

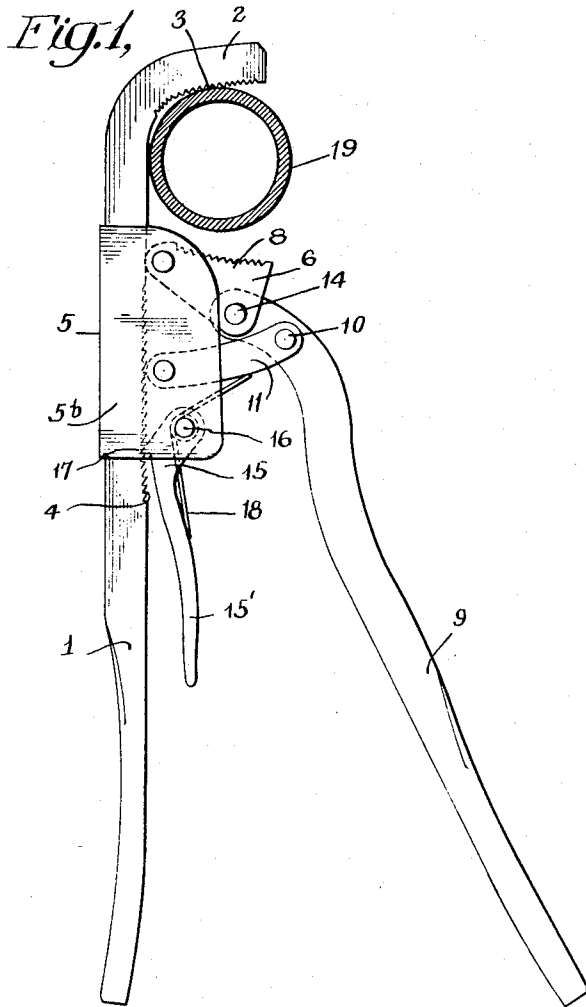
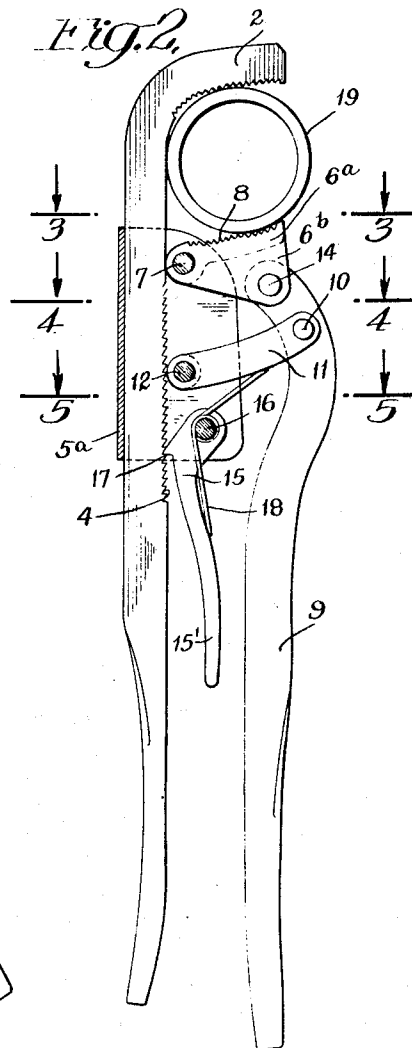
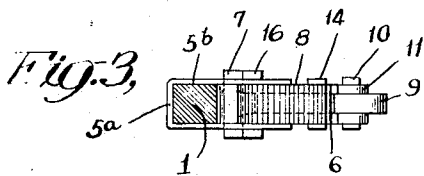
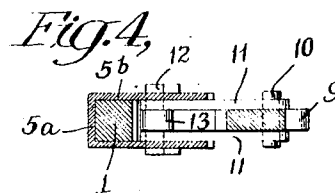
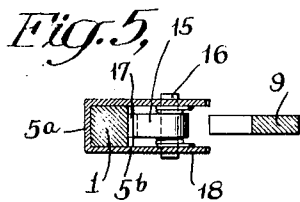
June 1, 1926.

A. ANDERSON

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WRENCH

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Inventor
Axel Anderson,
By his Attorneys,
Ward, Crosby and Smith

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AXEL ANDERSON, OF CLIFTON, NEW JERSEY.

WRENCH.

