

G. W. FREEMAN.

Wrench.

No. 161,022.

Patented March 23, 1875.

Fig. 1.

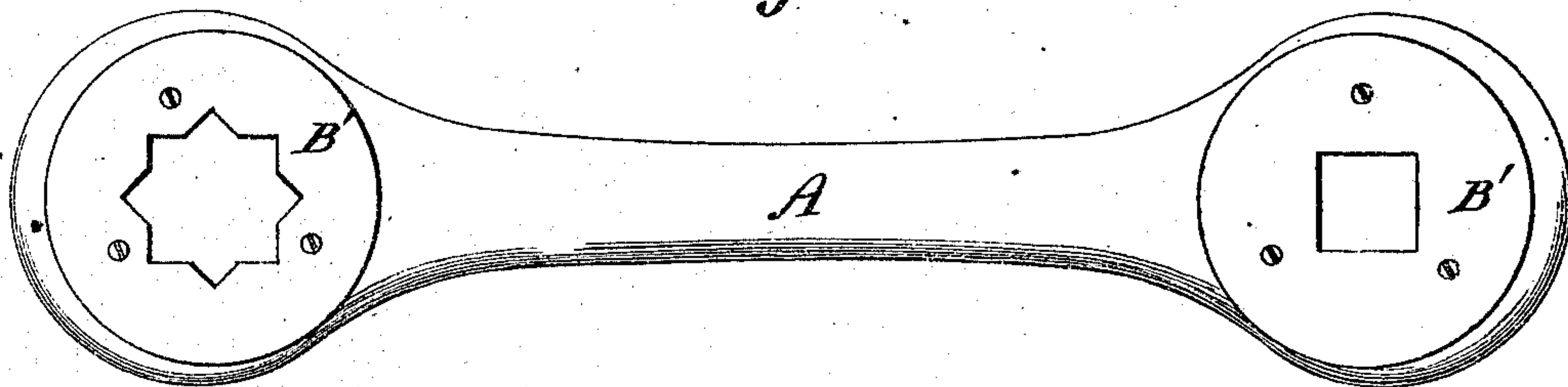


Fig. 2.

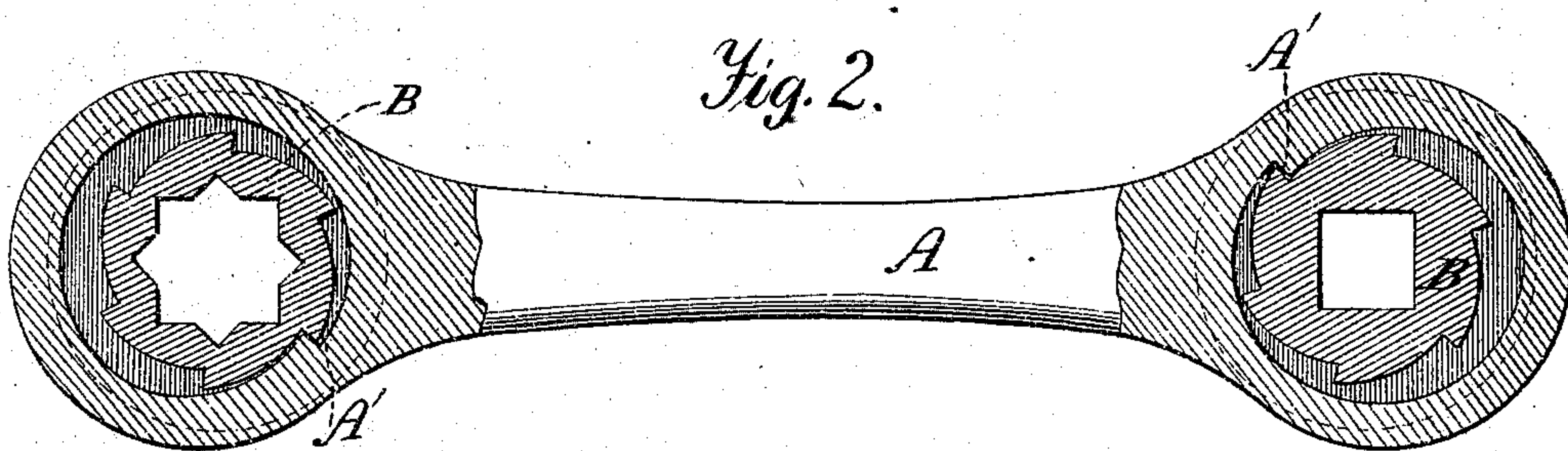
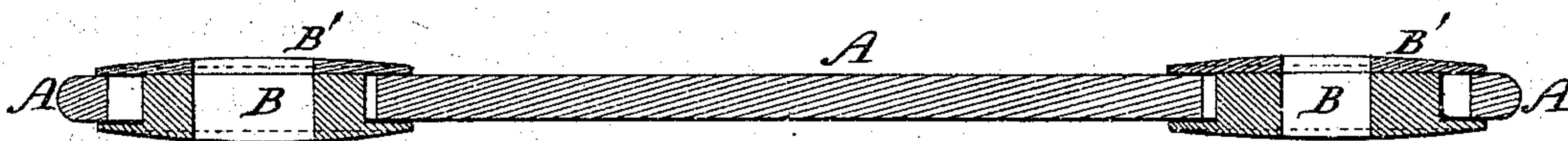


