

WRENCH,

953,346.

FIG. 1

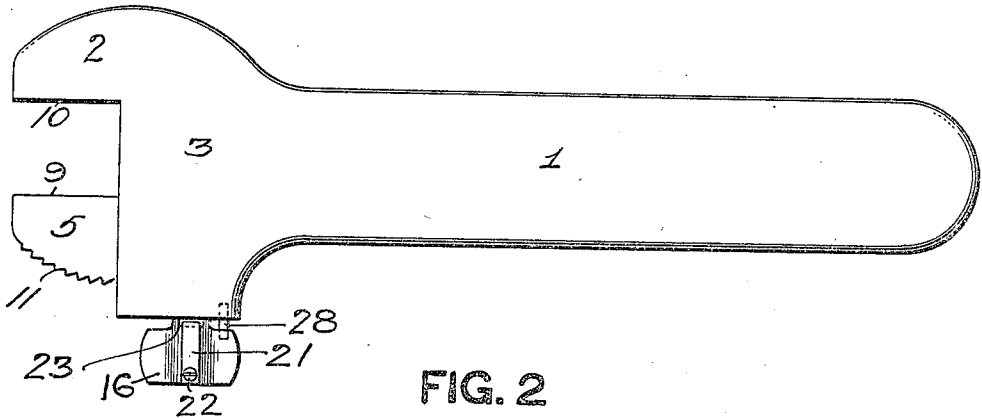


FIG. 2

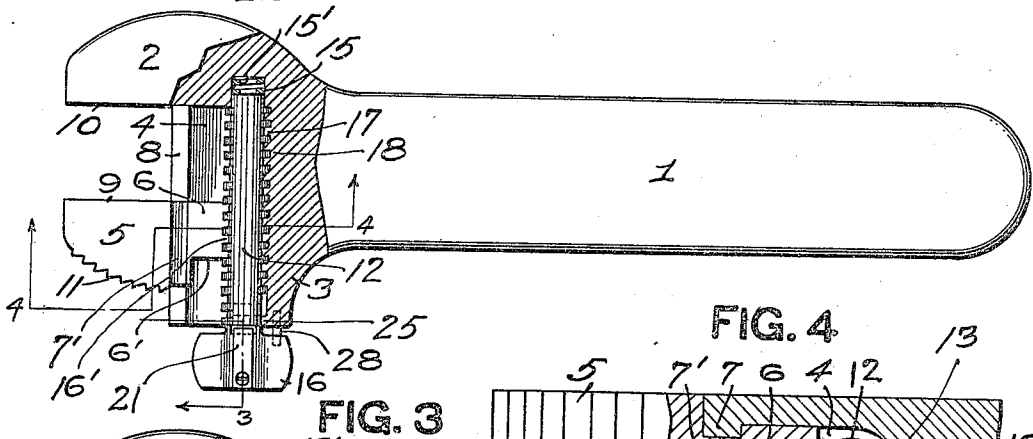
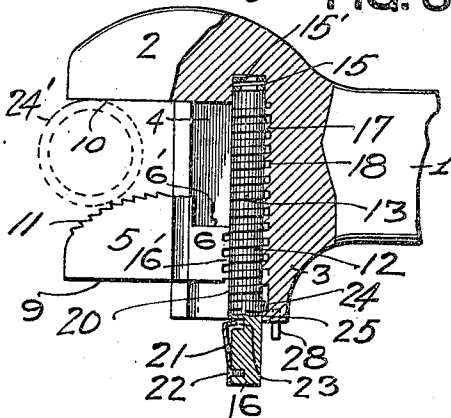


FIG. 3



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FIG. 4

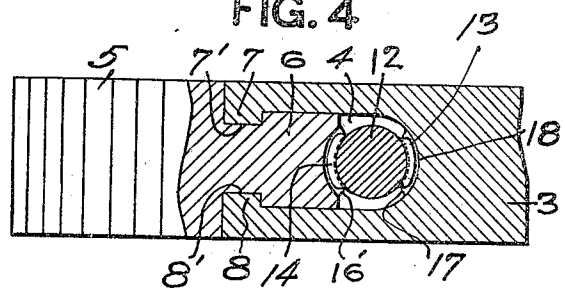
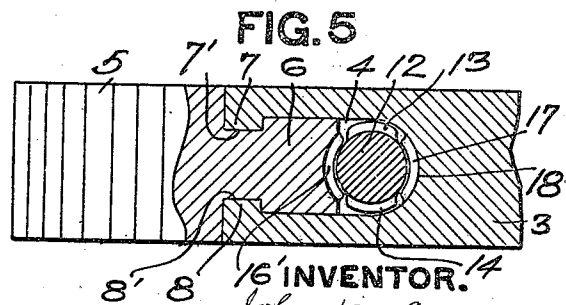


FIG. 5



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UNITED STATES PATENT OFFICE.

JOHN NEWBAUER, OF HOMESTEAD, PENNSYLVANIA.

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Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed May 1, 1909. Serial No. 493,377.

To all whom it may concern:

Be it known that I, JOHN NEWBAUER, a resident of Homestead, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Wrenches; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to wrenches. Its object is to provide a wrench of the type usually known as a nut wrench, or screw wrench, which will be convenient in adjustment and at the same time very strong in construction.

It consists, generally stated, in a wrench having a body portion and a jaw affixed thereto, a slot in said body portion, a jaw reciprocally movable therein and a threaded bar rotatable therein and adapted to move said jaw.

