

(No Model.)

J. S. BARDEN.  
PIPE WRENCH.

No. 458,934.

Patented Sept. 1, 1891.

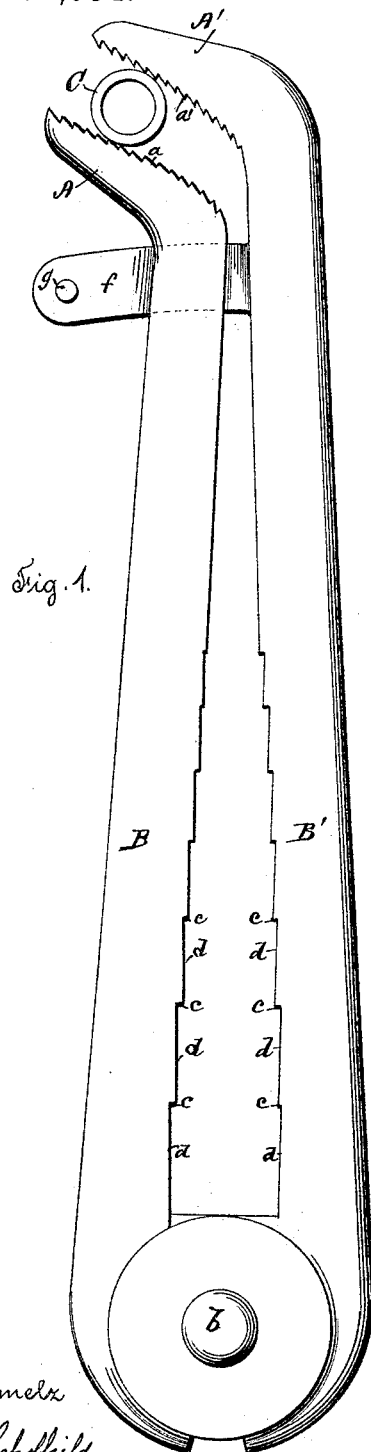


Fig. 1.

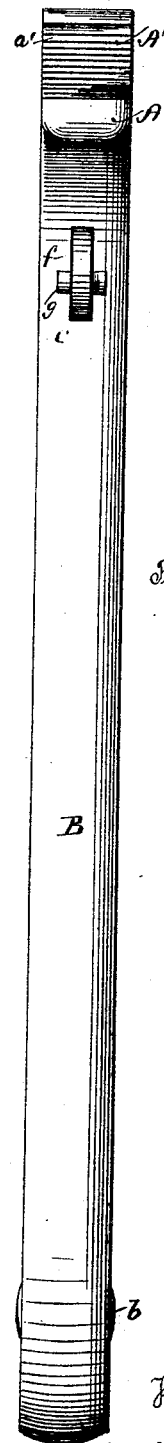


Fig. 2.

Witnesses  
Chas. F. Schmeltz  
Joseph J. Scholfield

Inventor  
John S. Barden,  
By his Attorney  
S. Scholfield

# UNITED STATES PATENT OFFICE.

JOHN S. BARDEN, OF EAST PROVIDENCE, ASSIGNOR TO HIMSELF, AND  
HENRY F. JENKS, OF PAWTUCKET, RHODE ISLAND.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 458,934, dated September 1, 1891.

Application filed December 10, 1890. Serial No. 374,220. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN S. BARDEN, a citizen of the United States, residing at East Providence, in the State of Rhode Island, have  
5 invented a new and useful Improvement in Pipe-Wrenches, of which the following is a specification.

My invention has for its object to provide a cheap and effective pipe-wrench which can  
10 be advantageously used in a limited space; and my invention consists in so constructing the jaws of the wrench that their shanks will form the handle for the same and have their pivot so placed that the hand of the operator  
15 shall press both jaws together by holding the wrench at a point between the jaws and the pivot, the said jaws being constructed to diverge from each other outwardly and being provided with oppositely-directed teeth, as  
20 hereinafter fully set forth.

Figure 1 represents a side view of my improved wrench. Fig. 2 is an edge view of the same.

In the accompanying drawings, A A' are the  
25 outwardly-diverging jaws of the wrench, provided with the teeth *a a'*, which are inclined in opposite directions, so that the line of strain shall be directed toward the pivot-point *b* of the shanks B B'. The inner and adjacent  
30 edges of said shanks B B' are notched, as at *c*, so that the opposite flat sides *d e* will be parallel with each other when the distance between them is equal to their length, so that openings will be formed which may be employed to turn square nuts or bolt-heads, the  
35 openings increasing in size as they approach the pivot *b*.

When the wrench is to be used, the hand of the operator will serve to close the jaws until  
40 the pipe C is gripped, and then when the wrench is turned the teeth will catch in the surface of the pipe, tending to close the jaws still more, thus obtaining a still firmer grip

on the said pipe. As the shanks B B' are jointed at a point considerably distant from  
45 the jaws A A', a comparatively small difference in the distance between the jaws is obtained relatively to the amount of opening or closing of the wrench, and as the teeth are so set that the strain is in a line running  
50 toward the pivot a firm and safe grip is obtained, so that all liability of a slip is obviated. The jaw A may be provided with a slot-opening *e*, while the jaw A' is provided with the projecting arm *f*, adapted to enter  
55 the said opening *e* of the jaw A and serving to prevent the jaws from becoming twisted out of line with each other by undue strain, and at the end of the arm *f* is placed the pin  
60 *g*, which serves as a stop to prevent the jaws from being separated at a too great distance from each other.

I claim as my invention—

1. A pipe-wrench the jaws of which diverge outwardly from each other and are provided  
65 with oppositely-directed engaging teeth, the said jaws being pivoted to each other at the ends of their shanks, so as to provide an operating-handle between the pivoting-point and the oppositely-notched jaws, substantially  
70 as described.

2. The combination, with the jaws, of the shanks having the specified notches at their inner and adjacent edges, substantially as  
75 and for the purpose set forth.

3. A pipe-wrench the jaws of which form the handle and which are pivoted to each other at the ends of their shanks and provided with a supporting-arm which serves to keep the jaws in line with each other and to limit  
80 their opening movement, substantially as described.

JOHN S. BARDEN.

Witnesses:

SOCRATES SCHOLFIELD,  
JOHN S. LYNCH.