J. L. TURNER.

WRENCH.

APPLICATION FILED DEC. 9, 1911.

1,033,358.

Patented July 23, 1912.

2 SHEETS—SHEET 1.

Fig. 1

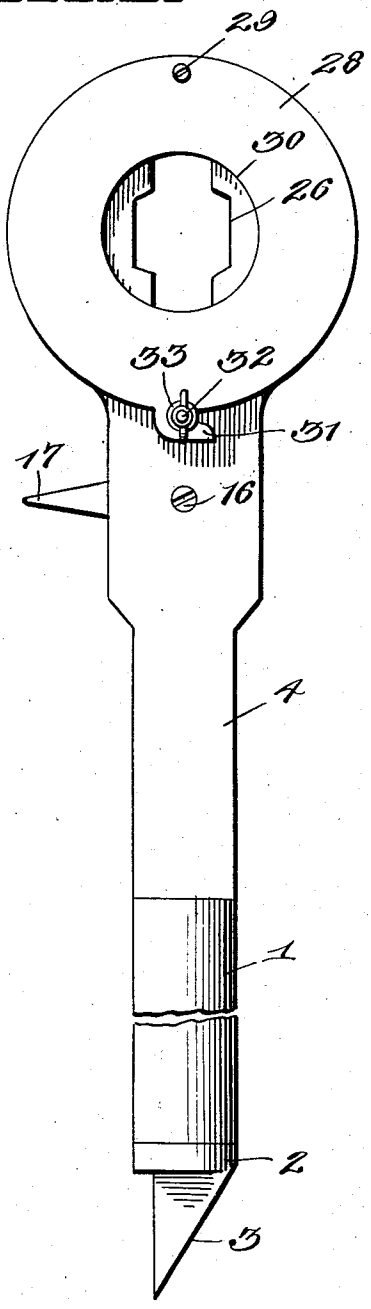
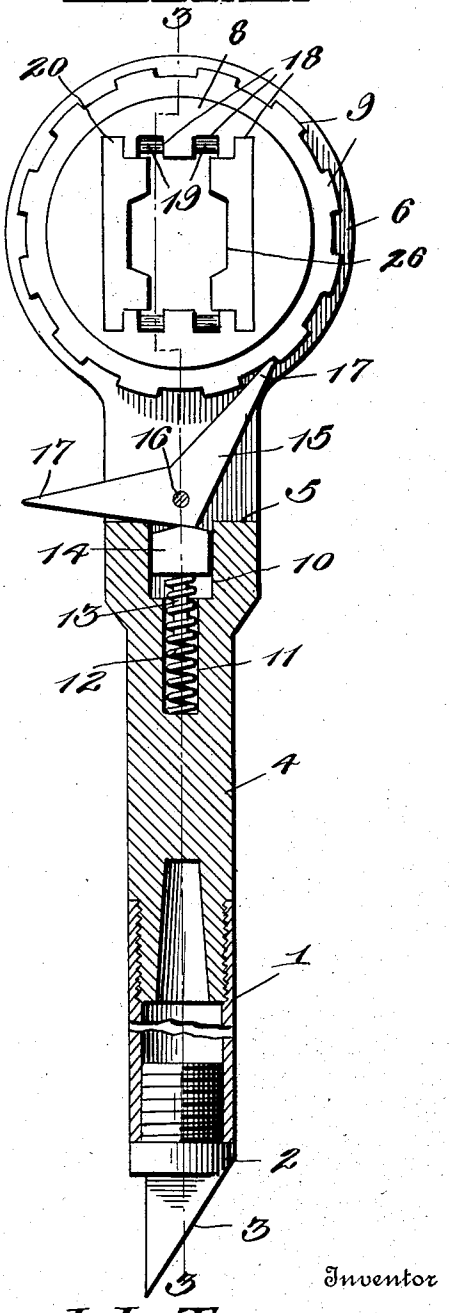


