

March 3, 1953

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2,630,037

OPEN END RATCHET WRENCH

Filed Nov. 5, 1951

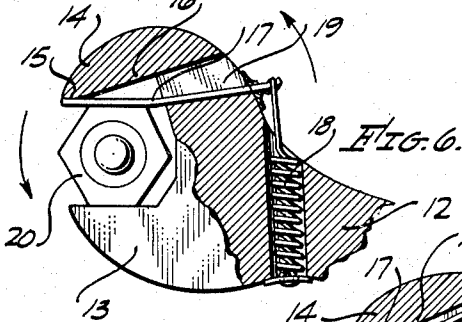
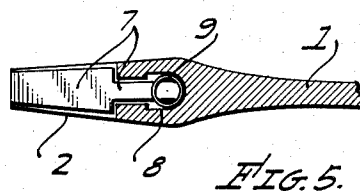
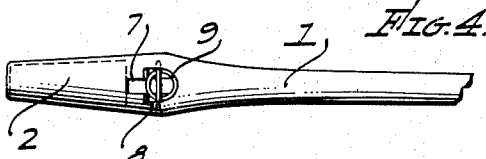
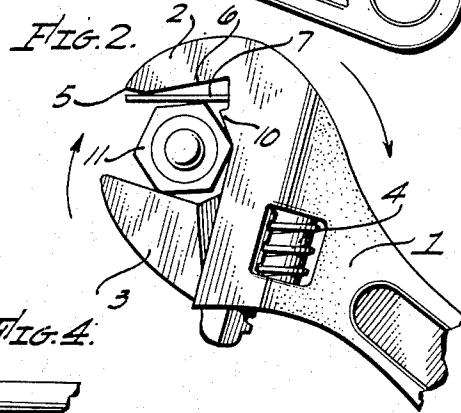
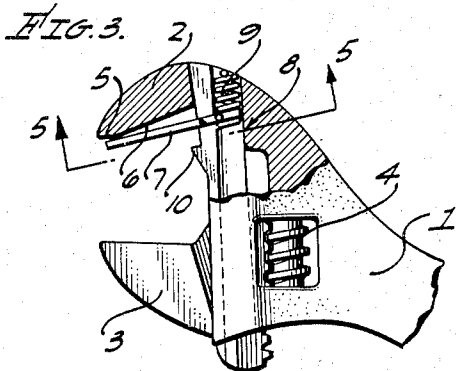
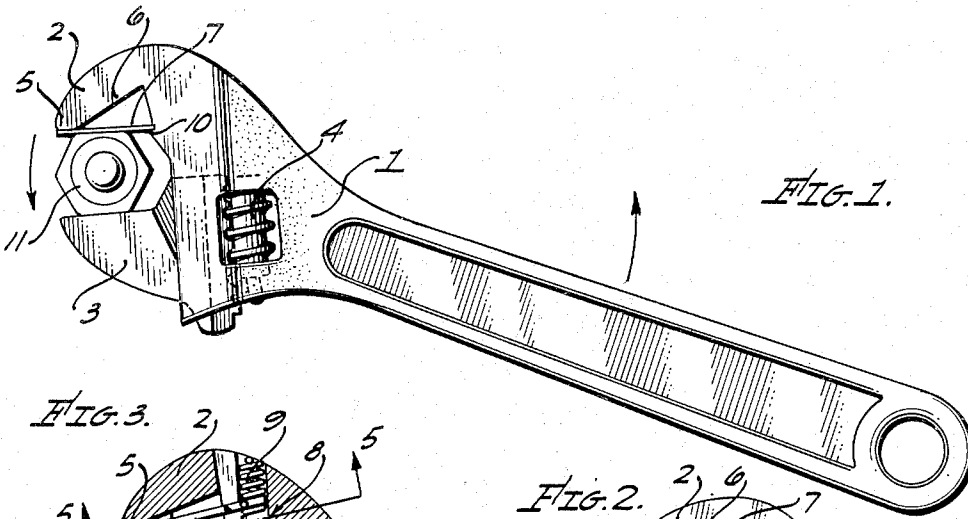


FIG. 8.

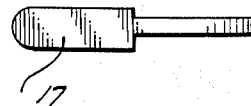
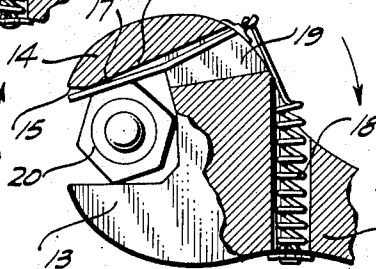


FIG. 7.



