H. PAGE.

WRENCH.

APPLICATION FILED MAR. 15, 1909.

954,335. Patented Apr. 5, 1910.

Fig. 1.

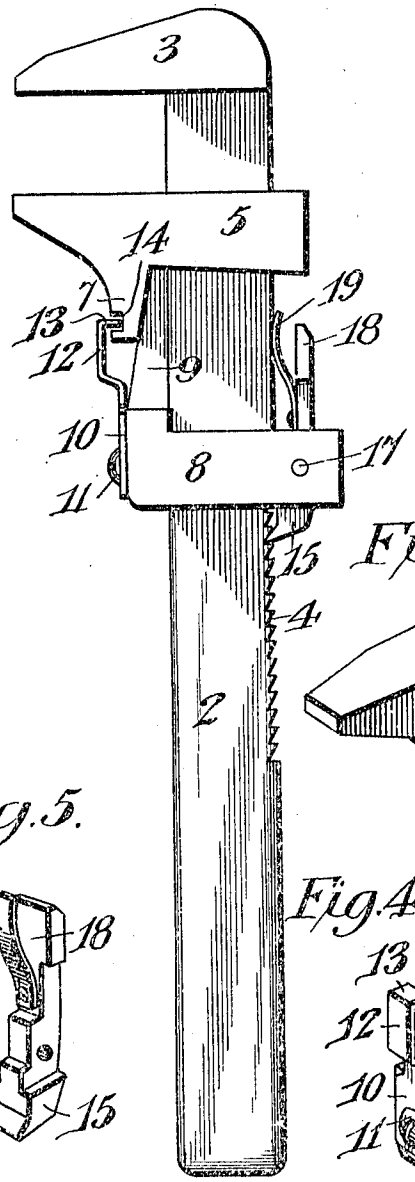


Fig. 2.

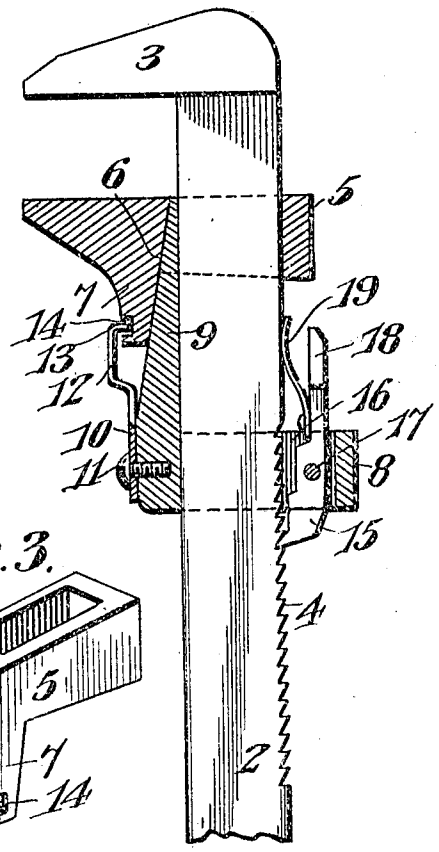


Fig. 3.

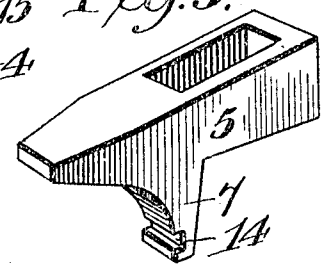
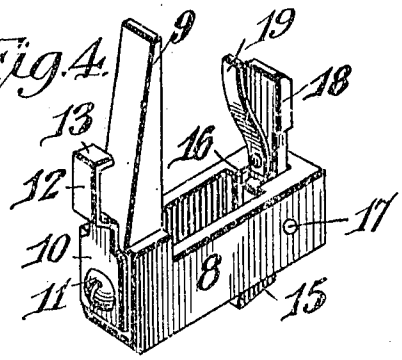


Fig. 5.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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WRENCH.

954,335. Specification of Letters Patent. Patented Apr. 5, 1910.

Application filed March 15, 1909. Serial No. 483,541.

To all whom it may concern:

Be it known that I, HARRY PAGE, citizen of the United States, residing at Galena, in the county of Cherokee and State of Kansas, have invented a new and useful Wrench, of which the following is a specification.

