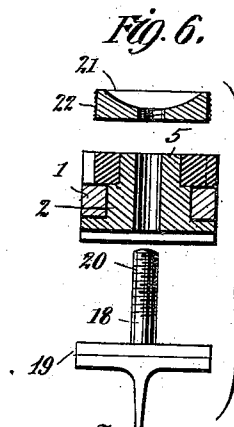
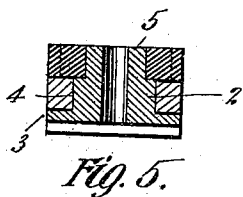
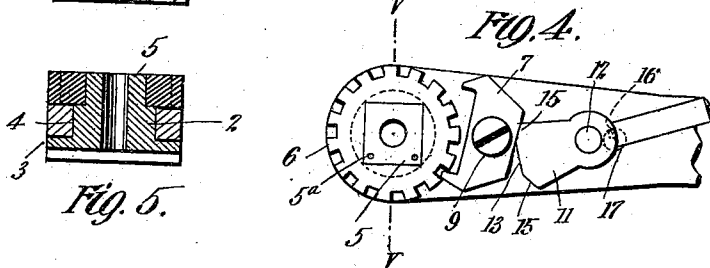
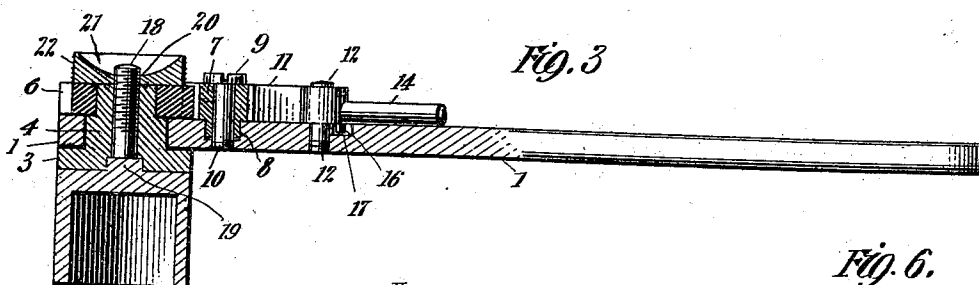
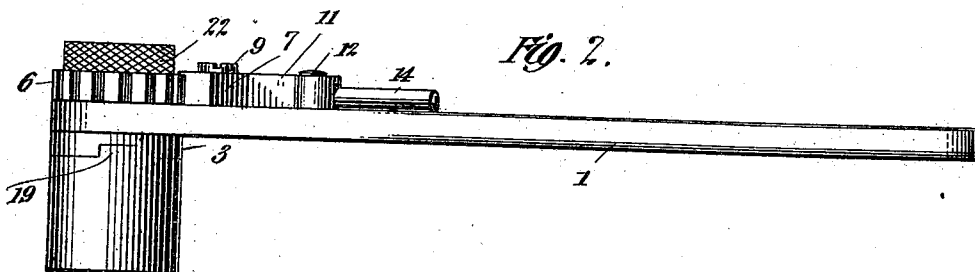
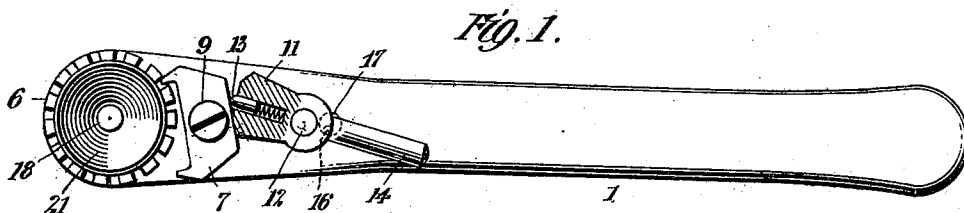


W. B. LANE.
 RATCHET MECHANISM FOR SCREW DRIVERS AND THE LIKE.
 APPLICATION FILED NOV. 10, 1909.

979,862.

Patented Dec. 27, 1910.



Witnesses:
 Francis Ober
 Walter M. Chapin

Inventor
 Willey B. Lane
 By his Attorneys
 Rosenbaum & Lockwood

UNITED STATES PATENT OFFICE.

WILLEY B. LANE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO J. C. McCARTY & CO., A CORPORATION OF NEW YORK.

RATCHET MECHANISM FOR SCREW-DRIVERS AND THE LIKE.

979,862.

Specification of Letters Patent. Patented Dec. 27, 1910.

Application filed November 10, 1909. Serial No. 527,202.

To all whom it may concern:

Be it known that I, WILLEY B. LANE, a citizen of the United States, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Ratchet Mechanism for Screw-Drivers and the Like, of which the following is a full, clear, and exact description.