Fig. 3.



Witnesses.

A. Ruppert.

Harry Coleman.

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UNITED STATES PATENT OFFICE.

GEORGE W. FREEMAN, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **161,022**, dated March 23, 1875; application filed September 28, 1874.

To all whom it may concern:

Be it known that I, GEORGE W. FREEMAN, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan; Fig. 2, a longitudinal horizontal section; Fig. 3, a longitudinal vertical section.

The same letters are employed in all the figures in the designation of the same parts.

This invention relates to that class of wrenches in which a hole is left to receive the nut, which is turned by turning the handle.

The handle A is made of cast or malleable metal of the required size, having a ring formed in one or both heads. The inner face of this ring is not circular but scroll-formed, having a shoulder formed by the line which connects the two ends of the curve. The flanged socket B is formed in two pieces, one having a flange and boss, the former larger than the diameter of the ring, and the latter smaller and formed with teeth like those of a ratchet-wheel to engage the shoulder formed at A' in the innerface of the ring. The shoulder, if located as shown in Fig. 2, it is manifest, will prevent the boss from turning, except in one direction, when the handle is pressed toward the nut. The size of the recess in the ring is, however, such that the boss may be made to pass over the shoulder in one direction, or without engaging it in any direction, if the handle is drawn from the nut. When the boss is inserted in the ring another flange-piece, B', is fastened to it by screws, or preferably by a catch, which will permit its convenient removal when one form of hole is to be substituted for another in operating upon nuts of different sizes and forms. In this way

a variety of sockets may be provided to operate with the same handle, all having the same size of boss to be adapted to one handle.

It is manifest from this description that if the handle is applied to the nut with one face down the ratchet on the boss will permit it to turn freely in one direction only, the shoulder engaging the teeth whenever the attempt is made to turn it in the opposite direction if the operator presses the handle toward the nut. If the handle is turned over and applied, the faces being reversed, the ratchet will permit it to be turned only in the opposite direction. By this means the wrench may be used either for tightening or loosening the nut.

I am aware that revolving sockets have been used in connection with a handle with an annular opening in the end, but in such cases a pawl and spring have been employed to engage the ratchet-teeth on the periphery of the socket-piece. In such cases the latter is fitted neatly within the ring. By using the scroll-face in the ring and leaving freedom of play for the socket-piece B the construction of the wrench is simplified and cheapened, as no fitting is required.

What I claim as my invention, and desire to secure by Letters Patent, is—

A wrench, combining in its construction a handle, A, having an annular opening in its end, with a scroll-formed face, and a ratcheted socket-piece, B, fitting loosely therein, and arranged to operate substantially in the manner set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE W. FREEMAN.

Witnesses:

DANIEL H. WILES,
STEPHEN B. WILSON.