

A. SHEPARD.
Wrench.

No. 231,454.

Patented Aug. 24, 1880.

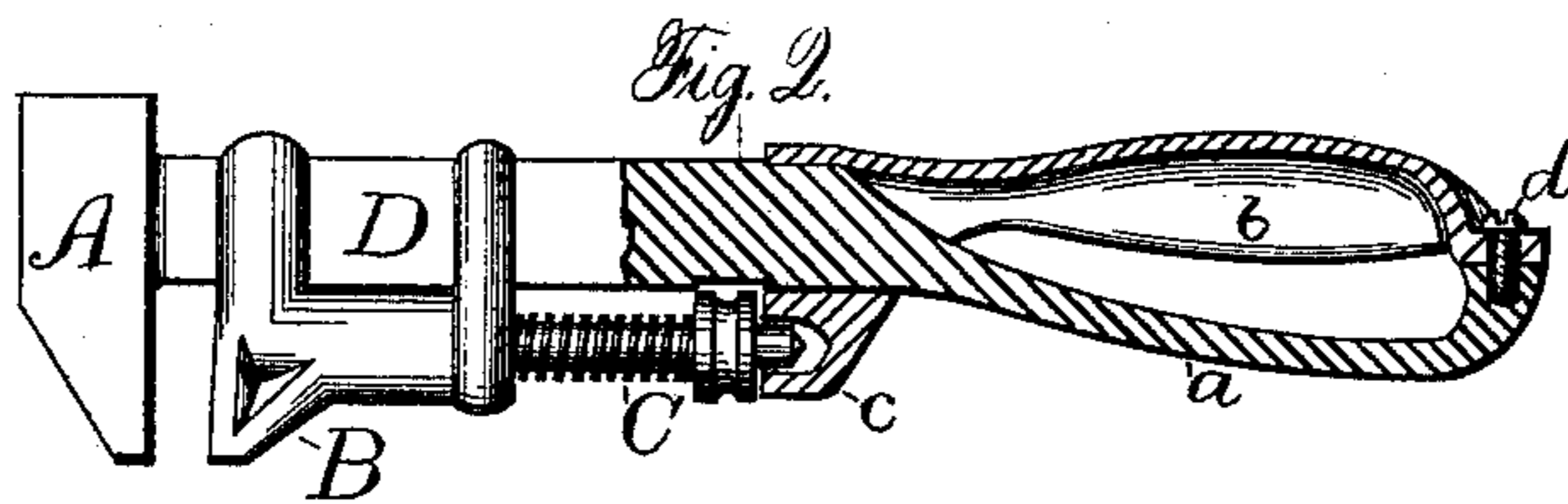
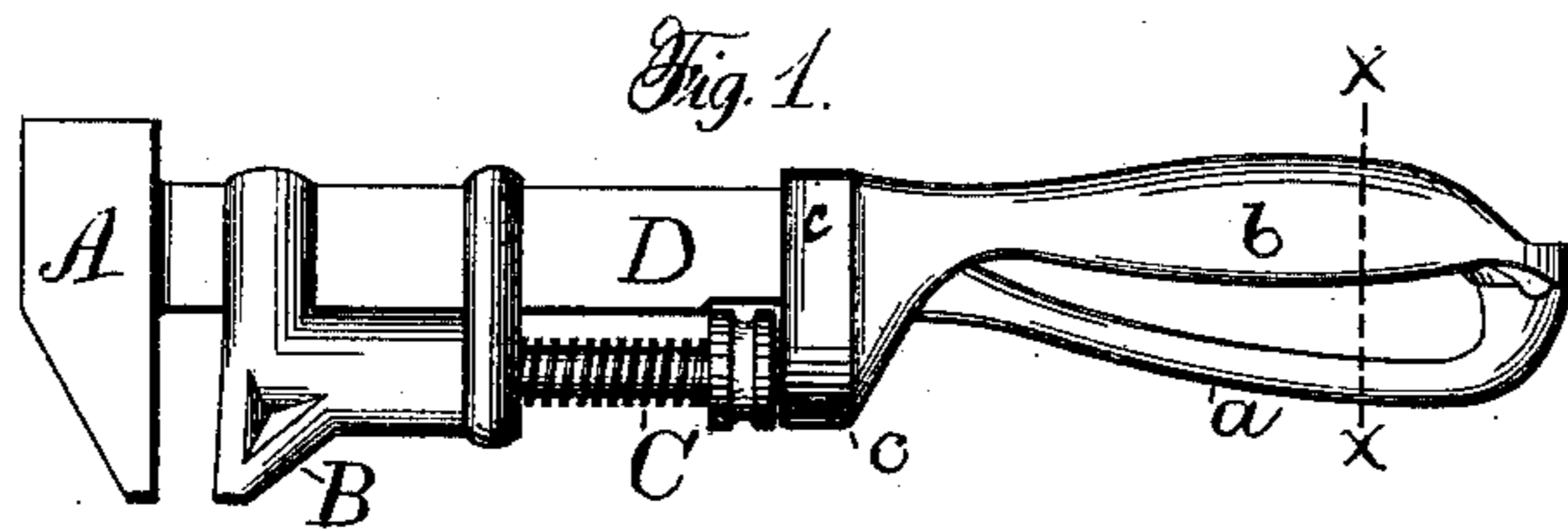
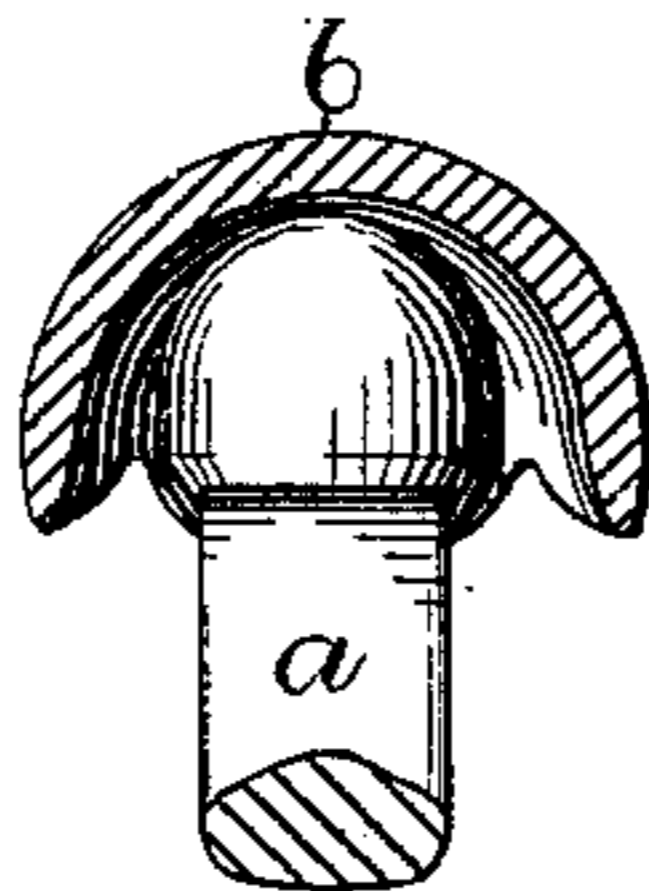