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UNITED STATES PATENT OFFICE

2,630,037

OPEN END RATCHET WRENCH

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Application November 5, 1951, Serial No. 254,894

1 Claim. (Cl. 81-179)

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This invention relates to an open end type of wrench which has a ratchet blade associated therewith, so that the wrench will ratchet in one direction.

An object of my invention is to provide an open end type of wrench, either with fixed jaws or with one movable jaw, and with a blade mounted adjacent to one of the fixed jaws, and this blade being spring pressed so as to yieldably engage a flat face of a nut.

Another object of my invention is to provide an open end type of wrench which is provided with a flat blade, one end of the blade engaging a fixed jaw of the wrench, and the blade being spring pressed to lie against one flat face of a nut.

Still another object of my invention is to provide an open end ratchet wrench of the character stated, which is simple in construction, effective in operation and inexpensive to manufacture.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claim.

In the drawing:

Figure 1 is a side elevation of an open end wrench of the movable jaw type embodying my invention.

Figure 2 is a fragmentary side elevation of an open end wrench, of the type shown in Figure 1, and showing the wrench in ratcheting position.

Figure 3 is a side elevation similar to Figure 2 but with parts broken away to show interior construction.

Figure 4 is a top plan view of the open end ratchet wrench.

Figure 5 is a sectional view taken on line 5-5 of Figure 3.

Figure 6 is a fragmentary side elevation of a fixed jaw type of open end wrench embodying my invention, and with parts broken away to show interior construction.

Figure 7 is a side elevation similar to Figure 6 and showing the wrench in ratcheting position.

Figure 8 is a side view of the spring pressed blade.

Referring more particularly to the drawing, the numeral 1 indicates an open end type of wrench which includes an integrally fixed jaw 2 and a movable jaw 3, which can be adjusted relatively to the fixed jaw 2 by the screw 4 in the usual and well known manner. The fixed jaw 2 is formed with a flat face 5 substantially parallel to the inter-face of the jaw 3.

From the flat surface 5, the jaw 2 has an inclined face 6, the purpose of which will be further described.

A flat blade 7 is mounted so that the outer end thereof presses against the flat surface 5 while the opposite end of the blade extends into the

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bore 8 in the wrench, and is engaged by a coil spring 9 which fits in this bore and presses against the blade to urge the blade into the position in Figure 1. A shoulder 10 on the wrench 1 is engaged by the blade 7 to limit the inward movement of this blade due to the pressure of the spring 9, that is, the shoulder 10 acts as a stop for the blade 7. It will be evident that the outer end of the blade 7 is held against the flat face 5 of the jaw 2, and, therefore, will pivot against this flat face as the other end of the blade moves against the tension of the spring 9.

When the jaws 2 and 3 engage the flat faces of a nut 11, as shown, the nut will be rotated when the wrench moves counter-clock-wise. In a clock-wise direction of movement of the wrench, the nut 11 will press the blade 7 outwardly against the tension of the spring 9, thus permitting the high points of the nut 11 to escape past the blade 7, or providing a ratcheting movement of the wrench. When tightening the nut 11, the one flat face of the nut will normally be engaged by the end of the blade 7, which presses against the surface 5.

In Figures 6, 7 and 8, I show a wrench 12 with fixed jaws 13 and 14. The jaw 14 is similar in construction to the jaw 2, in that it has a flat face 15 and an inclined face 16, which permits movement of the blade.

The blade 17 is mounted in the same manner as the blade 7 and one end of this blade is attached to a spring 18, which is mounted on the body of the wrench 12. The blade 17 extends through a slot 19 in the body of the wrench and this slot is elongated to permit swinging movement of the blade.

As shown in Figure 6, the nut 20 is tightened when the wrench moves counter-clock-wise and the wrench will ratchet around the nut when it is moved in a clock-wise direction. The high points of the nut 20 will press the blade 17 into the recess formed by the face 16, thus permitting the wrench to ratchet around the nut. The spring 18 returns the blade 17 to a position to engage the flat face of the nut as soon as the high point of the nut passes the blade. Again, while tightening the nut 20, the wrench is so moved that the flat face 15 will be positioned over a flat face of the nut.

Having described my invention, I claim:

An open end ratchet wrench comprising a wrench body, a pair of spaced jaws on said body, a flat jaw face on one of said jaws, the other of said jaws including an inner flat face parallel to the face on the first named jaw, an inclined face on the last named jaw extending from the flat face thereof and of greater length than the flat face, a blade, said blade being mounted adjacent the last named jaw, and the outer end of the blade resting on the flat face of the last named

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jaw, the other end of said blade being movable with relation to the last named jaw, a spring, one end of said spring engaging the wrench body and the other end of the spring engaging the movable end of the blade.

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