G. W. WAITT.

Pipe-Wrench.

No. 167,368. Patented Aug. 31, 1875.

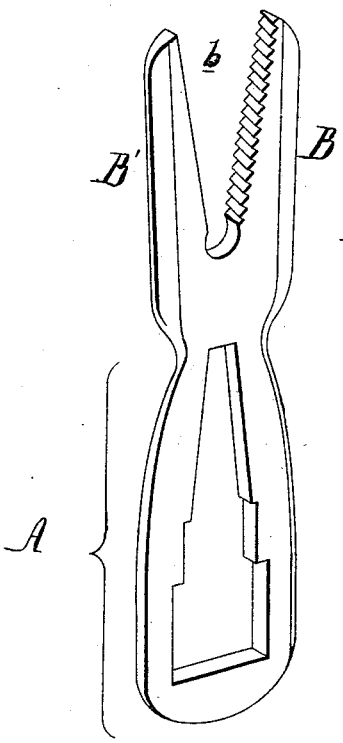

Fig. 1.

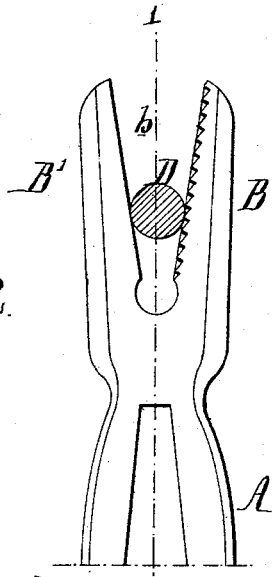

Fig. 2.

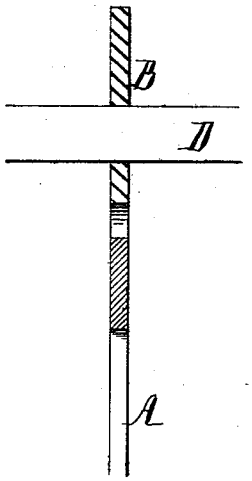

Fig. 3.

Witnesses,
Harry Smith
Hubert Howson

George W. Waitt
by his attorneys,
Howson and Son

UNITED STATES PATENT OFFICE

GEORGE W. WAITT, OF PHILADELPHIA, PA., ASSIGNOR TO HIMSELF, EDWARD P. CARPENTER, AND HORACE M. SHORTLIDGE, OF SAME PLACE.

IMPROVEMENT IN PIPE-WRENCHES.

Specification forming part of Letters Patent No. **167,368**, dated August 31, 1875; application filed June 16, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. WAITT, of Philadelphia, Pennsylvania, have invented an Improved Wrench, of which the following is a specification:

The object of my invention is to construct a cheap, simple, and efficient pipe-wrench; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of the wrench; Fig. 2, a front view of part of the same; and Fig. 3, a section on the line 1 2.

The stem A of the wrench may be made with an opening or openings, *a*, of such a character that the instrument may be used for operating on different-sized nuts or screw-heads. The permanent jaws B and B′ are preferably made in one piece with the stem of the wrench, these jaws presenting a recess or opening, *b*, with inside edges converging from the outer end, the said jaws being thus adapted to pipes, rods, or other round objects of different diameters. The inner inclined edge of one jaw, B′, is plain, and that of the opposite jaw B has sharp-edged teeth, which, on moving the instrument in the direction of the arrow, will indent one side of the pipe or other round object D, and cause the same to turn in the same direction.

Attempts have been heretofore made to construct efficient wrenches of this character, but the efforts have been unsuccessful, owing, as I have discovered, to the plan of making the teeth straight and parallel with the object operated on.

In this case the proper contact-point frequently falls between the points of two teeth, so that neither of the teeth will take hold, and the wrench consequently slips.

It will be evident that by arranging the teeth at an angle to the object to be operated upon the contact-point of the object must invariably cross some portion of one or other of the teeth, so that slipping is effectually prevented. An advantage also possessed by the inclined teeth is that portions of two or more teeth can operate upon the object at once, a result which cannot be attained in a straight-toothed wrench without burying one tooth.

I claim as my invention—

The within-described wrench, having the inclined edge of one jaw plain, and that of the other with teeth inclined, as set forth.

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

GEO. W. WAITT.

Witnesses:

HARRY SMITH,

HUBERT HOWSON.