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

AMOS SHEPARD, OF PLANTSVILLE, CONNECTICUT.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 231,454, dated August 24, 1880.

Application filed February 5, 1880.

To all whom it may concern:

Be it known that I, AMOS SHEPARD, of Plantsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The improvement relates to the peculiar formation of the wrench-bar, handle, and step; and it consists of a partial handle formed integral with the wrench-bar, and a separately-formed partial handle secured thereto by mechanical means to form the complete handle, as hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a wrench which embodies my invention. Fig. 2 is a longitudinal section of the same, partly in elevation; and Fig. 3 is a transverse section of the same on line *x* of Fig. 1.

The fixed jaw A, movable jaw B, adjusting-screw C, and the straight portion of the wrench-bar D are the same as those in ordinary use. The handle end of the wrench-bar D is flattened and curved to form the partial handle *a* integral with the wrench-bar. The separate partial handle *b*, I prefer to make of cast-iron and in one and the same piece with the ordinary step *c*. If desired, however, the step might be formed of a separate piece without changing the main feature of my invention. If so formed, enough of the partial handle *b* should be left at that end to embrace the wrench-bar, said partial handle being in all respects substantially in the form now shown, except that it would be shorter at the step end by a distance equal to the length removed in omitting the step. With this slight modification, it will be seen that the organization of the handle and wrench-bar is complete, independent of the presence or absence of the step.

The step end of the part *b* has a longitudinal opening through it, which is designed to fit and receive the squared portion of the wrench-bar, as shown. The main portion of this part *b* is a hollow shell, semi-cylindrical in transverse section. The part *a* at its outer end turns toward the part *b* and meets the same at their ends. Small lugs or projections *e* are formed upon the part *b*, which embrace the sides of the part *a*, to assist in holding the parts in place. It is immaterial upon which part of the handle these projections are placed.

The part B, with its screw C, is slipped longitudinally on the bar into place, when the part *b* is slipped into place in like manner. A screw, *d*, or its equivalent, is then passed through the part *b* into the part *a*, when the two partial handles, one of which is formed integral with the wrench-bar, are mechanically secured together so as to form a complete skeleton-handle and so as to support the step firmly in place.

I am aware that similar wrenches have been made with iron handles, and that a prior patent shows a skeleton iron handle and step cast in one piece and secured to the square part of the wrench-bar by a rivet, all of which are hereby disclaimed.

I claim as my invention—

In a wrench, the partial handle *a*, formed integral with the wrench-bar, and the separate partial handle *b*, mechanically secured thereto, said parts forming the completed wrench-handle, substantially as described, and for the purpose specified.

AMOS SHEPARD.

Witnesses:

JOHN EDWARDS, Jr.,
JAMES SHEPARD.