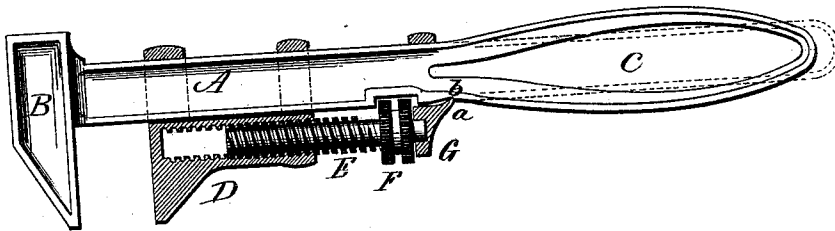


O. B. NORTH.
WRENCH.

No. 186,155.

Patented Jan. 9, 1877.



Witnesses.
H. Channing
Clara Doughton.

Oliver B. North
Inventor.
By *Attys*
Edw. E. Earle

UNITED STATES PATENT OFFICE.

OLIVER B. NORTH, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO O. B. NORTH & CO., OF SAME PLACE.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **186,155**, dated January 9, 1877; application filed June 14, 1876.

To all whom it may concern:

Be it known that I, OLIVER B. NORTH, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Wrenches; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent a sectional side view.

This invention relates to an improvement in the wrench for which Letters Patent were granted to me January 11, 1876, No. 172,155, the object of the invention being to adapt the principle of construction in that patent to a screw-wrench; and it consists in the method of seating the screw, as hereinafter described, and recited in the claim.

The bar A is formed with a head, B, and the open handle C, the same as in my aforesaid patent—that is to say, the open end is cast or formed the same width of the bar; then, after the slide and screw-seat have been passed on over the open handle end, the opening is then spread to make the handle part broader, and give to it the required shape. D is the slide, which is of the usual form, and constructed to move freely on the bar A, and is internally threaded in the manner for screw-wrenches. E is the screw, threaded to

correspond with the thread in the slide, and with a head, F, by which to conveniently turn the screw. G is the seat for the head end of the screw, and is constructed with an opening to pass on over the handle portion, the same as the slide; and it is constructed with a lip, a, on the rear, or toward the handle, and the bar with a corresponding notch, b, and when the seat has been passed on over the handle end, the lip a is bent or set down into the notch b, so as to resist the pressure of the screw when the wrench is in use, and, practically, to retain the seat G in its place on the bar.

This invention greatly simplifies the construction of the wrench, and enables the production of a screw-wrench at much less cost than the usual construction.

I claim—

In a wrench in which the bar, head, and handle are formed in one and the same piece, the combination therewith of the movable jaw D, the screw-seat G, surrounding the bar at the base of the handle, and the adjusting-screw E, the handle being enlarged after the said movable jaw and screw-seat have been placed upon the bar, substantially as described.

OLIVER B. NORTH.

Witnesses:

SAMUEL BRACE,
GEO. P. NORTH.