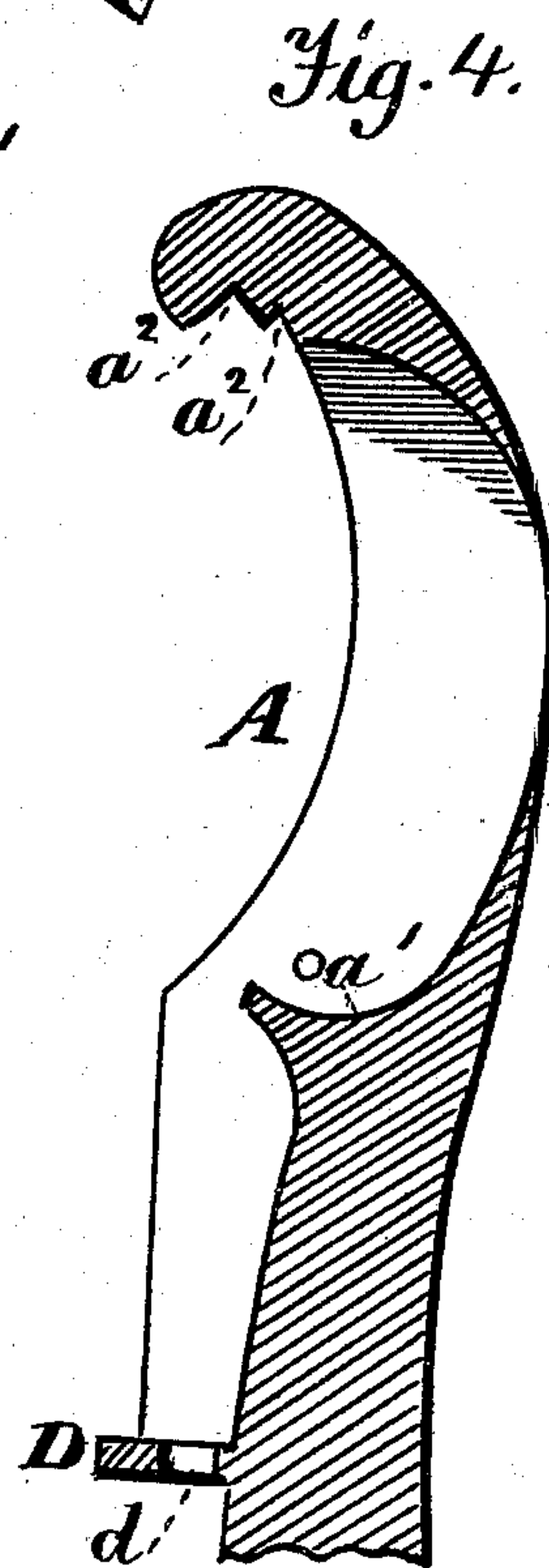
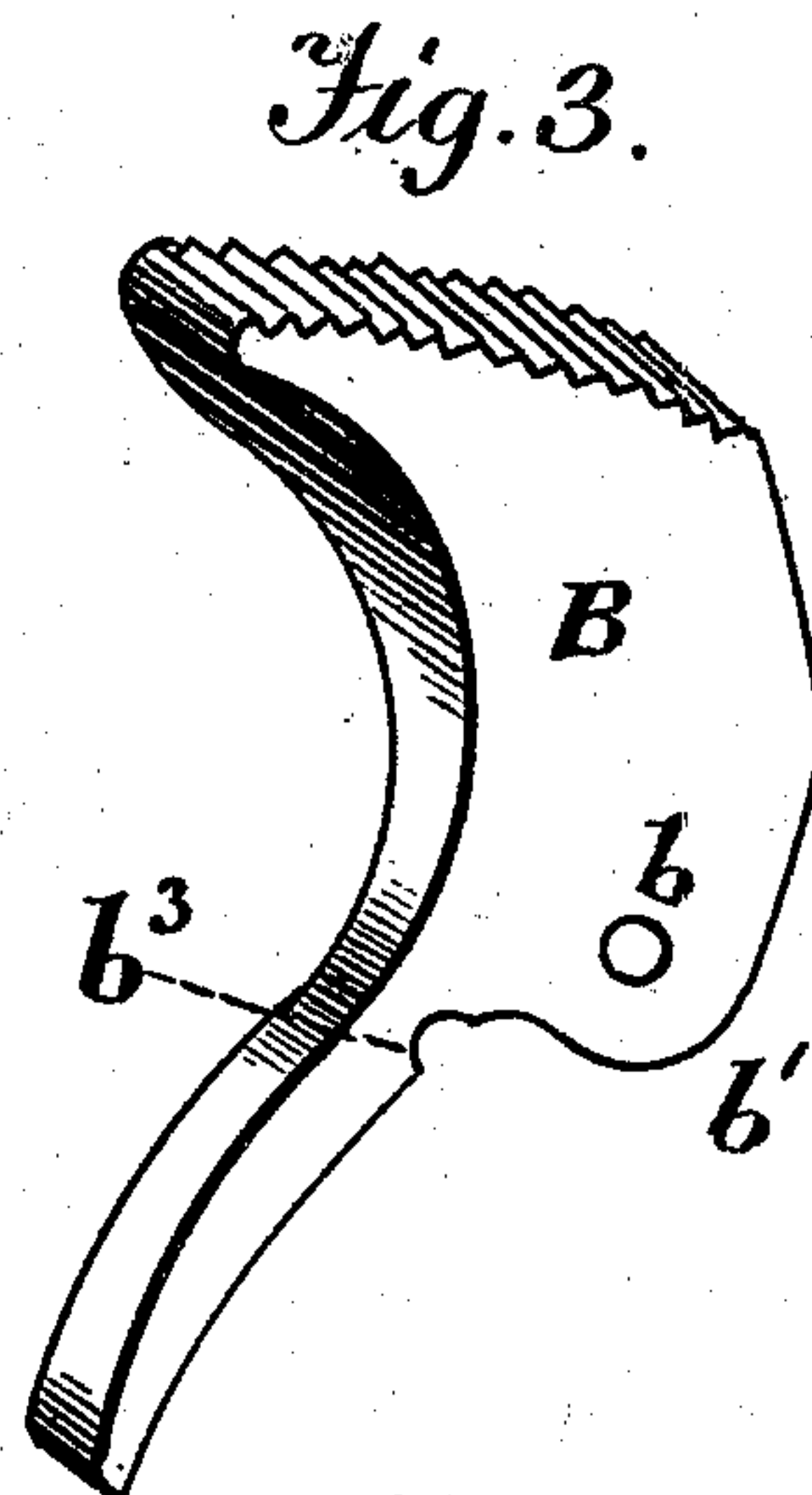
