

No. 728,842.

PATENTED MAY 26, 1903.

C. S. BONNEY.
WRENCH.

APPLICATION FILED OCT. 11, 1902.

NO MODEL.

Fig. 1.

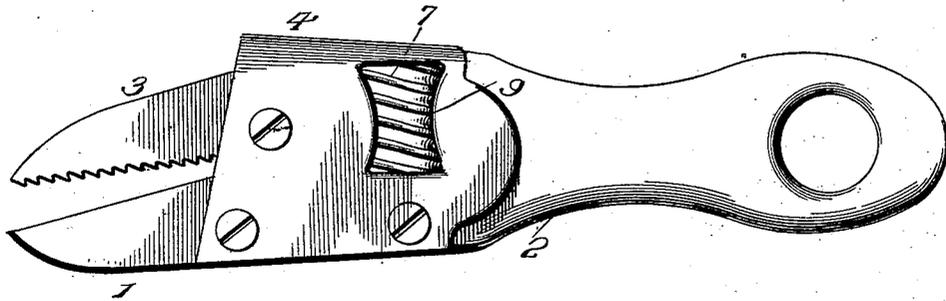


Fig. 2.

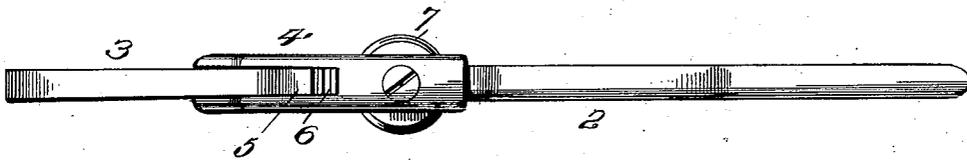


Fig. 3.

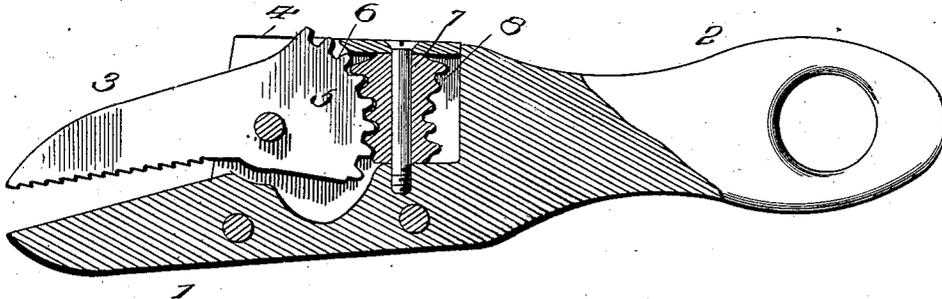
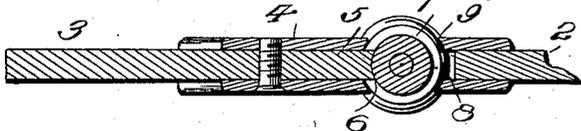


Fig. 4.



Inventor

C. S. Bonney

Witnesses

Wm. L. ...
Gladye R. Thompson

By

R. H. Lacey

Attorneys

UNITED STATES PATENT OFFICE.

CHARLES S. BONNEY, OF PORTSMOUTH, OHIO.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 728,842, dated May 26, 1903.

Application filed October 11, 1902. Serial No. 126,903. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. BONNEY, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention aims to provide improvements in alligator-wrenches of the type embodying, essentially, the use of a relatively fixed jaw member terminating in a handle and a movable jaw pivoted in a casing secured to the aforesaid member and adapted to be actuated by a finger-piece carried by the tool.

The device herein set forth is one greatly advantageous as regards to the detailed features of construction, reducing the number of parts to a minimum, thereby securing simplicity, is cheap in manufacture, partly as a result of the above, and owing to the peculiar form and disposal of the actuating means a maximum range of movement of the movable jaw is produced by but a small movement of the said actuator.

The use of springs or corresponding means for maintaining the jaws in a normal relation with each other is dispensed with, the actuator being of such construction as to always hold the jaws of the wrench in a locked positive and ascertained position.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a wrench embodying the essential features of the invention. Fig. 2 is a top plan view. Fig. 3 is a vertical section. Fig. 4 is a detail horizontal section.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

As before premised, the invention com-

prises a jaw member 1, terminating in a handle 2, which may be of any suitable form and contour, this latter point not being essential as regards the spirit of the invention. The movable jaw 3 is pivoted within a casing 4, the latter being of approximately U shape and embracing the sides of the member 1, being secured to the said member by screws or like fastening means. The butt 5 of the jaw 3 is transversely widened and cut away on the arc of a circle. Upon the cut-away portion above described are formed cogs 6, which coact with a finger-piece—namely, a worm-pinion 7—journaled in recesses 8 and 9 in the jaw member 1 and the casing 4, respectively, and at right angles to the cogs 6. The worm upon the finger-piece or actuator 7 is milled after the usual manner to afford a better purchase for the fingers when it is desired to revolve the same to cause movement of the jaw 3. The casing 4 has openings upon opposite sides thereof to admit of the aforementioned turning of the worm 7, and an opening is also provided therein to allow a portion of the butt of the jaw 3 to project therethrough, made necessary by the closing movement of the jaws. The worm 7 is of peculiar construction, tapering outward at both ends, thus giving a greater and more positive contact between the same and the cogs upon the butt of the jaw. It will be seen that the feature above set forth is important in that it gives the maximum amount of movement of the jaw without loss of time and useless movement of the actuator and also makes any play or looseness of the jaw 3 in its position impossible. This last result is usually attained by the use of springs or other supplementary means, which makes cost of production, of course, greater, besides increasing the number as well as necessitating additional fitting of parts, which causes obvious disadvantages, and consequently undesirability of structure.

The jaw member 1 is recessed also at 8 to allow for the opening of the jaw 3, the butt of the latter moving toward and from the recess.

The device is preferably made from metal and is very simple, cheap, and therefore desirable as an article of manufacture embodying many advantageous features before enlarged upon.

Having thus described the invention, what is claimed as new is—

1. In a wrench, a fixed jaw member terminating in a handle, a U-shaped casing embracing opposite sides of the aforesaid jaw member, a movable jaw pivoted within the casing and adapted for coöperation with the fixed jaw, the movable jaw having its butt widened and cut away on the arc of a circle, cogs formed upon the said cut-away portion, a worm for engagement with the cogs of the jaw for actuation of the same, substantially as described.

2. In a wrench, a fixed jaw terminating in a handle, a casing embracing opposite sides of the said jaw and fastening means securing same thereto, a movable jaw pivoted in the casing and adapted for coöperation with the fixed jaw, said movable jaw having its butt transversely widened and cut away on the

arc of a circle, cogs formed upon the cut-away portion of the said butt, a worm-pinion disposed at right angles with relation to the cogs upon the movable jaw member, and in mesh therewith, said worm-pinion tapering outwardly at both ends to produce maximum movement of the movable jaw and being journaled in recesses in the casing and fixed jaw member, openings in the casing to admit of access to the worm and revolution of same, whereby the movable jaw is actuated toward and from the fixed jaw, substantially as set forth.

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

CHARLES S. BONNEY. [L. S.]

Witnesses:

S. J. CONKLIN,
M. C. DUFFY.