Dec. 10, 1929. G. F. SCHLOTE 1,739,182

ADJUSTABLE JAW WRENCH

Filed Aug. 16, 1928

Fig. 1.

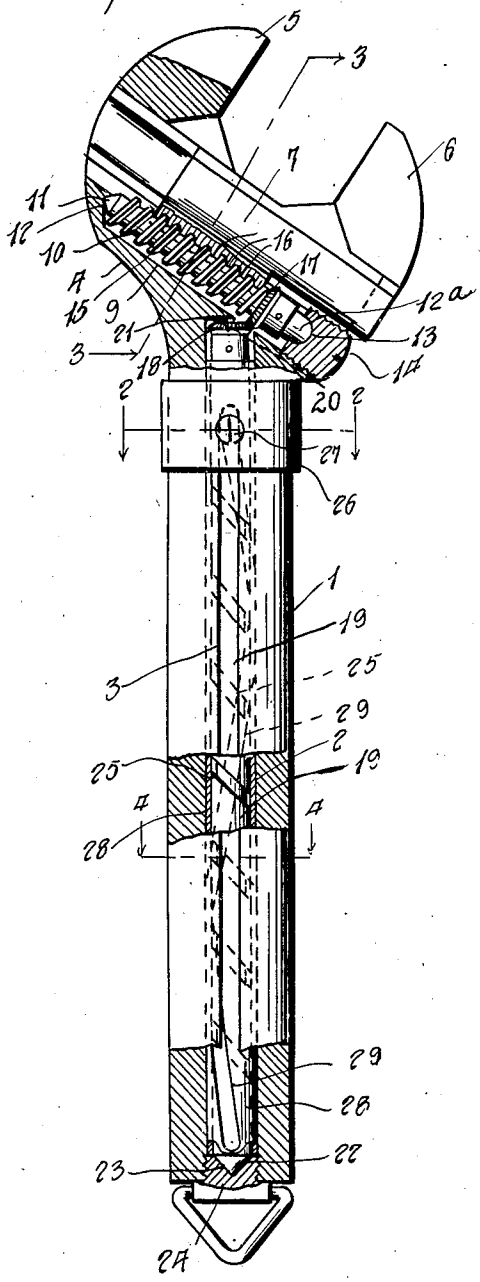


Fig. 2.

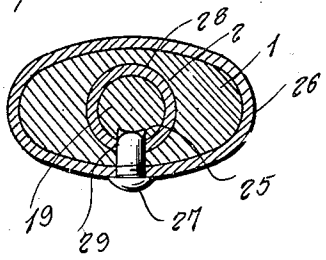


Fig. 3.

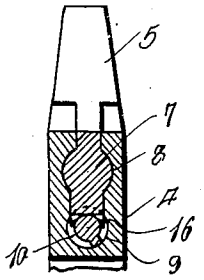
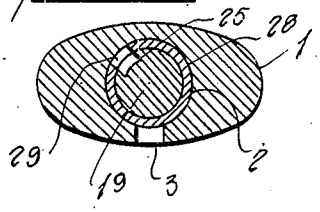


Fig. 4.



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UNITED STATES PATENT OFFICE

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ADJUSTABLE-JAW WRENCH

Application filed August 16, 1928. Serial No. 300,015.

The invention relates to wrenches of the adjustable jaw type having an operating handle with an adjustable jaw arranged at one end thereof, the handle being tubular to receive a shaft for actuating the adjustable jaw, said shaft being actuated by a member slidable on the handle and provided with means for actuating the shaft inside of the handle through a longitudinal slot in the handle, and has for its object the provision of means for closing the slot to prevent entrance of foreign matter into the interior of the handle, said means comprising a sleeve mounted on the shaft and rotatable relatively thereto with means operated by the shaft actuating means for rotating the sleeve to close the slot.

A further object of the invention is the provision of a tool of the character stated having improved means for journaling the shaft.

The invention will be described in detail hereinafter and will be found illustrated in the accompanying drawings, in which

Figure 1 is a plan view partly broken away of the improved wrench,

Figures 2, 3, and 4 are sectional details on planes indicated by the lines 2—2, 3—3, and 4—4, respectively, of Figure 1.

In the drawings similar reference characters are used to designate corresponding parts throughout the several views.

