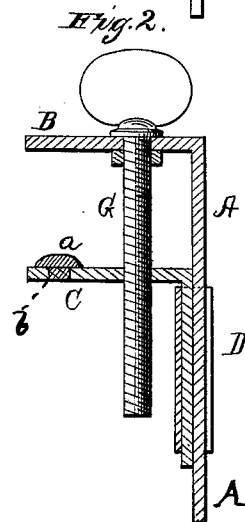
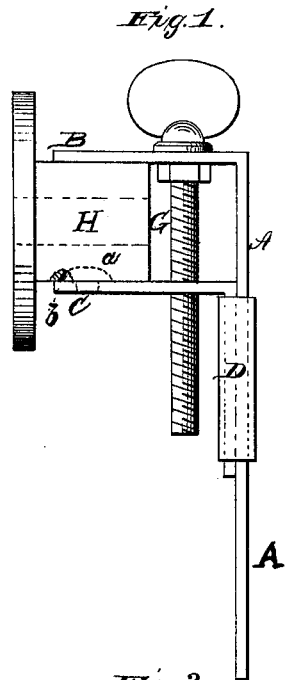


A. BERDAN & A. E. WARREN.
Wrench.

No. 200,971.

Patented March 5, 1878.



WITNESSES
Frank L. Coraudo
Frankfast

INVENTOR
Addison Berdan
Amanda E. Warren
Charles T. Mason
ATTORNEYS

UNITED STATES PATENT OFFICE.

ADDISON BERDAN AND AMANDER E. WARREN, OF TECUMSEH, MICH.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **200,971**, dated March 5, 1878; application filed August 13, 1877.

To all whom it may concern:

Be it known that we, ADDISON BERDAN and AMANDER E. WARREN, of Tecumseh, in the county of Lenawee, and in the State of Michigan, have invented certain new and useful Improvements in Wrenches; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a wrench for taking off and holding burrs of carriages, &c., while oiling, or for other purposes, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side view of our wrench. Fig. 2 is a longitudinal section of the same.

A represents the handle of the wrench, which is made of a flat bar of metal, with its end turned to one side at right angles, forming the stationary jaw B.

C is the movable jaw of the wrench, also made of a flat metal bar, bent in L shape, and the inner part of the jaw provided with an open loop, D, which is welded thereto, and surrounds the edges of the handle A, so as to

hold the jaw C thereto, and yet allow it to move up and down thereon.

The jaw C is adjusted to fit the nut by means of a thumb-screw, G, swiveled near the inner end of the stationary jaw B, and screwing through the inner end of the movable jaw C.

On the outer end of the jaw C is a key or lug, *a*, which fits in a seat, *b*, made in one side of the nut H, whereby, when the jaw is screwed up, the nut is held by the wrench after being taken off, and cannot be mislaid or lost while oiling the axle.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the handle A, provided with jaw B, the sliding jaw C, provided with the open loop or sleeve D, and the lug *a* on its outer end, the jaw B being operated by the thumb-screw G, swiveled in the jaw B, and screwing through the movable jaw C, all constructed substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 5th day of July, 1877.

ADDISON BERDAN. [L. S.]
AMANDER E. WARREN. [L. S.]

Witnesses:

WILLIAM SEVERANCE,
J. E. WARING.