A. B. LIPSEY.

WRENCHES.

No. 193,667. Patented July 31, 1877.

Fig. 2.

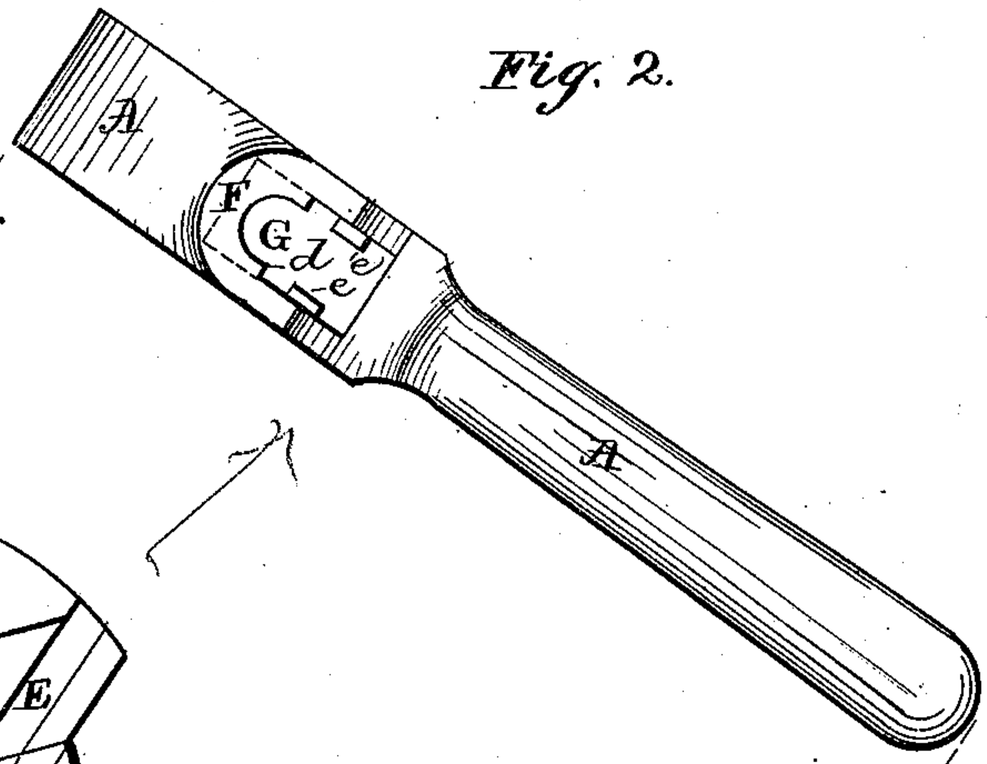


Fig. 1

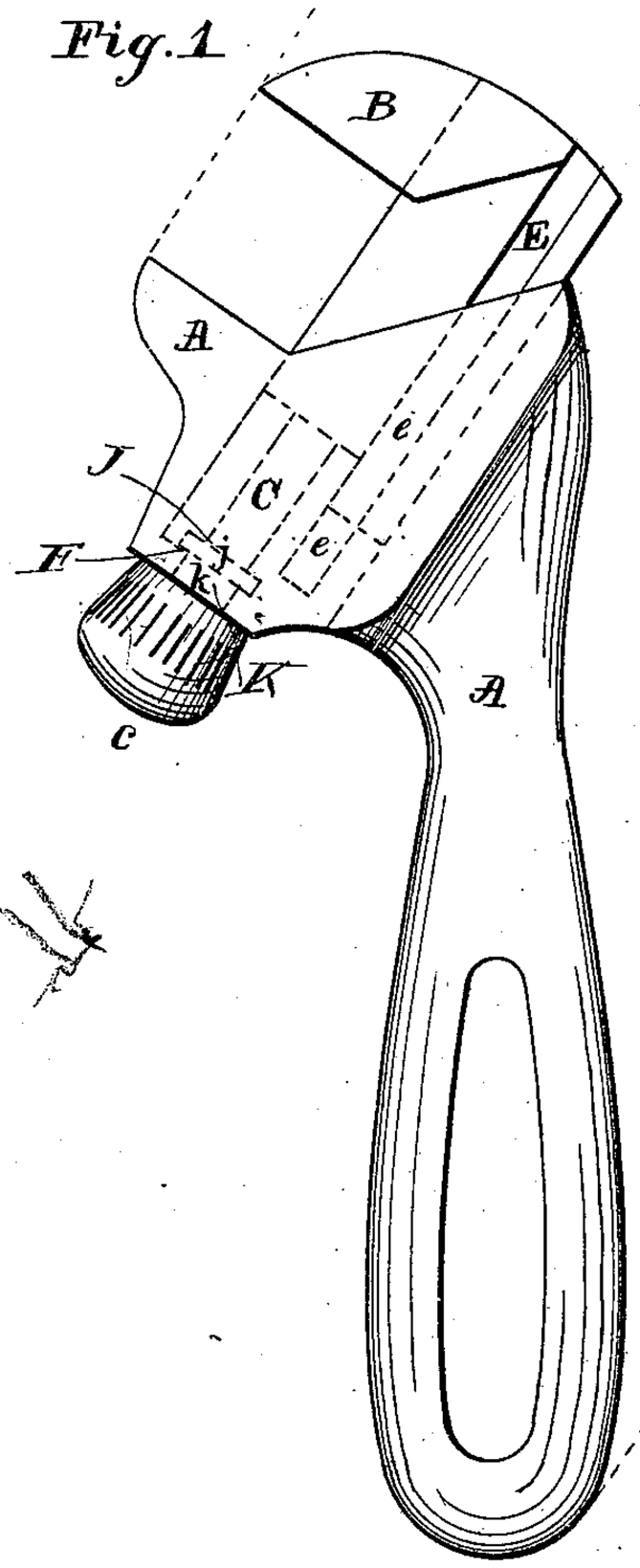


Fig. 3.