The improved wrench comprises a handle 1 that is tubular throughout its shank, 2 indicating the tubular opening, and 3 a slot extending longitudinally of the handle and communicating with said opening 2. 4 indicates a head on the handle having a fixed jaw 5, and 6 is an adjustable jaw that is provided with a shank 7 slidably engaging in a guide 8 in the head 4. The head 4 is provided with a recess 9 communicating with the guide portion 8, and 10 indicates a shaft journaled in said recess 9 by means of a tapered end 11 engaging a tapered recess 12 at one end of the recess 9, and the other end of the shaft designated 12^a engaging in a recess 13 in a threaded plug 14 secured in the opposite end of said recess. The shaft 10 is provided with a spiral rib 15, and 16 indicates a threaded portion on the shank 7 that is engaged by the spiral rib 15 to move the jaw 6 relatively to the jaw 5 when the shaft 10 is rotated. 17 indicates a beveled gear pinion secured on shaft 10 that meshes with a gear pinion 18 secured on the end of shaft 19 in the tubular opening 2. The shaft 19 is provided with a tapered recess 20 that engages the tapered projection 21 extending inwardly of the end wall of the tubular opening 2, while the other end of the shaft 19 is tapered as shown at 22 and engages a tapered recess 23 in a plug 24 secured in the outer end of the tubular opening 2, said projection and recesses forming the journals for the shaft 19. Shaft 19 is also provided with a spiral groove 25 and 26 is a ring slidably mounted on the handle 1 and provided with a pin 27 that extends through the slot 3 and engages in the spiral groove 25 so that as the ring 26 is moved longitudinally of the handle 1 the shaft 19 is rotated thereby rotating the shaft 10 through the gearing 17, 18, and adjusting the jaw 6 relatively to the jaw 5 as heretofore stated.

As shown in the drawings the jaw 6 is in its widest adjustment relatively to the jaw 5 with the ring 26 adjacent to the head 4, and by movement of the ring 26 outwardly of the handle, or away from the head, the jaw 6 will be moved forwardly into closer engagement with the jaw 5. This structure adds to the efficiency of the wrench as when the jaws are in engagement with a nut or other object to be turned the jaws will be held closely clamped against the object in actuating the wrench by grasping the handle, as the natural tendency is to pull outwardly of the handle on a wrench in turning it, and such outward pull on the ring 26 will obviously engage the jaws tightly as possible on the nut or other object. In order to prevent foreign matter from getting into the tubular opening 2 closure means for the slot 3 is provided that comprises a sleeve 28 rotatably mounted on the shaft 19 and that has a spiral slot 29 having a single turn of said slot in the length of the sleeve so that as the shaft 19 is turned by manipulation of the ring 26 as heretofore described, the sleeve will be turned by the pin 27 passing through the

slot 29 and always cover the opening to the slot.

What is claimed is:—

1. In a tool of the character stated, a tubular handle provided with a longitudinal slot communicating with the opening therein, a shaft journaled in said handle, means mounted on the handle and engaging the shaft through said slot to actuate it, and a sleeve rotatable on the shaft and engageable by said means to rotate it and provide a cover for said slot.

2. In a tool of the character stated, a tubular handle provided with a longitudinal slot communicating with the opening therein, a shaft journaled in the handle and having a spiral groove therein, means slidably engaging the handle and having a pin engaging said spiral groove through said slot to rotate the handle, and a sleeve enclosing the shaft and rotatable relatively thereto to close the slot in the handle, said sleeve having a spiral slot making a single turn in the length of the sleeve and engageable by said pin.

3. A tool of the character stated, comprising a tubular handle, a head on said handle having a jaw projecting therefrom, a jaw movably supported on the head and adjustable relatively to the first jaw, a shaft journaled in the tubular handle and having a spiral groove therein, a sleeve enclosing the shaft, rotatable relatively thereto, and having a spiral slot therein, the handle having a longitudinal slot communicating with the tubular opening therein, a ring slidably mounted on the handle and having a lug extending through the slots in the handle and sleeve and engaging in the groove in the shaft to rotate the shaft and sleeve, and means engaging the movable jaw and actuated by the shaft to adjust said jaw on the head.

In testimony whereof I affix my signature.

GUIDO FRED SCHLOTE.