Fig. 2



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

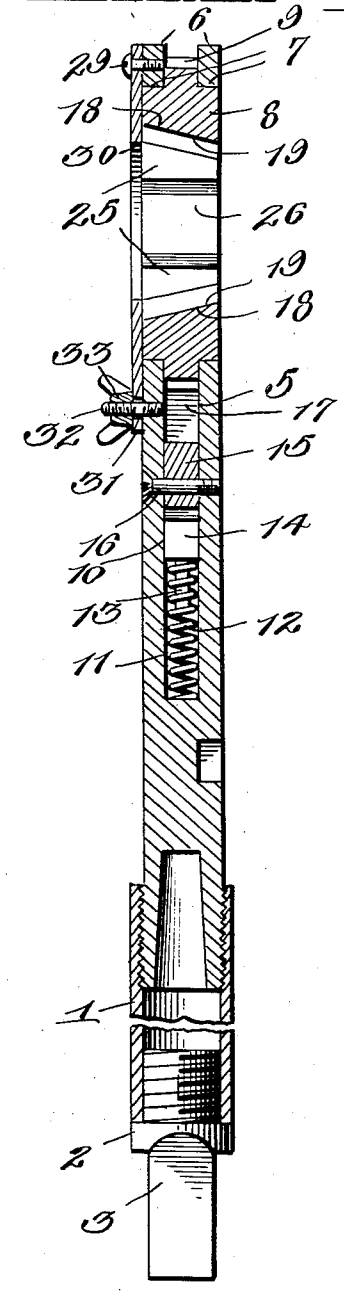


Fig. 4.

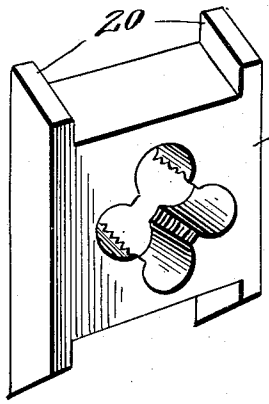


Fig. 7.

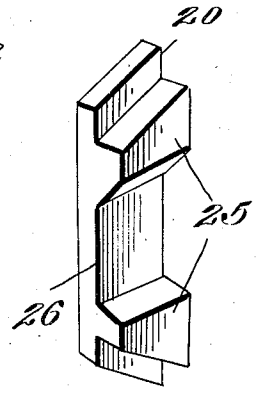


Fig. 5.

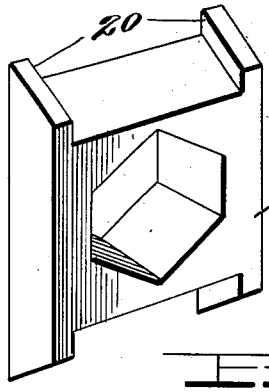


Fig. 8.

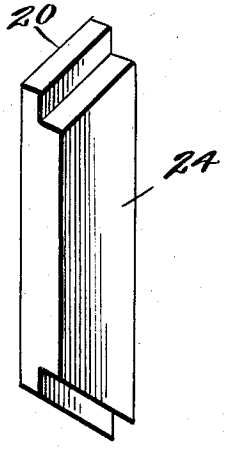
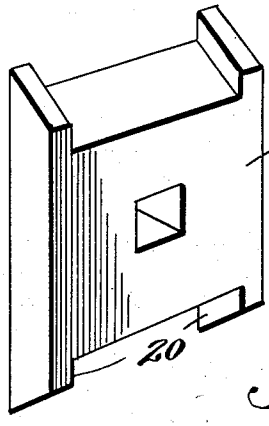


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN L. TURNER, OF PINCKNEYVILLE, ILLINOIS.

WRENCH.

1,033,358. Specification of Letters Patent. **Patented July 23, 1912.**

Application filed December 9, 1911. Serial No. 664,854.

To all whom it may concern:

Be it known that I, JOHN L. TURNER, a citizen of the United States, residing at Pinckneyville, in the county of Perry and State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to combined thread cutter and wrench of the ratchet type and has for its object to provide an interchangeable device of this character which can be used for manipulating nuts of various sizes or can be quickly changed so that it may be used for cutting threads on bolts, nuts, etc.

Another object of this invention is to provide a device of this character which will possess advantages in points of efficiency and durability, is inexpensive of manufacture and at the same time is simple in construction and operation.

With the above and other objects in view, the invention consists in the novel features of construction and the combination and arrangement of parts hereinafter more fully described, pointed out in the claim and shown in the accompanying drawings, in which,

Figure 1 is a plan view of my improved wrench. Fig. 2 is a longitudinal sectional view. Fig. 3 is a sectional view on the line 3—3 of Fig. 2. Fig. 4 is a perspective view of a die to be used in threading bolts, etc. Fig. 5 is a perspective view of a head member used on large size nuts. Fig. 6 is a perspective view of a head member formed to receive different size taps for threading nuts and interior of pipe etc. Fig. 7 is a perspective view of one member of a sectional head member to be used on various size nuts, and Fig. 8 is a perspective view of one member of a sectional head member used on rectangular nuts.

