

(No Model.)

E. LANE.
WRENCH.

No. 560,508.

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Fig. 2.

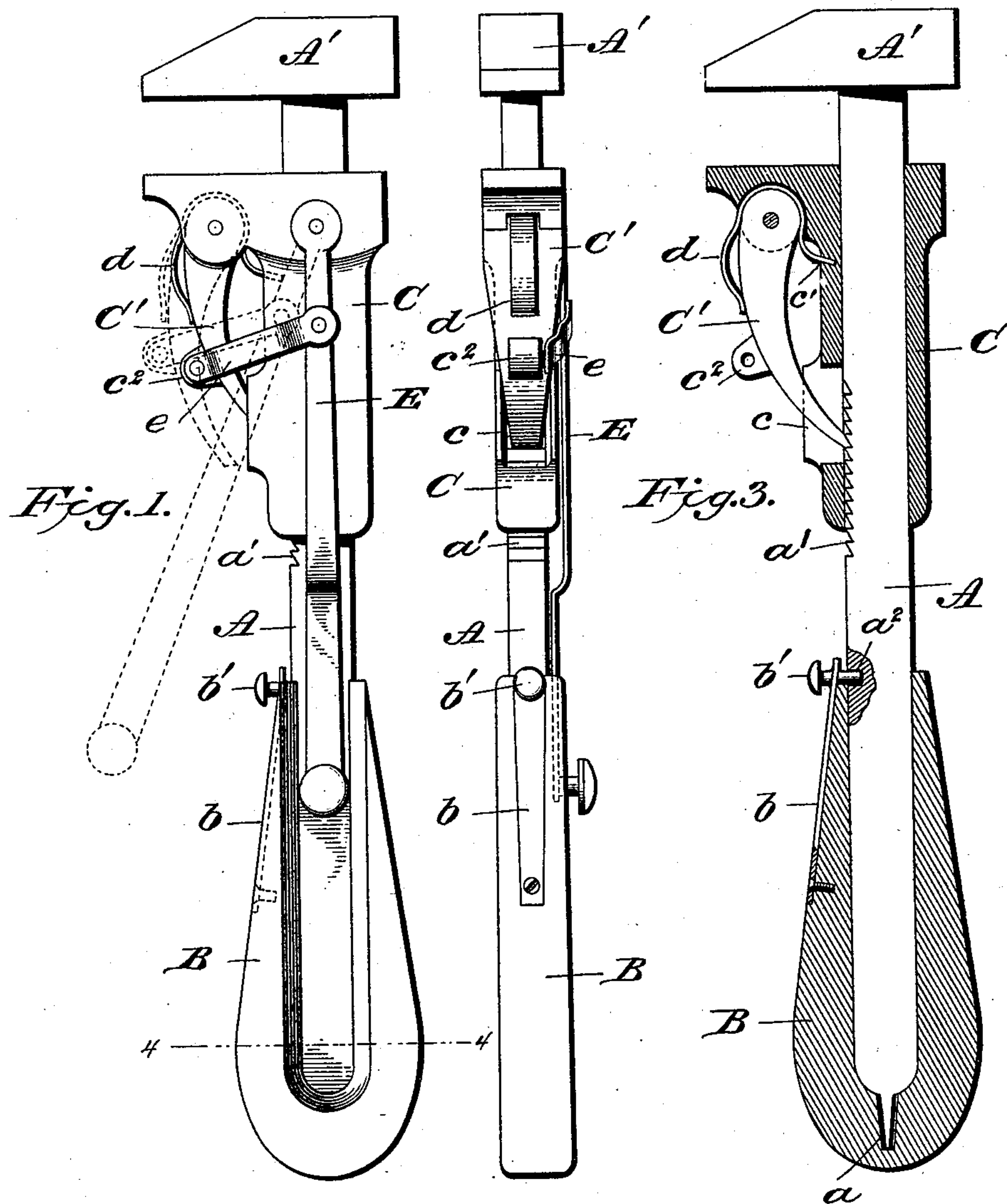
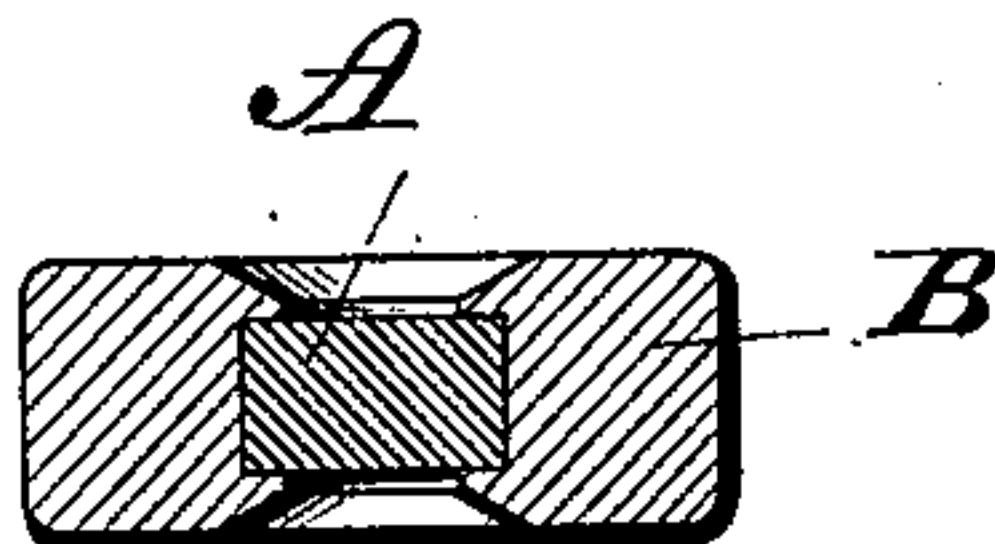


Fig. 4.