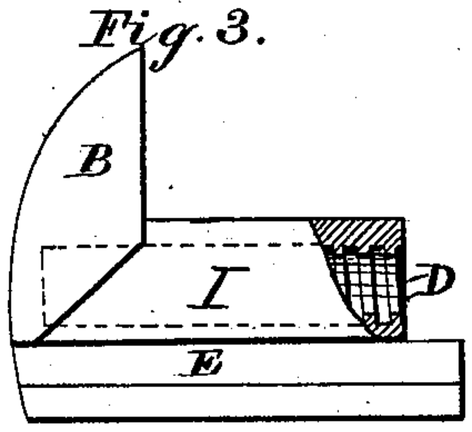


Fig. 4.

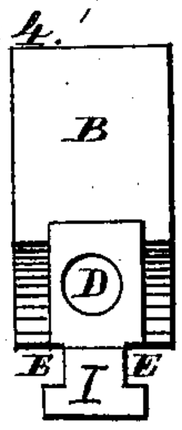
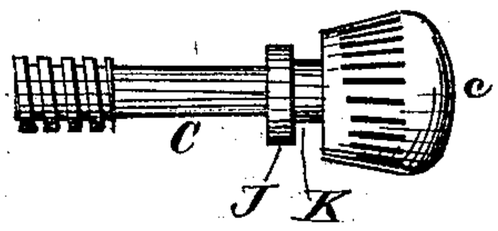


Fig. 5.



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UNITED STATES PATENT OFFICE.

ANDREW B. LIPSEY, OF WEST HOBOKEN, NEW JERSEY.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **193,667**, dated July 31, 1877; application filed November 3, 1876.

To all whom it may concern:

Be it known that I, ANDREW B. LIPSEY, of West Hoboken, county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Adjustable Wrenches, of which the following is a description:

This invention consists in the combination, in a wrench, of a slideway in the head, provided with a segmental or other partly-open fixed collar, a movable jaw, and a screw having a neck at a short distance from its head, whereby, after first inserting the movable jaw in position, the screw, with its head upon its body, may be inserted in the slideway, its neck or portion between its head and the said shoulder fitted into the collar, and its shank screwed into the movable jaw, whereupon each of the three parts will contribute to secure the others in place.

This combination of parts cheapens the wrench materially, for it provides for making the screw and its head in one piece at a considerable saving in cost, and enables the parts to be put together with great facility and quickness, the labor incident to securing the head to the body of the screw being dispensed with.

The invention also consists in features of minor importance to be hereinafter explained.

In the accompanying drawing, Figure 1 is a side view of a wrench embodying my improvements. Fig. 2 is an edge view of the head and handle, looking in the direction of the dotted lines. Fig. 3 is a side view of the movable jaw; Fig. 4, an end view thereof, and Fig. 5 is a side view of the screw.

Similar letters of reference designate corresponding parts in all the figures.

A designates the head and handle. The former is provided with a slideway, G, for the movable jaw B, extending transversely to the fixed jaw and beyond the latter at both ends. Projecting from the inner sides of the cheeks or sides of this slideway are ribs *e e* preferably running not quite through the head, as illustrated by the dotted lines. Near the end of the head farthest from the movable jaw B there is in the slideway G a collar, F, which, as illustrated, projects into the slideway, and is of segmental shape, non-continuous, or, in other words, is provided with an opening, *d*, through which may pass the neck of the screw C, whereby motion is imparted to the movable jaw B.

The movable jaw has a shank, I, fitting within the slideway G, capable of moving therein, and provided with a socket, D, for the reception of the screw. On opposite sides its shank is furnished with grooves E fitting upon the ribs *e e* in the said slideway, and steadying the movable jaw in its movements.

The screw C is threaded but a short portion of its length, is provided near the outer end with an annular shoulder, J, a neck, K, and a head, *c*, which is preferably milled, and is made in one and the same piece with the body or shank and other parts.

The parts of the wrench are put together by inserting the movable jaw B in the outer end of the slideway G, the screw C in the opposite end thereof, so that its shoulder J will be admitted below the ribs *e e* and the neck K into the open-sided collar F, and then the shank is screwed into the socket of the movable jaw. The collar J holds the neck K between the collar J and head *c*, and thereby prevents the screw from moving longitudinally, and the movable jaw keeps it from dropping laterally out of place. Each part, therefore, contributes to retaining the others in place.

The advantage of a screw with a short length of thread on the end, and the remainder of the shank turned smaller than the outside of the thread, is that it admits of some vibration without binding. The advantage of the partly-open collar F is that, by its use, the head and body of the screw can be made in one piece, and the parts of the wrench can be put together without the use of any pins, screws, or rivets whatever, while it securely holds the actuating-screw from moving in a longitudinal direction.

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

1. The combination, in a wrench, of a slideway in the head thereof, provided with a partly-open fixed collar, a movable jaw supported in such slideway, and a screw having a neck at a short distance from its head, and

capable of detachment when freed from the part with which it engages while in use, substantially as described, whereby each of said parts contributes to the support of the others, the head and body of the said screw being made in one piece.

2. In a wrench a slideway provided with a partly-open fixed collar, whereby provision is afforded for the insertion of a screw with its head in place, and adapted to secure the screw longitudinally without other means, substantially as described.

3. The combination, in a wrench with a screw-threaded socket in a movable jaw, of a screw provided with a thread only at the end farthest from the head, and a shank diametrically smaller than said thread, and admitting of play within the said socket, substantially as set forth.

ANDREW B. LIPSEY.

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