

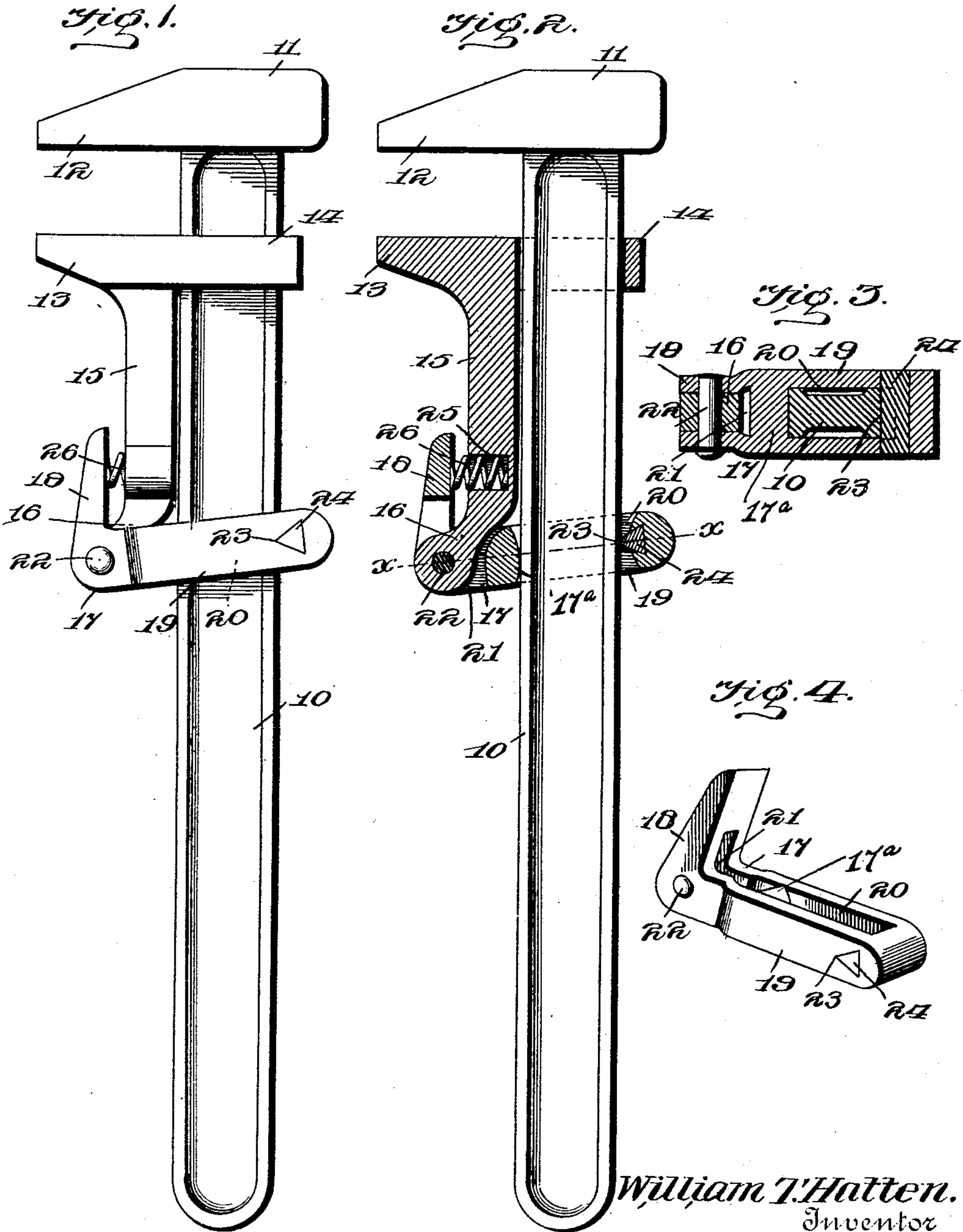
No. 684,233.

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W. T. HATTEN.
WRENCH.

(Application filed Jan. 28, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 684,233, dated October 8, 1901.

Application filed January 28, 1901. Serial No. 45,104. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS HATTEN, a citizen of the United States, residing at Heppner, in the county of Morrow and State of Oregon, have invented a new and useful Wrench, of which the following is a specification.

The present invention relates to wrenches, and particularly to that class having a fixed jaw and a sliding jaw that can be moved toward and away from said fixed jaw for the purpose of fitting the wrench upon nuts or pipes of different sizes.

The object of the invention is to provide novel means for locking the movable jaw in fixed relation, said means being constructed so that a variable adjustment can be obtained and when positioned is held rigidly against retrograde movement.

To the accomplishment of this and other objects, the construction shown in the accompanying drawings and described in the following specification is preferred; but it will be readily understood that such construction is open to slight change and modification within the scope of the appended claims.

In the drawings, Figure 1 is a side elevation of the wrench embodying the present improvement. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a cross-sectional view taken on the line *xx* of Fig. 2. Fig. 4 is a detail perspective view of the locking-clutch.