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The invention relates to improvements in wrenches and particularly to an improved pipe wrench. An object of the invention is the provision of a device of this character which will be efficient in operation, simple in construction, and which may easily and effectively be used for gripping pipes or other objects located in positions which may be difficult to reach with wrenches commonly in use.

In accordance with the preferred form of the invention a movable jaw is pivotally mounted on a member which is slidably and adjustably mounted on the handle member at the end of which the fixed jaw is formed. The sliding member which carries the movable jaw may be fixedly latched or secured in adjusted position at a greater or less distance from the fixed jaw, after which the movable jaw is swung about its pivot to cause it to engage the adjacent surface of the pipe or other object, the opposite surface of which is engaged by the fixed jaw. The movable jaw is thus swung about its pivot by means of a lever or second handle member which is pivotally connected to the movable jaw, and is itself supported on a pivot pin mounted in fixed arms extending from the slidable member on which the movable jaw is pivoted. The pivot pin for the movable jaw extends through the inner end of the jaw, adjacent to the first handle member, and the lever or second handle member is so arranged that when it is swung away from the first handle member the movable jaw swings open, and when the lever is moved toward the first handle member the movable jaw swings toward the pipe or object to be gripped. With this construction the opening between the outer ends of the movable and closed jaws is greatest when the lever is in its outermost position, so that the wrench may readily be slipped over the object to be gripped, whereupon pressing the two handle members towards each other will bring the outer ends of the two jaws relatively nearer to each other, so as to firmly grip the pipe or other object. A latch member is carried by the sliding member on the fixed handle, this latch member being provided with a tooth which will engage a fixed rack on the handle member carrying the fixed jaw, so as to lock the sliding member in any desired adjusted position, in accordance with the size of the object to be gripped, after which the lever referred to may be op-

erated to quickly and firmly grip the object. The latch member referred to is preferably provided with a short extension or handle, located between the two main handle members, which is spring-pressed into latching position.

The invention consists in the various combinations, arrangements, and details of construction which will be more fully described in the following specification and which will be particularly pointed out in the appended claims.

In order that the invention may be more clearly understood attention is hereby directed to the accompanying drawings, forming part of this application and illustrating, by way of example, a form of the invention which I now prefer. In the drawings—

Fig. 1 represents a side elevation of a wrench embodying the invention with the movable jaw in open position;

Fig. 2 is a similar view, partly shown in section, and with the movable jaw closed against a pipe which is to be gripped; and

Figs. 3, 4, and 5 are sections taken respectively on lines 3—3, 4—4, and 5—5 of Fig. 2.

Referring to the drawings, the wrench comprises a fixed handle member 1, having an end portion 2 curved around so as to extend at nearly a right angle to the handle portion, this curved or angularly extended end constituting a fixed jaw and being provided on its inner surface with serrations or teeth 3. The inner surface of the handle member 1 is provided with a series of forwardly inclined teeth 4 for a suitable distance.

A member 5 is slidably mounted on handle member 1, this member preferably comprising a frame pressed out of a piece of sheet metal having a bottom portion 5^a and upwardly extending side portions 5^b, these side portions being adapted to fit snugly against the sides of the handle member 1, and to extend upwardly or laterally some distance beyond the same.

The movable jaw 6 is pivoted at its inner end to the forward portion of carriage or sliding member 5 by means of a pivot pin 7 which extends through the lower end of the movable jaw member and through the side portions 5^b of the carriage adjacent to the inner or upper surface of handle member 1. This movable jaw is provided with a serrated or toothed forward surface 8. This movable jaw is preferably formed with a

web or forward portion 6^a on which the teeth 8 are formed, and through which pivot pin 7 extends, and with a pair of rearwardly extending side flanges or ears 6^b, as is indicated in Fig. 2.

The hand lever or second handle member 9 is pivotally supported by pivot pin 10 between a pair of arms 11 which extend laterally from carriage 5 a short distance to the rear of movable jaw 6. Arms 11 are fixedly secured to carriage 5 as by means of a rivet 12, or the like, extending through arms 11 and the side portions 5^b of the carriage, a spacer 13 being indicated in Fig. 4 as mounted on pin or rivet 12 between arms 11, pressing the latter against the inner surfaces of the side portions 5^b of the slidable carriage.

