

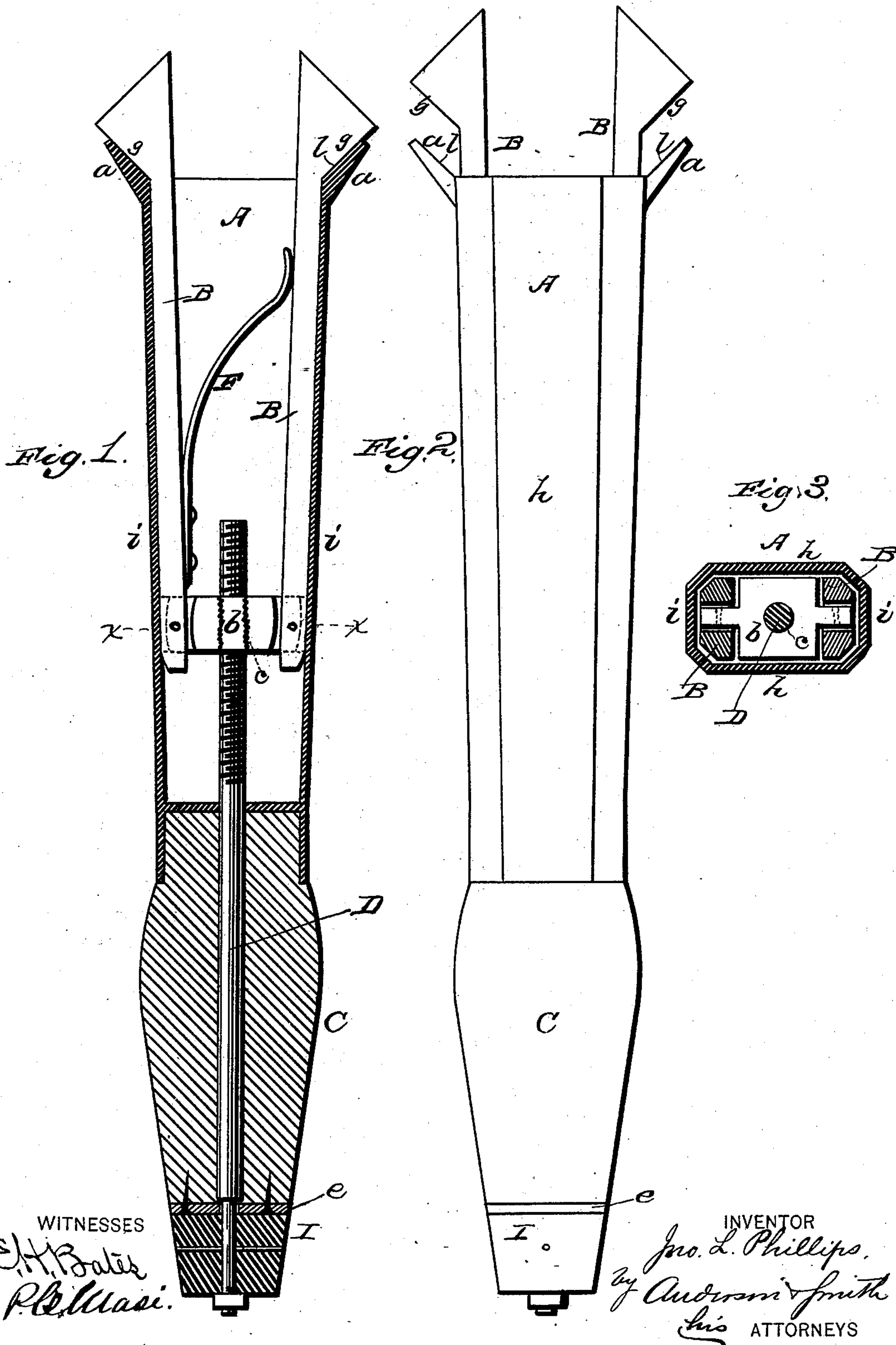
(No Model.)

J. L. PHILLIPS.

WRENCH.

No. 310,960.

Patented Jan. 20, 1885.



UNITED STATES PATENT OFFICE.

JOHN L. PHILLIPS, OF SULLIVAN, INDIANA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 310,960, dated January 20, 1885.

Application filed April 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. PHILLIPS, a citizen of the United States, residing at Sullivan, in the county of Sullivan and State of Indiana, have invented certain new and useful Improvements in Wrenches; and I do 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 or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical sectional view of my wrench. Fig. 2 is a side view. Fig. 3 is a cross section view of the same.

This invention has relation to improvements in wrenches for turning nuts and other analogous devices; and it consists in the construction and novel arrangement of parts, as will be hereinafter more fully set forth, and particularly pointed out in the claims appended.

In the accompanying drawings, A indicates the barrel or cylinder, which is made of metal or other suitable material, and gradually increases in diameter from its rear to its forward end, where it terminates in a flaring mouth, as shown at *a*. This barrel has its longitudinal sides *h h* flat and its longitudinal sides *i i* rounded or polygonal, the object being to prevent the clamping-jaws and their connecting cross-bar from turning within the barrel or tube during operation.

B indicates the jaws, which are pivotally connected at their rear ends to the lateral arms of a centrally-threaded nut or cross-bar, *b*.

C indicates the handle, which is preferably made of wood, and made fast to the rear end of the barrel, as shown. The handle is perforated longitudinally for the passage of the threaded rod D, which engages the threaded perforation *c* of the cross-bar *b*. The handle is provided at its rear end with a plate, *e*, which is also perforated for the passage of the threaded rod D, to the end of which is secured by a transverse pin or other suitable means a turning-knob, I. The perforation plate *e* is secured to the rear end of the handle, and the rod D is shouldered adjacent to the inner face of said plate to prevent the rod from leaving the handle. The jaws B are held apart at their forward ends by

means of a flat spring, F. This spring is connected at its inner end to the inner plane face of one of the clamping-jaws, and is bent so as to have the opposite end engage the inner plane face of the opposite jaw. These pivoted clamping-jaws are provided at their forward ends on their outer sides with rearwardly-inclined heads *g*, to engage the correspondingly beveled or inclined inner faces, *l*, at the flaring mouth of the barrel A. By this construction it will be perceived that when the operator turns the nut or knob I to the left the threaded rod D, through its engagement with the threaded cross-bar *b*, will drive the clamping-jaws forward from the mouth of the barrel, while the spring will spread or press the jaws laterally until the outer sides of said jaws are brought in engagement with the inner plane sides, *i i*, of the barrel, thus causing the jaws to open as they are pressed forward.

To bring the jaws together, or reduce the space between them, the operator simply reverses the movement of the nut or knob I on the rod D.

It is not necessary that the entire forward mouth of the barrel or tube should be flaring or inclined outwardly, as the inclinations may be applied only to the outer ends of the rounded or polygonal walls of the barrel.

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

1. In a wrench, the combination, with the barrel increasing in diameter forwardly to a flaring mouth, of the spring-jaws arranged therein and pivotally connected at their rear ends by a cross-bar, *b*, having a threaded aperture, said jaws having their forward ends headed and inclined rearwardly on their outer sides, and the threaded rod engaging the aperture of the cross-bar and provided at its outer ends with a turning-knob, substantially as specified.

2. The combination, with the barrel, constructed as described, of the pivoted spring-jaws B B, the nut *b*, the handle C, the plate *e*, threaded rod D, and the knob for turning the threaded rod, substantially as specified.

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

JOHN L. PHILLIPS.

Witnesses:

J. LOCKWOOD,
JOSEPH FREEMAN.