Similar numerals of reference designate similar parts throughout the several figures of the drawings.

The usual shank 10 is provided, forming at one end a handle and provided at its other with a transverse head 11, having a fixed jaw 12. Slidably mounted upon said shank is a movable jaw 13, which is arranged to coact with the fixed jaw 12. This jaw is provided with a loop 14, through which the shank 10 passes, and it also has an arm extension 15, which is disposed longitudinally of and contiguous to one side of the shank 10, said extension being provided at its end with an offset hinge-ear 16, to which is pivotally secured a clutch-loop 17.

The clutch-loop 17 is in the form of a bell-crank lever having the two arms 18 and 19. The arm 19 is provided with a transverse

opening 20, forming the clutch-loop through which the shank 10 passes. An opening 21 is also provided at the elbow for the reception of the hinge-ear 16, and a pintle 22 pivotally connects said ear and loop. By this construction an intermediate partition 17^a is provided, which is arranged to bear against one side of the shank 10. That portion of the wall of the opening 20 which is on the opposite side of the shank 10 from the partition 17^a is provided with a knife-edge 23, arranged to engage the face of the shank, which face is preferably smooth. This knife-edge is preferably arranged upon an insertible tooth 24, secured in the wall of the loop, whereby some hardened metal, as tool-steel, may be used that is not liable to wear. Furthermore, this tooth is in the form of an equilateral triangle in cross-section, so that should one edge become worn the tooth may be removed and inserted with a new edge in operative relation. The offset arm 18 is arranged over but spaced from the arm extension 15, and said extension is provided with a socket 25, in which is seated a coiled spring 26, the outer end of which bears against the under side of the arm 18, thus urging said arm away from the extension 15, and consequently pressing the knife-edge 23 into engagement with the shank 10.

The operation of the device will be obvious. The shank 10 is normally clamped between the partition 17^a and the knife-edge 23. To adjust the movable jaw, it is only necessary to press upon the offset arm 18, which forms a finger-grip for that purpose, whereupon the knife-edge and partition will be disengaged from the shank 10, and the jaw may be freely moved in either direction. When the proper adjustment has been obtained, the arm 18 is released, whereupon the knife-edge will be brought into engagement with the shank 10 and the sliding jaw held rigidly against movement.

This construction greatly simplifies this class of wrenches and provides locking mechanism that can be readily operated and easily understood. By providing the operating-arm 18, against which the spring bears, a greater leverage upon the clutch-loop is obtained, thus insuring a binding engagement between it and the shank and also making it easier to be disengaged therefrom. Further-

more, by the use of the reversible tooth 24 the life of the wrench is greatly prolonged.

From the foregoing it is thought that the construction, operation, and many advantages 5 of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction 10 may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim is—

15 1. In a wrench, the combination with a shank carrying a jaw, of another jaw slidably mounted upon the shank and having an arm extension, a clutch-loop pivotally mounted upon the arm extension of the sliding jaw and 20 adapted to engage the shank to hold said sliding jaw against movement, said loop being provided with an offset arm located adjacent to the arm extension, and a spring interposed between and bearing against the offset arm 25 of the clutch-loop and the arm extension of the sliding jaw to move said loop into engagement with the shank.

2. In a wrench, the combination with a shank carrying a jaw, of a jaw movably 30 mounted upon the shank and having an arm extension, a bell-crank lever pivotally connected at its elbow to the free end of the arm extension, one arm of said lever being in the form of a clutch-loop that surrounds the shank 35 and arranged to engage the same to hold the jaw against relative movement, the other arm forming an operating-handle and being located adjacent to and spaced from the arm extension, and a spring interposed between 40 and bearing against the arm extension and

the operating-handle to hold the clutch-loop in engagement with the shank.

3. In a wrench, the combination with a shank carrying a stationary jaw at one end, 45 of a movable jaw slidably mounted upon the shank and having an arm extension, the free end of which has a hinge-ear, a bell-crank lever pivotally connected at its elbow to the hinge-ear, one arm of said lever being in the form of a clutch-loop that surrounds the 50 shank, a removable tooth carried by the clutch-loop and having a plurality of engaging edges each of which may be moved to an operative position to engage the shank, the other arm of the bell-crank lever forming an 55 operating-handle arranged contiguous to but spaced from the arm extension, and a coiled spring interposed between and bearing against the arm extension and the operating-handle to hold said tooth in engagement with 60 the shank.

4. In a wrench, the combination with a shank carrying a jaw, of another jaw slidably 65 mounted upon the shank and having a hinge-eye, a bell-crank lever having a pair of openings separated by an intermediate partition, said hinge-eye being pivotally mounted in one opening and the shank passing through the other opening, and a spring engaging the bell- 70 crank lever to normally hold the intermediate partition and the opposite side of the opening in engagement with the shank.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM THOMAS HATTEN.

Witnesses:

W. L. SMITH,
W. L. SALING.