My invention relates to wrenches and particularly to that class of those devices called "quick acting monkey wrenches," the object of my invention being to provide a wrench of this character in which the movable jaw may be quickly and easily adjusted to fit any desired nut or other object with which it is to be engaged without necessitating turning an adjusting screw for this purpose; and in this connection to provide means whereby the movable jaw shall be wedged into place and held with great rigidity.

The invention consists in the arrangement of parts and details of construction set forth in the accompanying specification and more particularly stated in the appended claims.

In the drawing, Figure 1 is a side elevation of a wrench constructed in accordance with my invention; Fig. 2 is a like view, the movable jaw and its wedging or locking attachment being in section; Fig. 3 is a perspective view of the movable jaw detached; Fig. 4 is a perspective view of the jaw locking arrangement; and Fig. 5 is a perspective detail of the dog for holding the jaw in its adjusted position.

In the drawings, 2 designates the shank or handle bar of a wrench provided at its upper end with the head 3, this head being rounded on its upper surface and wider at its rear than at its front edge. The shank is provided with ratchet teeth 4, on its rear edge. The sliding or movable jaw is formed, as ordinarily in wrenches of this type, being provided with a central opening which surrounds the shank 2, the front face of this opening being inclined upwardly and rearwardly as shown at 6, as viewed in the accompanying drawings. The front of the movable jaw 5 is extended downward as at 7, to form a lug adapted to engage with the spring 10, as will be hereafter described.

8 designates a square collar adapted to move up and down on the shank 2, and provided at its front with an upwardly extending wedge shaped blade 9 adapted to contact with the inclined inner face 6 of the opening in the movable jaw 5. Mounted on the front of the collar 8 is the upwardly extending spring 10, which is offset at 12 and inwardly bent at 13 to engage with a transverse slot 14 in the lug and thus constitutes a lost motion connection between the collar and movable jaw to provide sufficient play for setting or releasing the wedge. At its lower end the spring 10 is attached to the collar 8 by the screw 11.

As will be seen from Fig. 2, the collar 8 projects beyond the rear edge of the shank 2 and is provided at that end with a dog 15 pivoted in a recess 16 formed in the end of the collar. This dog at its lower end has a tooth adapted to engage with the ratchet teeth 4, and at its upper end is formed with a widened finger plate 18. A spring 19 is attached to the inner face of the dog and contacts with the rear edge of the bar 2.

The operation of my device is obvious. When it is desired to adjust the wrench, it is only necessary to depress the dog, raising its tooth from engagement with the ratchet and this permits the collar 8 to slide backward, accompanied by the movable jaw 5. A reverse movement will adjust the movable jaw 5. It will also be obvious, of course, that the movable jaw 5 may be adjusted in place and then the wedge 9 inserted by moving upward the collar 8. While the dog is necessary, prior to there being pressure upon the movable jaw, as when it is in place against a nut or other object being turned, it is not necessary after the jaws are in engagement with the object. When so engaged and there is pressure upon the movable jaw, the wedge 9 being in place of course, the ratchet can be lifted and the wrench will hold as though the ratchet were in place, the wedge alone sustaining the movable jaw in place. The wedge is the base of support for the movable jaw against which the pressure comes when the wrench is engaged with a nut or other object. The ratchet and dog are simply used for the purpose of holding the wedge 9 in place in relation to the movable jaw 7 until the wedge is caught and held by the sliding jaw.

The advantages of my invention reside in the quickness and ease with which it may be adjusted, the positiveness with which it is automatically held in place, and the rigidity with which the movable jaw is held in po-

sition. When engaged with an object and pressure is brought upon the movable jaw, the movable jaw is forced downward against the wedge 9 and forces the wedge inward in locked engagement with the bar 2. When the jaws are released from engagement with a nut or other object and the pressure upon the movable jaw 7 is relieved, the wedge 9 may be easily shifted sufficiently to permit the jaw to move downward on the bar.

My invention is simple in construction and operation. There are no complicated parts to get out of order, and when in use all strain comes upon the wedge 9, which being solid is strong and rigid under strain. The parts are so arranged that there is small likelihood of the wrench getting out of order or working badly.

