

F. A. STRONG.
PAWL AND RATCHET MECHANISM.
APPLICATION FILED DEC. 31, 1912.

1,088,043.

Patented Feb. 24, 1914.

Fig. 1

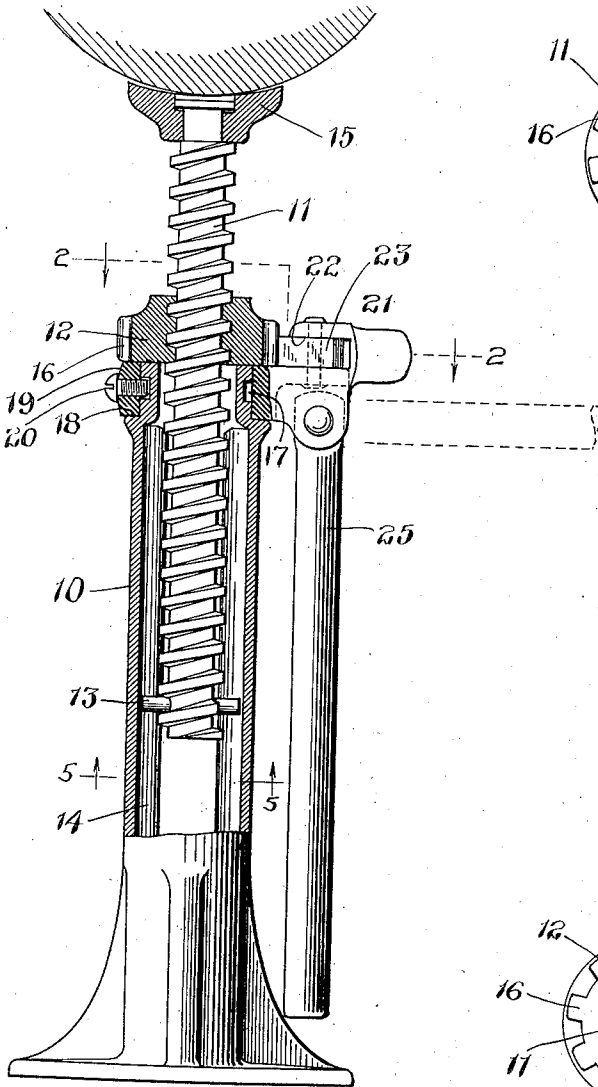


Fig. 2

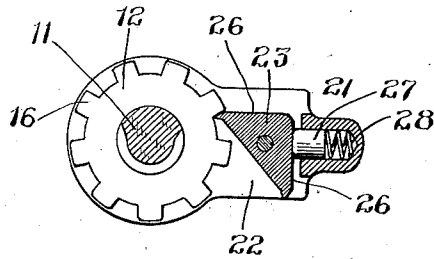


Fig. 4

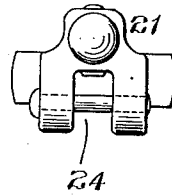


Fig. 5

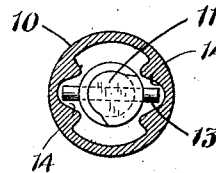
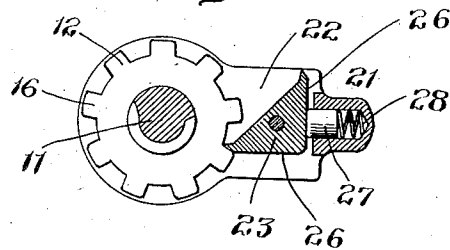


Fig. 3



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PAWL-AND-RATCHET MECHANISM.

1,088,043.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK A. STRONG, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Pawl-and-Ratchet Mechanism, of which the following is a specification.

This invention has for its object to provide a simple and inexpensive pawl and ratchet mechanism adapted for general use and especially adapted for use as an automobile jack.

With these and other objects in view I have devised the novel mechanism which I will now describe, referring to the accompanying drawing forming a part of this specification and using reference characters to indicate the several parts.