It also consists in certain other improvements hereinafter set forth, including a reversible nut or pipe construction of jaw.

In the drawings Figure 1 is a plan view of a wrench embodying my invention; Fig. 2 is a like view partly cut away showing the fastening mechanism in set position; and Fig. 3 is a detail view similar to Fig. 2 showing the jaw fastening mechanism in unset or open position. Fig. 4 is a cross section on the line 4—4, Fig. 2; and Fig. 5 is a like cross section of Fig. 3.

The wrench is shown with the ordinary straight handle 1 often employed in this type of wrench, having the fixed jaw 2 conveniently formed integral therewith on one side of the body portion 3. The body portion 3 is also provided with the slot 4 extending from the fixed jaw to the other end of the body portion. The movable jaw 5 is provided with a feathered portion or key 6 which slides in the slot 4, being held in said slot 4 by the flanges 7 and 8 running along the edge of said slot, as shown, and fitting within the corresponding depressions or grooves 7', 8' in the movable jaw 5. The key 6 extends preferably only part of the width of the jaw 5, having the recess 6' into which the thumb handle 16 can play, thereby increasing the size of work which may be gripped by the jaws. The movable jaw has the straight face 9 normally parallel to the corresponding face 10 of the fixed jaw 2 and adapted for ordinary nut or screw work. The movable jaw 5 has also

the serrated face 11 which may be employed in pipe work when the jaw 5 is reversed, as described below.

The threaded bar 12 has the interrupted threads 13 and 14, each of which groups of threads extends nearly one-fourth of the circumference thereof. This threaded bar 12 preferably rotates in the socket 15 in the body portion 3 of the wrench; and is provided at the other end with the thumb handle 16 for convenience in turning. The interrupted threads 13 and 14 are constructed to mesh with the corresponding threads 16' on the inner end of the key 6 of the movable jaw 5, and with the corresponding interrupted threads 17 set opposite thereto along the inner side 18 of the slot 4. By this construction, in which the extension on key 6 of the movable jaw 5 is of the same or less width than the jaw portion, but fits firmly within the slot 4, in which the threaded bar 12 also fits, I provide a wrench which will grip work of a large size without having a fin or projection of any kind extending outside of the wrench head. This is of great advantage in a wrench of this type, which is often inserted within a confined or inconvenient space.

The socket 15 has preferably the spring 15' set therein and bearing against the end of the bar 12. This spring 15' prevents rattling and keeps the bar in set position where only a slight turn is required, as explained below. The thumb handle 16 of the threaded bar is arranged to abut against the shoulder 28 on the body portion 3 and to prevent the bar 12 being turned so far in the locking direction as to unmesh the threads.

When not in use the parts are normally in a position like that illustrated in Fig. 3, the movable jaw 5 being prevented from sliding out the end of the slot 4 along the smooth face 20 of the threaded bar 12 by some convenient catching means, such as the spring 21 secured to the threaded bar by the screw 22 and playing in the recess 23 therein. When it is desired to grip a piece of work 24', as indicated in Fig. 3, the jaw 5 is conveniently slid along into contact with the work by hand. This is possible, as the interrupted threads are not in engagement, but are in the position shown clearly in Fig. 5, the threads 16' on the movable jaw 5 running along the smooth face 20 of the threaded bar 12. After con-

tact with the work, the handle 16 is given a partial rotation which sets the jaw 5 and at the same time tightens it slightly so as to further grip the work. This rotation
5 may be carried to much more than one-fourth of a complete turn and, therefore, the accurate gripping ability of the wrench is greatly increased by this device of my invention. This is of special value in pipe
10 work.

Where the wrench is to be employed for nut purposes, the threaded bar is first turned to one set position and the jaw 5 is slid out through the end of the slot 4, the spring 21
15 being held down by the finger so as to admit of the jaw passing thereover. The jaw can then be turned around and re-inserted in the slot 4, assuming the position illustrated in Fig. 2. The threaded bar may be removed
20 bodily from the wrench after the jaw has been removed, as the flange 24 near the handle portion thereof extends only part way around the bar, playing against the shoulder 25 when the threads are not in
25 meshed position.

It will be observed that by my invention the body portion 3 and gripping members of the wrench are very little weakened by the adjusting mechanism. This I believe to
30 be lacking in the prior art, in which wrenches of this character having adjustable jaws have also necessarily very weak

constructions where the greatest strain must be resisted.

What I claim is:

1. A wrench having a body portion and a jaw affixed thereto, a transverse slot in said body portion, a jaw reciprocally slidable therein, a bar rotatable therein, a threaded connection between said bar and said slidable jaw, and a spring in engagement with said bar.

2. A wrench having a body portion and a jaw affixed thereto, a transverse slot in said body portion, a jaw reciprocally movable therein provided with a thread, a stud rotatable therein provided with an interrupted thread, and a spring in said slot arranged to engage the end of said stud.

3. A wrench having a body portion and a fixed jaw, a slot in said body portion, a jaw slidable in said slot provided with a threaded inner face, a bar rotatable in a seat in said body portion provided with an interrupted thread adapted to engage said threaded face, a spring in said seat pressing on said bar, and means for turning said bar.

In testimony whereof, I the said JOHN NEWBAUER have hereunto set my hand.

JOHN NEWBAUER.

Witnesses:

WM. A. STEINMEYER,
JOHN F. WILL.