Edwin Lane
INVENTOR


WITNESSES

WITNES
L. S. Elliott.

W. S. Beall.

INVENTOR

INVENTOR

By 

Attorney

UNITED STATES PATENT OFFICE.

EDWIN LANE, OF JOHNSTOWN, PENNSYLVANIA.

WRENCH.

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To all whom it may concern:

Be it known that I, EDWIN LANE, a citizen of the United States of America, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a wrench of such construction that the movable jaw and handle can be readily removed from the shank carrying the fixed jaw, so that the shank and fixed jaw thereon can be used as a hammer and as a screw-driver, the lower end of the shank being properly shaped for the latter purpose.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a wrench constructed in accordance with my invention. Fig. 2 is a front elevation. Fig. 3 is a longitudinal sectional view, and Fig. 4 is a transverse sectional view on the line 4 4 of Fig. 1.

A designates the shank of the wrench, which is made up of a rectangular bar of metal having a fixed jaw or head A' at one end, the other end being shaped to provide a point *a*, which can be used as a screw-driver. The front side of the shank is provided with a series of ratchet-teeth *a'* and below said ratchet-teeth with a recess *a*².

B designates a looped handle, the inner edge of which is grooved, as shown in Fig. 4, to receive the lower part of the shank A, the point *a* of said shank fitting in a recess in the handle, as shown in Fig. 3. The handle is retained in place upon the shank by means of a flat spring *b*, which is attached thereto and provided at its upper end with a headed pin *b'*, adapted to engage the recess *a*² in the shank.

C designates the sliding jaw, which is provided with a longitudinal opening to receive the shank A, and with an opening *c* in its

front wall. The upper part of the sliding jaw has a recess in which is pivoted a pawl C', the lower end of said pawl being adapted to pass into the recess *c* to engage the ratchet-teeth *a'* of the shank, and said pawl is actuated toward the ratchet-teeth by means of a spring *d*, which passes around the upper end of the pawl, so that its inner end will engage a recess *c'* in the sliding jaw and its outer end bear upon the said pawl. The pawl C' is provided with an apertured lug *c*², to which is pivoted a link *e*, the other end of said link being connected to a lever E, which is manipulated to operate the spring-actuated pawl. The lever E is pivoted at its upper end to the sliding jaw and is preferably made of spring metal, so that the lower end thereof will spring into the space between the side members of the looped handle B and be retained therein to hold the pawl C' in positive engagement with the ratchet-teeth. The lower portion of the lever E is bent inwardly for the purpose hereinbefore mentioned, and the free end of the same is provided with a knob or button by which it is moved out of engagement with the handle.

It will be noted by the construction hereinbefore described that the spring *d* not only causes the pawl C' to engage the ratchet-teeth *a'* on the shank, but also serves to move the operating end of the lever in engagement with the handle. It will also be noted that the beveled sides of the handle will allow a slight play of the lever to allow the pawl to move over the ratchet-teeth in sliding the jaw C toward the fixed jaw, and when it is desired to slide the jaw C in the opposite direction the lever E can be readily manipulated to completely disengage the pawl from the ratchet-teeth. This is the manner in which the device is operated when it is used as a nut-wrench, and when it is desired to use the shank A and fixed jaw thereon as a hammer or as a screw-driver the parts carried thereby can be readily removed by disengaging the pin *b'* to take off the handle B, after which the sliding jaw can be slid off the shank by throwing the pawl out of engagement with the ratchet-teeth, as shown in dotted lines in Fig. 1.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a shank having a fixed jaw and ratchet-teeth, of a sliding jaw mounted on the shank, a pawl pivoted to the sliding jaw and adapted to engage the ratchet-teeth on the shank, a lever pivoted at its upper end to the sliding jaw and connected to the pawl by a link; together with a spring d bent over the upper end of the pawl so that its inner end will engage a recess in the sliding jaw and its outer end bear upon the pawl, the tendency of the spring holding the pawl in engagement with the ratchet-teeth and the lever on a line with the shank, substantially as shown and described.

2. The combination with a shank having a fixed jaw or head A' at one end and a point a at the other, said shank being also provided with a recess a^2 and a removable sliding jaw mounted thereon, of a removable handle or grasping portion B held in engagement with

the shank by a spring-actuated pin which engages the recess a^2 , substantially as shown and for the purpose set forth.

3. The combination with a shank having a fixed jaw and ratchet-teeth, a sliding jaw mounted on the shank, a spring-actuated pawl pivoted to the sliding jaw, and a lever pivoted at its upper end to the sliding jaw and connected to the pawl by a link, said lever being made of spring metal and adapted to lie parallel with the shank; together with a looped handle B connected to the lower part of the shank and provided with beveled inner edges between which the lower end of the operating-lever is adapted to lie, substantially as shown and for the purpose set forth.

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

EDWIN LANE.

Witnesses:

SMITH D. MURPHY,
HERMAN HERSHLINE.