Hand lever 9 is pivotally connected at its forward end to movable jaw 6 by a pivot pin 14, which extends through the rearwardly extending flanges 6^b of the movable jaw and through the forward end of the hand lever, the forward end of the hand lever being inserted between the flanges 6^b of the movable jaw. This pivotal connection between the hand lever and the movable jaw is preferably located adjacent the outer rear corner of the movable jaw member. Hand lever 9 preferably has its forward end portion curved as shown, so that the rear or handle portion of the lever may extend substantially parallel to handle 1 and closely adjacent to it when the movable jaw is in closed position.

The latch member for latching or securing the sliding carriage 5 in adjusted position preferably comprises a lever 15 pivotally mounted adjacent its forward end on a pivot pin 16, which extends through the side flange 5^b of the sliding carriage and through the forward end portion of the latch member which is inserted between the flanges 5^b of the carriage. This latch member is provided with a downwardly or laterally extending tooth 17 which is adapted to engage with the ratchet teeth 4 on handle 1. The latch member also has a rearwardly extending arm or hand lever portion 15¹, which extends rearwardly for a suitable distance between handle member 1 and hand lever 9.

The latch member 15 is preferably spring-pressed into position to cause tooth 17 to engage the rack or ratchet 4, by means of a spring 18 which may be coiled about the pivot pin 16, and provided with one end portion pressing against the fixed arms 11 as an abutment, the opposite end portion of the spring pressing against the arm 15¹ of the latch member, so as to press the tooth 17 into engagement with teeth 4. Carriage 5 may be moved forwardly on handle member 1 by merely pushing the same forwardly, the tooth of the latch member clicking over the ratchet teeth of rack 4. When the carriage is to be moved rearwardly or away from

pipe 19 it is merely necessary to lift arm 15¹, that is move it away from handle member 1, which may very readily be done by the forefinger or thumb of the hand which grips lever 9 or the hand on handle 1.

It is believed that the operation of the device will now be clearly apparent. When the pipe indicated at 19, for example, is to be gripped, carriage 5 is moved up fairly close to the pipe, latch 15 clicking over rack 4, the wrench, of course, being positioned with the fixed jaw 2 pressing against the opposite side of the pipe. Tooth 17 of latch 15 then engages rack 4 to hold the carriage firmly in this position, lever 9 being held in the outer position, shown in Fig. 1. Lever 9 will now be pressed towards handle 1, resulting, of course, in swinging the movable jaw into its gripping position against the pipe, as shown in Fig. 2. When the wrench is to be used on a larger pipe, carriage 5 may be moved back on handle member 1, by lifting arm 15¹ of the latch.

It will be noted that with this construction a pipe may very easily be reached with the wrench from either side of the pipe and regardless of whether the pipe is down in a corner or in some other relatively inaccessible position. The carriage 5 may, of course, be latched in approximately the proper position on handle 1 before the wrench is moved against the pipe, in which case, lever 9 being in its open position, the outer ends of the two jaws are at their position of greatest distance from each other, these outer ends of the jaws being farther away from each other than the inner ends of the jaws, so that a comparatively wide opening is provided through which the pipe may be slipped. It will be noted that the wrench is comparatively simple and strong in its construction, is adjusted and operated very easily, and is not liable to get out of order.

It should be understood that the invention is not limited strictly to the exact details of construction which have been particularly described, but that the same is as broad as is indicated by the accompanying claims.

What I claim is:

1. In a wrench, the combination of a handle member having a fixed jaw, a member slidably mounted on said handle member, a movable jaw pivotally mounted at its inner end on said slidable member, a hand lever pivoted intermediate its ends on said slidable member at a point different from that at which said movable jaw is pivoted, and having its forward end pivotally connected directly to said movable jaw to swing the same about its pivot towards or away from said fixed jaw in such wise that movement of said hand lever toward said handle member will continuously swing said movable jaw toward said fixed jaw, said handle member

having ratchet teeth thereon, and a latch member pivoted to said slidable member, having a tooth for engaging said ratchet teeth, and having an arm extending rearwardly between said handle member and lever.

2. In a wrench, the combination of a handle member having a fixed jaw and a series of ratchet teeth, a slidable carriage on said handle member having side portions extending laterally beyond said handle member, a movable jaw pivoted between said side portions, a hand lever pivoted intermediate its

ends to said side portions and pivotally connected directly to said movable jaw, and a latch member pivoted between said side portions, having an arm extending rearwardly between said handle member and lever, and having a tooth for engaging said ratchet teeth on the handle member, and a spring engaging said latch member and pressing same into engaging position.

In testimony whereof I have signed my name to this specification.

AXEL ANDERSON.