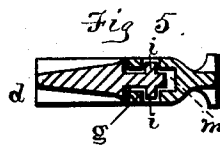
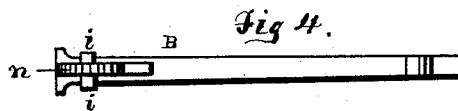
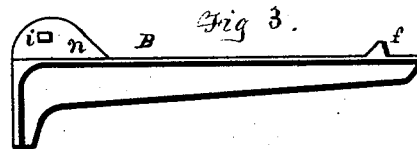
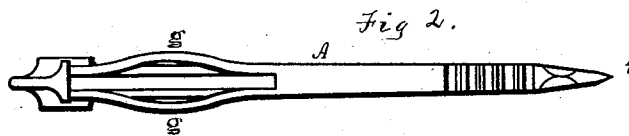
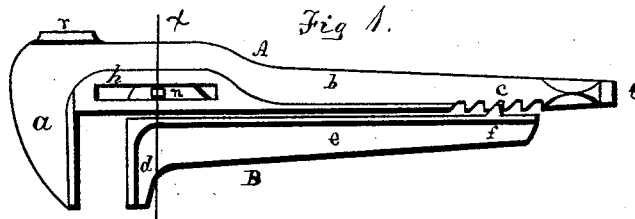


B. C. BRADLEY.
Wrenches.

No. 155,139.

Patented Sept. 22, 1874.



Witnesses.
C. S. West.
O. V. Bond.

Byron C. Bradley

Inventor.

UNITED STATES PATENT OFFICE.

BYRON C. BRADLEY, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **155,139**, dated September 22, 1874; application filed June 29, 1874.

To all whom it may concern:

Be it known that I, BYRON C. BRADLEY, of the city of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Wrenches, of which the following is a full description, reference being had to the accompanying drawings.

Figure 1 is a side view; Fig. 2, an inside view of one part, A, of the wrench; Fig. 3, a side view of the part marked B; Fig. 4, an inside view of B; Fig. 5, a cross-section on line *x* of Fig. 1.

This invention is an improvement on a wrench for which Letters Patent have been heretofore granted to me; and it consists in holding the movable jaw in position by means of two lugs, one on each side of the ear on the back of the jaw, which lugs pass into slots provided for them in the other part of the wrench.

In the drawings, A and B represent the two parts of the wrench, which consists of only these two pieces. *a* is one jaw; *b*, one part of the handle; *c*, notches in *b*. *d* is the other jaw; *e*, the other part of the handle; and *f*, a projection on *e* to engage with the notches *c*. On the back side of the part B is an ear, *n*, having a lug, *i*, on each side. On the inside of A is a long deep recess, *m*, between the two walls *g g*, and in each of these walls is a long slot, *h*. The two parts A B can be cast, using malleable iron. The mold in which A is to be cast is to be so formed that when cast the

walls *g* will be bent outward, as shown in Fig. 2, far enough to allow the ear *n* and its lugs *i* to pass between them. In casting, the walls of the recess which receive the ear *n* are not to be spread below the slot *h*. When the two parts have been brought together, which is to be done after *g g* have been annealed, these parts *g g* can be straightened by a suitable blow, which will complete the wrench. The lugs *i i* being then in place in the slots *h* will be prevented from escaping by the parts *g g*, the same having been straightened. By means of the notches *c* and projection *f* the wrench can be adjusted to nuts of various sizes, and in use the ordinary pressure of the hand will hold the two parts together. The wrench can be used as a hammer for light purposes, *r* being the face of such hammer, and the end *t* of A can be so shaped that it can be used as a screw-driver. The parts *g g* can be cast straight and then be spread apart to receive the lugs *i i*.

What I claim as new, and desire to secure by Letters Patent, is as follows:

The combination of the two parts A and B, the former having a recess, *m*, slots *h*, and notches *c*, and the latter having an ear, *n*, provided with lugs *i* and projection *f*, substantially as and for the purposes specified.

BYRON C. BRADLEY.

Witnesses:

E. A. WEST,
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