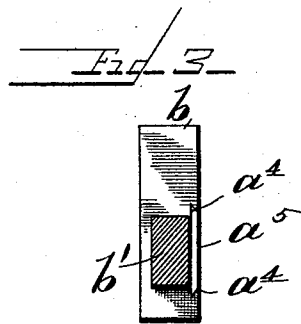
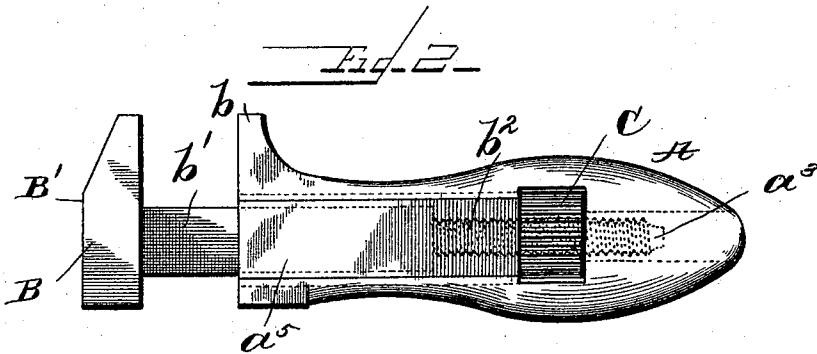
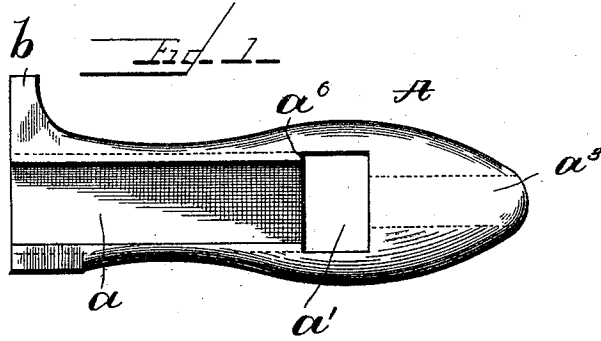


(No Model.)

H. McDONALD.
WRENCH.

No. 498,137.

Patented May 23, 1893.



Witnesses

J. A. Taubenschmitt,
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UNITED STATES PATENT OFFICE.

HUGH McDONALD, OF WILLIAMSPORT, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 498,137, dated May 23, 1893.

Application filed December 5, 1892. Serial No. 454,158. (No model.)

To all whom it may concern:

Be it known that I, HUGH McDONALD, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wrenches and more particularly to that class known in the art as nut wrenches, and consists of certain novel and useful features of construction clearly set forth in the following specification and more specifically pointed out in the claims.

In order that my invention may be fully understood I have illustrated it in the accompanying drawings in which—

Figure 1 is a side elevation of the handle and fixed jaw. Fig. 2 is a similar view of the wrench ready for use, and Fig. 3 is an end view of the fixed jaw.

Similar letters of reference indicate identical parts throughout the drawings, being referred to in the specification.

In the ordinary construction of wrenches of the kind shown in the drawings, the handle is either cored to permit the insertion of the adjusting screw, or else is recessed upon one side leaving the screw exposed and liable to become clogged and inoperative by reason of dust, filings or rust.

In my improved construction I provide the handle A upon one side with a rectangular recess *a* extending through a portion of its length and terminating in a transverse opening *a'* for the receipt of the adjusting nut C. I also provide a longitudinal opening *a³* passing through the end of the handle from said transverse opening *a'*. The handle is also provided with a projection *b* which forms the fixed jaw of the wrench. The walls of the rectangular recess *a* are provided near the upper edges with grooves *a⁴* adapted to receive a slide *a⁵* which when in place is flush

with the top of said walls and forms a continuous surface for one side of the handle.

The movable jaw B is constructed substantially as shown in the drawings and consists of the part B' similar in form to the projection *b* and provided with the shank *b'* screw threaded at a portion of its length as *b²* and having its outer end formed preferably like the blade of a screw driver *b³*, which when the jaws are closed upon each other projects through the handle.

The mode of operating my improved device is obvious. The slide *a⁵* being removed the shank *b'* is put in place the screw threaded portion passing through the adjusting nut C of ordinary construction which is held from displacement by the said shank and by the shoulders *a⁶*, the end of said shank having free play in and through the opening *a³* in the handle. The slide may then be inserted and holds the shank in place, and at the same time protecting it from dust or rust. The shank may be inserted however without removing the slide. The movable jaw is adjusted in the ordinary manner by means of the nut C and the shank is made of such a length as that when the jaws are closed the end of said shank formed as described projects from the end of the handle and may be used as a screw driver.

What I claim, and desire to secure by Letters Patent, is—

1. In a monkey wrench the handle provided with a fixed jaw and a longitudinal recess at the end adjacent the same, the side walls of the said recess extending the full width of the handle in combination with the movable jaw, the nut and a removable plate closing the recess of the handle, said closing plate being held between the walls of said recess, substantially as described.

2. In a monkey wrench the handle provided with a fixed jaw and a longitudinal recess at the end adjacent the same, the side walls of the said recess extending the full width of the handle and provided with grooves to receive the closing plate in combination with the

movable jaw, the nut and a removable plate closing the recess engaging said grooves and held thereby between the walls of the recess, substantially as described.

- 5 3. In a monkey wrench the handle provided with a fixed jaw, and a longitudinal recess, the side walls of said recess being provided with grooves, in combination with a movable jaw and means for operating the same and

a removable plate adapted to engage said grooves and close said recess, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH McDONALD.

Witnesses:

JOHN H. WATSON,
J. W. HAYS.