member immediately below the block 7 by a bolt or rivet 25. When the cam is in position as shown in Fig. 2 sufficient space is left within the passage 6 for 10 disengagement of the teeth 11 of the block 7, but when the said cam is turned in the position as shown in Fig. 1, the enlarged portion 26 of the same will be brought in contact with the spring 23, causing the same to be elevated, 15 and thus cause the teeth of the block 7 to be brought in contact or engagement with the teeth formed on extension 3. The spring 23 is very important and is employed to hold the cam lever 24 in either of the positions mentioned and further it presents a smooth con- 20 tacting surface for the lower edge of the extension 3, dispensing with the wear which would be occasioned by the cam if brought in direct contact with the extension.

25 In applying the wrench to a pipe the stationary jaw 1 is first placed in position against the same, after which the movable member 5 is adjusted in proximity to the pipe bringing the teeth 16 formed on the enlarged end of 30 the lever 13 in contact with said pipe. While the wrench is in this position, the cam lever 24 is turned in the position as shown in Fig. 1, after which the lever 13 is moved in the direction as shown by the arrow in said figure, causing the said teeth 16 to firmly grip the 35 pipe to be turned. Of course to move the member 5 in the opposite direction or from the stationary jaw 1, the cam lever is thrown in the position as shown in Fig. 2, allowing 40 the teeth of the block 7 to be elevated and released from their engagement.

Having particularly described my invention what I claim is,

1. A pipe wrench consisting of a stationary 45 jaw, an extension formed on the same, a movable member having a passage for the recep-

tion of said extension, teeth formed on the said extension, teeth carried by the said movable member, a lever movably attached to the movable member, one end of which forms the 50 movable jaw, a spring carried by the movable member and located within the passage formed in the same, and a cam lever movably attached to said member and normally in contact with said spring for locking the jaws, 55 substantially as set forth.

2. A pipe wrench consisting of a stationary jaw 1, an extension 3 forming part of the same, teeth 4 formed on the upper edge of said extension, a movable member 5 having a pas- 60 sage 6 for receiving said extension, a removable toothed block 7 located within said passage and at one end thereof, a flat spring 23 secured within said passage and below the lower edge of the said extension 3, a cam lever 24 65 movably attached to said member 5 and below the said spring, and a lever 13 carried by said movable member one end of which forms the movable jaw, substantially as set forth.

3. A pipe wrench consisting of a stationary 70 jaw 1, an extension 3 forming a part of the same, a movable member 5 provided with a passage 6 for the reception of said extension, teeth formed on the said extension, a removable block 7 having teeth 11, dovetail 8 formed on 75 the said block and adapted to be received by correspondingly shaped grooves formed in the member 5, a binding screw 12 for holding said block, a flat spring 23 carried by said movable member and located within said passage 80 below the lower edge of the extension 3, a cam lever carried by the said movable member and adapted to be brought in contact with said spring, and a lever 13 attached to said member 5, substantially as set forth. 85

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

WILLIAM J. WALKER.

Witnesses:

EMIL STAREK,  
C. F. KELLER.