Referring more particularly to the drawings, 1 indicates the handle of the wrench, preferably hollow and having a lifting foot 2 threaded into one end, which is provided with a beveled face 3, said foot being adapted for use in prying open boxes or other such purposes. Threaded into the other end of the handle is the shank 4 having its free end bifurcated as shown at 5 to form the spaced ears 6, said ears having alining circular openings 7 formed therein, for the reception of the head 8 which is provided with the ratchet teeth 9.

A recess 10 is formed in the lower end of the bifurcation 5 having a reduced portion 11 in which is disposed a coil spring 12. A pin 13 is mounted in the upper coils of said spring and is provided with an enlarged head 14 which is disposed in the recess 10. A pawl 15 is pivoted in the bifurcation 5 by means of the pin 16 and is provided with two engaging points 17 adapted to engage the ratchets 9 to prevent backward movement of the head 8 when rotated in either direction.

The pawl 15 is preferably of triangular shape and having its apex engaging the head 14 of the pin 13, the base of said pawl being cut away to form the engaging points 17, thus it will be seen that when one of the points 17 is thrown into engagement with the ratchets 9 the apex point will be thrown beyond the center of the head 14 and when it is desired to engage the other point with the ratchets, the point is pressed inwardly until the apex point is passed beyond the center of the head 14 and the action of the spring 12 will tend to hold the point securely into engagement with the ratchets 9.

The head 8 is provided with a series of slots 18 having the inclined inner walls 19, said slots being adapted to receive the beveled flanges 20 on the head members which fit into the head. The head member 21 shown in Fig. 5 is for use on large size nuts but these head members can be made to fit various sizes of nuts. In Fig. 4 is shown a die 22, which may be used for threading bolts, pipe, etc., and in Fig. 6 is shown a head member 23 which is adapted to receive different size taps used for threading nuts, the interior of pipe, etc. The different head members can be quickly and easily inserted or removed from the head 8.

In Figs. 7 and 8, I have shown two different sets of sectional head members, which may be placed in the different slots to operate on various size nuts. In Fig. 7 each of the sections are provided with the flanges 20 at their ends and with the spaced ribs 25 on one side to form the nut receiving recess 26, whereby various shapes of nuts may be manipulated, while the sections shown in Fig. 8 are provided with a flat face 24 on both sides so that only rectangular nuts may be manipulated.

To facilitate the easy insertion of the various head members within the head 8 and to hold them securely in place, I have provided a circular plate 28 which is pivoted to the upper edge of one of the ears 6 by means of the pin 29, said plate being provided with a centrally arranged opening 30, to aline with the opening in the head 8 and a catch member 31 is formed on the edge of the plate opposite the pivot pin 29, which is adapted to engage the pin 32, and a thumb screw 33 is threaded on said pin to hold the plate 28 in a closed position.

It will be understood that taps and the sections shown in Figs. 7 and 8 may be easily packed away in the hollow handle 1, when not in use and can be readily removed from the handle by unscrewing the lifting foot 2.

When it is desired to rotate the head in one direction, the pawl will be placed in the position shown in Fig. 1 and by reciprocating the handle back and forth the head will be rotated in that direction. To rotate in the opposite direction, the pawl is turned upon its pivot until the opposite point of the pawl engages the ratchet and in each adjusted position, is retained by the pressure of the spring 12.

While I have shown and described the preferred form of my invention, it will be obvious that various changes in the details of construction and in the proportions may be resorted to for successfully carrying my invention into practice without sacrificing any of the novel features or departing from the scope thereof.

Having thus described this invention, what is claimed is:—

In a device of the character described, the combination with a handle, a shank threaded in one end thereof, having its free end bifurcated to form spaced ears, a rotatable head arranged between said ears, said head being provided with a series of slots, having inclined inner walls, of sectional head members having beveled flanges formed thereon and adapted to be disposed in said slots, spaced ribs formed on one side of said sections whereby nut receiving recesses are formed between them to manipulate various sizes and shapes of nuts, and means for preventing backward movement of the head when rotated in either direction.

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

JOHN L. TURNER.

Witnesses:
GRANT MAGATAGAN,
JOHN S. DRY.