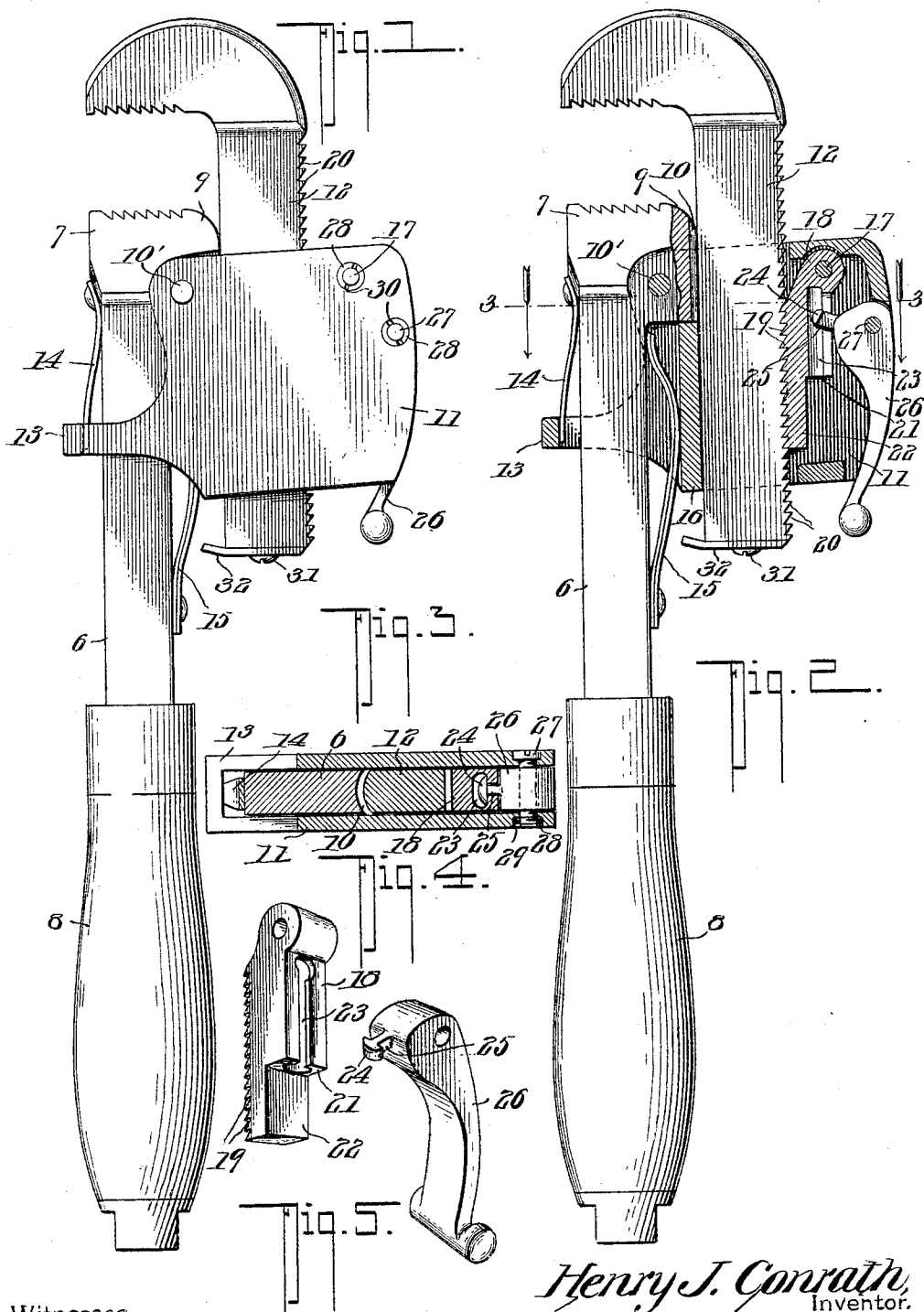


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PATENTED NOV. 21, 1905.

H. J. CONRATH.
WRENCH.

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Witnesses
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UNITED STATES PATENT OFFICE.

HENRY J. CONRATH, OF MARIETTA, OHIO.

WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY J. CONRATH, a citizen of the United States, residing at Marietta, in the county of Washington and State of Ohio, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to pipe-wrenches, and has for its object to provide a single inexpensive efficient device of this character capable of being quickly adjusted to accommodate any size pipe and securely locked in adjusted position.

A further object of the invention is to provide a wrench having a movable jaw slidably mounted in a casing or housing pivoted to the stock or fixed jaw of the wrench, said casing or housing being yieldably supported on the stock, so as to permit a slight tilting movement of the sliding jaw.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportions, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a wrench constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view taken on the line 3 3 of Fig. 2, and Figs. 4 and 5 are detail perspective views of the pivoted locking-dog and the operating-lever detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The present invention includes a stock or shank 6, having a fixed serrated jaw 7 at one end thereof and provided at its opposite end with a suitable handle 8. The fixed jaw 7 is provided with a lateral extension 9, having a vertical groove 10 formed in its rear edge, and pivoted to said extension, as indicated at 10', is a casing or housing 11, in which is slidably mounted a movable jaw 12. The casing or housing 11 is provided with a yoke 13 for the reception of the stock or shank 6. Secured to one side of the shank is a leaf-spring 14, the free end of which bears against the yoke 13, while

secured to the opposite side of the shank and preferably adjacent to the handle 8 is a double leaf-spring 15, having its free end bowed and interposed between said shank and the rear wall 16 of the casing or housing. It will thus be seen that the housing carrying the movable jaw 12 is yieldably supported on the shank or stock of the wrench, thereby permitting a slight tilting movement of the active end of the sliding jaw when gripping the pipe. It will also be noted that the springs serve to center the yoke of the housing with respect to the shank, so that the active face of the movable jaw will normally be disposed parallel with the corresponding face of the fixed jaw.