From the foregoing, it is thought that the construction, operation and many advantages 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 may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:

1. In a wrench of the class described, a handle bar having at one end a fixed jaw, a movable jaw sliding upon said bar, an independent wedge engaged with said bar and adapted to be forced in between the movable jaw and the bar to hold the same in position, a device movable on the handle bar and carrying the wedge, means separate from the wedge connecting the device with the movable jaw and providing for limited relative movement, and a locking element for holding the device in different positions of adjustment on the handle bar.

2. In a wrench, a handle bar provided at its upper end with a fixed jaw, a movable jaw surrounding the handle bar and having an inclined inner face, a collar movable on the handle bar and having a wedge projecting therefrom adapted to engage with the inclined face of the movable jaw, and a spring-pressed element carried by the collar at the side of the handle-bar opposite from the wedge for locking the latter in position upon the handle bar.

3. In a wrench, a handle bar having ratchet teeth on one edge thereof and a fixed jaw at one end, a movable jaw surrounding the bar and having an inclined inner face, a collar surrounding the handle bar and having a wedge at one end thereof adapted to be inserted between the inclined face of the movable jaw and said bar, a dog pivoted in the collar adapted to engage with said ratchet teeth, and a spring for forcing said dog inward.

4. In a wrench, a handle bar having flat sides and ratchet teeth on one edge thereof, a fixed jaw at one end of said bar, a movable jaw surrounding the bar and shiftable therealong, said movable jaw provided with an inclined inner face, a collar surrounding the handle bar and slidable therealong having an upwardly projecting wedge at one end adapted to be inserted between the inclined inner face of the movable jaw and said bar, and a detachable connection between said collar and movable jaw, said connection consisting of resilient member rigidly secured to one of the last-mentioned parts and loosely and releasably engaging in a recess in the other part to permit the collar to have a limited movement independently of the jaw to engage the wedge with or release it from the movable jaw.

5. In a wrench, a handle bar having flat sides and formed with ratchet teeth on one edge, a fixed jaw at one end of said handle bar, a movable jaw adapted to slide on said handle bar and formed with an inclined inner face, a collar surrounding the handle bar and provided with a dog adapted to engage with the ratchet teeth, and a resilient connection attached to said collar and detachably engaged with the movable jaw.

6. In a wrench, a handle bar having smooth sides and one edge formed with ratchet teeth, a fixed jaw on one end of said handle bar, a movable jaw sliding on said handle bar and formed with an inclined inner face, a collar sliding on said handle bar and provided with an upwardly projecting wedge adapted to be inserted between the inner face of the movable jaw and said bar, a detachable connection between the collar and the movable jaw, a dog supported in the collar and adapted to engage the ratchet teeth, and a spring mounted on the dog and bearing against the edge of the handle bar.

7. In a wrench, a handle bar having flat sides and provided with ratchet teeth along one edge, a fixed jaw mounted on the end of the handle bar, a movable jaw inclosing the handle bar and having an extension projecting toward the handle, said extension having a recess on its outer face, and said jaw and extension having an inclined inner face, a collar surrounding the handle bar and slidable therealong, said collar being formed with a wedge-like projection on one end extending parallel to the handle and adapted to be inserted between the inclined face of the movable jaw and the handle bar, a spring tongue mounted on the collar extending toward the movable jaw and being provided with a tooth adapted to engage in the recess of the movable jaw, and a dog pivoted in the opposed end of the collar, one end of the dog being formed to engage the

said ratchet teeth and the other end provided with a finger plate and a spring adapted to engage with the edge of the handle bar.

8. In a wrench, a handle-bar, a fixed jaw thereon, a slidable jaw having an inclined face, a device slidably mounted on the bar and provided with a wedge arranged to engage one side of the bar and the inclined face of the movable jaw, serrations on the handle bar, and a spring-pressed dog pivotally mounted on the device and having a finger-engaging portion extending from the device toward the movable jaw located between the device and fixed jaw.

9. In a wrench, a handle-bar, a fixed jaw thereon, a slidable jaw movable along the handle-bar and having an inclined face, a collar on the handle-bar, a wedge on the collar arranged to engage the inclined face, a device detachably connecting the collar and movable jaw and forming a lost motion connection for permitting a limited relative movement between the collar and movable jaw, and a spring-pressed locking element mounted on the collar and arranged to engage the handle-bar for holding the movable jaw in different positions of adjustment.

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

HARRY PAGE.

Witnesses:
JOHN W. CRAIG,
JAMES E. PIPER.