

Hollen & Pierce,

Nut Wrench.

N^o 34,498.

Patented Feb. 25, 1862.

Fig. 1.

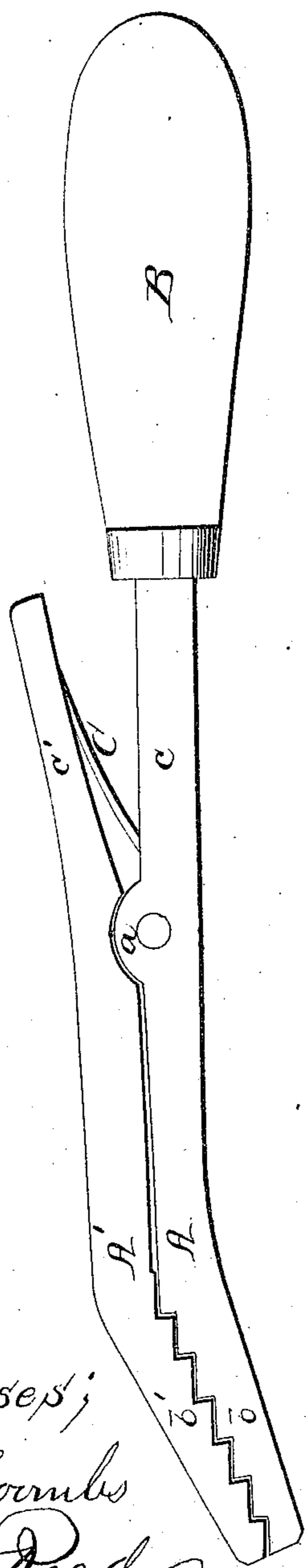
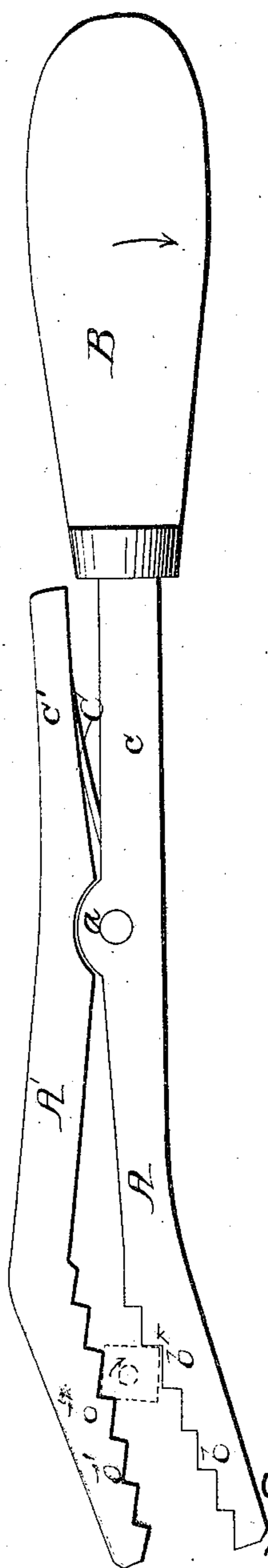


Fig. 2.



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UNITED STATES PATENT OFFICE.

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IMPROVED SCREW-WRENCH.

Specification forming part of Letters Patent No. 34,498, dated February 25, 1862.

To all whom it may concern:

Be it known that we, F. HOLLEN and A. H. PIERCE, both of Blairsville, in the county of Indiana and State of Pennsylvania, have invented a new and Improved Screw-Wrench; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side elevation of our invention when the same is closed. Fig. 2 is a similar elevation of the same when it is opened and applied to a burr or nut.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in giving to the inner surfaces of two jaws the form of racks with ratchet-teeth pointing in opposite directions, said jaws being connected by means of a hinge-joint and forced together by a suitable spring in such a manner that a wrench is obtained which can be applied to burrs or small nuts of various sizes, and which can be operated with ease and facility.

To enable those skilled in the art to make and use our invention, we will proceed to describe it with reference to the drawings.

The two jaws A A' are connected by a hinge-joint *a*, and they are bent at an angle of about twenty degrees (more or less) to facilitate the operation. Each of the jaws is provided on its inner surface with a toothed rack *b b'*, the teeth being shaped like ratchet-teeth, and so arranged in relation to each other that when the jaws are closed, as shown in Fig. 1, the teeth of one jaw fit into the notches between the teeth of the other jaw. By referring to the drawings it will be seen that the teeth *b* of the stationary jaw A point outward away from the joint *a*, whereas the teeth *b'* of the movable jaw A' point toward the joint.

The shank *c* of the stationary jaw A is inserted into the handle B, and the shank *c'* of the movable jaw extends also beyond the hinge-joint, and it is bent upward or away from the shank *c* of the stationary jaw, so that by closing up the shanks *c c'* the jaws A

A' are thrown open, and vice versa. A spring C, which is inserted between the shanks *c c'*, keeps the jaws closed.

The operation is as follows: When the jaws A A' are thrown open, one of the teeth *b** of the stationary jaw and a corresponding tooth *b'** of the movable jaw can be brought to bear on the edges of a burr in the manner as clearly shown in Fig. 2 of the drawings, where the burr is represented in red outlines. It will be noticed that in this position the vertical sides of the teeth *b* b'** are applied to the edges of the burr, and by moving the handle in the direction of the arrow marked upon it in Fig. 2 the burr is turned in the direction of the arrow marked thereon. If in turning the burr the handle or shank of the wrench meets with a resistance, it is not necessary to take the wrench off from the burr in order to take a fresh hold. By depressing the shank of the movable jaw the latter is thrown open and the wrench can be moved back for a fresh hold. It is obvious that by turning the wrench upside down it allows of turning the burr in the direction opposite to the arrow marked on it in Fig. 2.

For burrs or nuts of different size different teeth of the jaws will be brought in operation, and by increasing the length of the jaws in front of the hinge the capacity of the wrench is increased.

Our wrench is unsurpassed for its simplicity, it can be made at a trifling expense, and it is very convenient in its application.

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

A burr-wrench with two jaws A A', the inner surfaces of which are provided with ratchet-teeth *b b'*, and which are united by a hinge-joint *a* and forced together by a suitable spring C, in the manner and for the purpose shown and described.

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