This invention relates to ratchet tools, and has for its object certain improvements in the construction of the ratchet mechanism described in my application for United States Letters Patent, Serial No. 470,462, filed January 2, 1909, said application relating to a handle in combination with a ratchet mechanism and a bit, blade, chuck or shaft operated thereby. I now aim to make the said device of still more practical construction, and to obviate certain disadvantages found therein; the arrangement and formation of parts being such as to render the device as light as possible while retaining strength. It has been aimed to produce a unitary structure, and one in which preferably the tool, whether it be a screwdriver bit or socket wrench, or the like, may be removed from the ratcheting device without disturbing the relationship of the several parts in the said device.

These and certain other novel features will be set out in the following description.

One embodiment of my invention is shown in the accompanying drawing, in which like reference characters designate like parts throughout the several views.

Figure 1 is a plan of the assembled device, showing the abutment member partly broken away. Fig. 2 is a side elevation of the device. Fig. 3 is a longitudinal section of said device. Fig. 4 is a fragmentary view showing the pawl and abutment in reverse position to that shown in Fig. 1. Fig. 5 is a section taken on line V—V of Fig. 4. Fig. 6 shows the section V—V with the tool, in this instance a screwdriver bit, and securing nut in position for assembling.

Referring to the drawings, 1 designates a handle preferably made in one piece from a flat bar. Positioned in one extremity of the said handle is a tool holder 2, which is formed with a substantially circular base 3, a reduced cylindrical portion 4 adapted to extend through and seat within the handle, and a squared shank or extension 5. A

ratchet wheel 6 is seated upon the said extension and is rigidly secured thereto, as for example, by making the engagement a driving fit or by extending a portion of the sides of the extension by driving small holes 5^a therein adjacent the ratchet when the latter is in position. Various other means of course may be adopted to effect this jointure, the essential feature being the security of engagement between the said parts. A double toothed pawl 7 is pivoted upon the handle in such manner that either tooth may be engaged with the ratchet. This pawl is provided on the under face thereof with a cylindrical boss which is adapted to be neatly seated in a recess 8 correspondingly positioned in the handle. A pivoting screw 9 extends through the pawl and through the said lug, which is apertured for the reception of said screw, said screw being threaded into the lower portion of the handle as shown at 10.

To the rear of the double toothed pawl is an oscillating abutment 11 pivoted upon the handle by means of a pin 12, and provided with a spring pressed bolt 13, and a finger piece 14 preferably in line with the said bolt. The front corners of the abutment are beveled as at 15, for reasons as follows: Considering the arrangement of parts shown in Fig. 1 wherein the right hand tooth of the pawl is shown in engagement with the ratchet, the left hand beveled corner of the abutment member being in engagement with that portion of the pawl to the left of the pivoting screw, while the spring pressed bolt bears upon the portion of said pawl to the right of said screw. When in this position the ratchet is adapted to turn in a direction opposite the hands of a watch, and it will be noted that the strain upon the pivoting portion of the pawl will be partly transmitted through to the beveled abutment. Upon reversing the position of the abutment handle, the spring pressed bolt will bear upon the opposite side of the pawl and cause the opposite tooth to engage the ratchet, thereby permitting said ratchet to rotate in an opposite direction. A simple and inexpensive means has been devised for limiting the movement of the pawl abutment. From the underside of this member a pin 16 extends downwardly into a slot 17 in the handle. This slot for convenience of manufacture is circular in outline, permitting it to be

formed by a single drilling operation. It is of course obvious that the relative positions of the slot and pin may be reversed without altering the operation of the device.

5 Referring now to the tool holder, illustrated in Fig. 5, it will be observed that this member is bored longitudinally thereof for the reception of a shank 18 of a tool, and is further feathered or slotted upon the under
10 surface thereof for engagement with a ridge or spline 19 on the upper surface of the said tool. The tool shank is threaded at 20 for engagement with a nut 21, said nut being preferably knurled, as at 22.

15 This arrangement obviously affords a very rigid, strong and yet compact construction; reducing the number of parts and the size thereof to a minimum, and affording an excellent seat for the tool and one withal adapt-
20 ing itself to the ready engagement and disengagement of the tool with the holder.

What I claim is:—

1. In a tool holder, a handle member adapted to hold a revoluble tool, a tool turning
25 ratchet, a pivoted pawl cooperating there-

with, mounted on said handle member, a pivoted abutment member for said pawl cooperating therewith to relieve excessive strain upon the pawl pivot and limiting means for said abutment comprising an extension on one of the members aforesaid and
30 movable through an aperture in the other of said members, the sides of said aperture limiting the movement of said extension.

2. In a tool holder, a handle adapted to
35 hold a revoluble tool, a tool turning ratchet, a pawl cooperating therewith mounted on said handle, a movable abutment for said pawl and limiting means therefor comprising a pin extending from said abutment and
40 movable through a circular drilled aperture in said handle, the sides of said aperture limiting the movement of said pin.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

WILLEY B. LANE.

Witnesses:

WALDO M. CHAPIN,
JAMES DE ANTONIO.