Pivoted within the casing or housing, at the upper end thereof, as by a bolt or pin 17, is a locking-dog 18, provided with teeth or serrations 19, adapted to engage corresponding teeth 20 on the adjacent face of the sliding jaws 12.

The dog 18 is formed with a shoulder 21, defining an extension 22 and extending longitudinally of said dog, and opening at said shoulder is a flanged groove or channel 23, adapted to receive the laterally-extending head 24 of a coupling-pin 25, the latter being secured to or formed integral with an operating-lever 26. The lever 26 is pivoted within the housing, as by a bolt 27, being free to move laterally through an opening in the casing, so as to throw the dog into or out of engagement with the teeth on the sliding jaw, as will be readily understood. The heads of the pivoted bolts 17 and 27 are preferably countersunk in one of the side faces of the housing, the opposite end of said bolts being threaded for the reception of circular nuts 28, which are let into recesses 29 in the adjacent face of the casing, so as to be flush therewith, and provided with diametric grooves 30 to form screw-driven seats for conveniences in securing and removing the bolts.

Secured to the lower end of the sliding jaw, as by a screw or similar fastening device 31, is a plate 32, which engages the lower end of the casing or housing and serves to limit the upward movement of the jaw, said plate being detachably secured to the sliding jaw, so as to permit the ready removal of the same from the casing when desired.

Attention is here called to the fact that by having the vertical groove or channel in the rear edge of the fixed jaw the active end of the sliding jaw is free to move a short dis-

tance before engaging said fixed jaw, so as to permit the former to be tilted in contact with the pipe.

From the foregoing description it will be seen that there is provided an extremely simple and durable device capable of being used either as a pipe or nut wrench and in which the locking means are effectually housed, so as to protect the same against damage and accidental displacement.

Having thus described the invention, what is claimed is—

1. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank, a movable jaw slidably mounted in the housing, a pivoted locking-dog carried by said housing and adapted to engage the sliding jaw and a lever for operating the dog to thereby lock the movable jaw in adjusted position.
2. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank and having a yoke embracing the latter, a movable jaw slidably mounted in the housing and provided with teeth or serrations, a locking-dog pivoted within the housing and having a flanged groove formed therein, a lever provided with a laterally-extending head adapted to engage said flanged groove for moving the dog into engagement with the serrated face of the movable jaw, and a spring interposed between the shank and the yoke for yieldably supporting the free end of the housing against the shank.
3. In a wrench, a shank provided with a fixed jaw one edge of which is formed with a vertical groove, a housing pivoted to the shank and having its free end extended to form a yoke for the reception of the shank, a movable jaw slidably mounted in the housing and spaced from the vertical groove, a locking-dog pivoted in the housing and adapted to engage the sliding jaw, a lever operatively connected with the dog for moving the dog to operative and inoperative position, and a spring secured to the shank and adapted to engage the housing for yieldably supporting the free end of the latter against the shank.
4. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank, a movable jaw slidably mounted in the housing and having one edge thereof serrated, a locking-dog pivoted within the housing and having its active face serrated for engagement with the serrations on the sliding jaw, a shoulder formed in the dog defining a longitudinal extension, there being a flanged channel formed in the dog extending from its pivotal point and opening through said shoulder, a lever provided with a pin having a laterally-

extending head adapted to enter the flanged channel in the locking-dog for moving said dog into and out of engagement with the teeth on the sliding jaw, and means for yieldably supporting the free end of the housing against the shank.

5. In a wrench, a shank provided with a fixed jaw one edge of which is formed with a vertical groove, a housing pivoted to the shank and having its free end extended to form a yoke for the reception of the shank, a movable jaw slidably mounted in the housing and spaced from the vertical groove, a locking-dog pivoted within the housing and adapted to engage the sliding jaw for locking the same in adjusted position, said dog being provided with a longitudinally-disposed flanged channel, a lever provided with a headed pin adapted to enter the flanged channel for moving the dog to operative and inoperative position, a spring secured to one side of the shank and adapted to bear against the yoke, and a second spring secured to the opposite side of said shank and having its free end interposed between said shank and the rear wall of the housing.

6. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank and having its free end extended to form a yoke adapted to receive said shank, a removable jaw slidably mounted in the housing and provided at one end thereof with a removable plate adapted to engage the base of the housing for limiting the sliding movement of said jaw, a locking-dog pivoted within the housing and adapted to engage the sliding jaw for locking the same in adjusted position, said dog being provided with a longitudinally-disposed flanged channel, a lever also pivoted in the housing and provided with a headed pin adapted to enter the flanged channel for moving the dog to operative and inoperative position, springs secured to opposite sides of the shank and engaging the housing for yieldably supporting the free end thereof against said shank, bolts forming the pivoted points of the dog and lever, respectively, and having their threaded ends passing through the side wall of the housing, and circular nuts seated in correspondingly-shaped recesses in said housing and engaging the threaded end of the bolts.

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

HENRY J. CONRATH.

Witnesses:

WM. H. LEEPER,
BLANCHE SMITH.