Figure 1 is a sectional elevation illustrating the construction and operation of my novel implement; Fig. 2 a section on the line 2—2 in Fig. 1 looking in the direction of the arrows, the pawl being in position for lowering the screw; Fig. 3 a similar view, the pawl being in position for raising the screw; Fig. 4 an elevation of the collar detached, as seen from the right in Fig. 1, the lever being removed; and Fig. 5 is a section on the line 5—5 in Fig. 1, looking in the direction of the arrows.

10 denotes the standard or stationary member which may be of any ordinary or preferred design or configuration and 11 the screw or non-rotatable member which is adapted to be moved vertically therein by means of a nut 12 or rotatable member and is held against rotation by lugs or a cross pin 13 engaging vertical grooves 14 in the standard. At the upper end of the screw is a bearing block 15 which is placed under a weight to be raised and in which the upper end of the screw is swiveled. The nut rests upon the upper end of the standard and is provided with peripheral teeth 16. Near the upper end of the standard is a peripheral groove 17 and below the groove a shoulder 18 on which an oscillatory collar 19 rests. The inner end of a screw or pin 20 in the collar engages the groove in the standard and retains the collar thereon but permits free oscillatory movement of the collar. Upon one side of the collar is a head or horizontal projection 21 having a recess 22 in which a double-pointed pawl 23 is pivoted to swing in the horizontal plane and

a recess 24 in which a lever 25 is pivoted to swing in the vertical plane and is left free to drop down parallel with the standard. The pawl is provided with walls 26 at right angles to each other.

27 denotes a plunger which is held in engagement with either wall of the pawl to hold it in either of its operative positions, as in Figs. 2 and 3, by a spring 28 socketed in the head.

The operation is as follows: In Fig. 2, the pawl is shown in position to lower the screw and bearing block and in Fig. 3 in position to raise said parts. To raise or lower the screw and bearing block and a weight resting thereon, the operator places the proper pawl in engagement with the teeth on the nut, raises the lever to a convenient position, for example, as indicated by dotted lines in Fig. 1 and swings the lever backward and forward in approximately the horizontal plane. When the pawl is in the position shown in Fig. 2, the upper point of the pawl, as seen in said view, will engage the teeth of the nut when the lever is swung forward, carrying the ring and head, and the pawl will carry the nut forward and lower the screw, bearing block and weight carried thereby, the pawl dragging over the teeth of the nut when the lever is swung in the opposite direction. When the pawl is in the position shown in Fig. 3, the lower point of the pawl, as seen in said view, will engage the teeth of the nut when the lever is swung backward, carrying the ring and head, and the pawl will carry the nut backward and raise the screw, bearing block and weight carried thereby, the pawl dragging over the teeth of the nut when the lever is swung in the opposite direction. When not in use the lever drops down wholly out of the way, as seen in Fig. 1. This is an important feature of construction as it provides a compact and self contained implement, without detachable parts and which occupies relatively little space in a tool box.

Having thus described my invention I claim:

In a pawl and ratchet mechanism, a stationary member, a member retained against rotation therein, a collar mounted upon the exterior of the stationary member, a bearing upon the exterior of the stationary member therefor, a horizontal projection from the top of the collar, a rotatable member

engaging the non-rotatable member and
having peripheral teeth resting upon the
top of the stationary member and collar,
integral ears depending from the underside
5 of the projection and extending outward
from the collar, a lever pivoted between the
ears, an integral housing upon the upper
side of the projection extending upward
from the outer end and over the top thereof
10 having an exterior hollow casing projecting
outward from the vertical portion of the
housing, a double pointed pawl carried upon

a pivot secured between the horizontal por-
tion of the housing and the upper surface of
the projection, and spring means within the 15
hollow casing for retaining either point of
the pawl in operative engagement with the
peripheral teeth.

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

FREDERICK A. STRONG.

Witnesses:

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