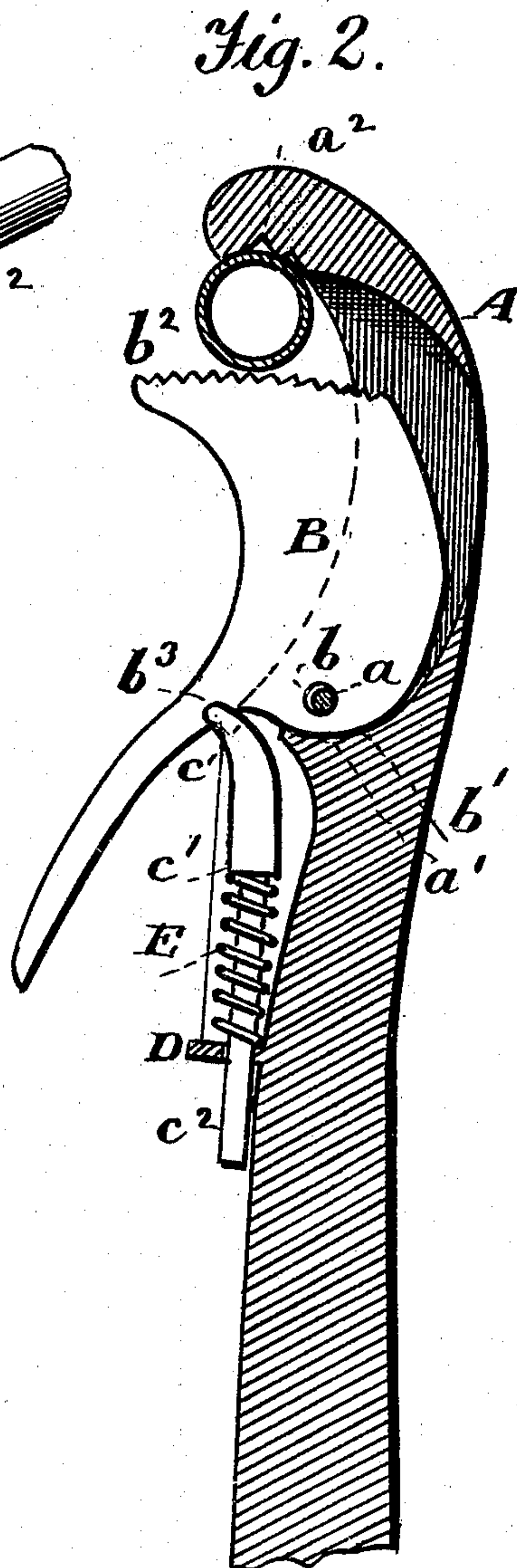
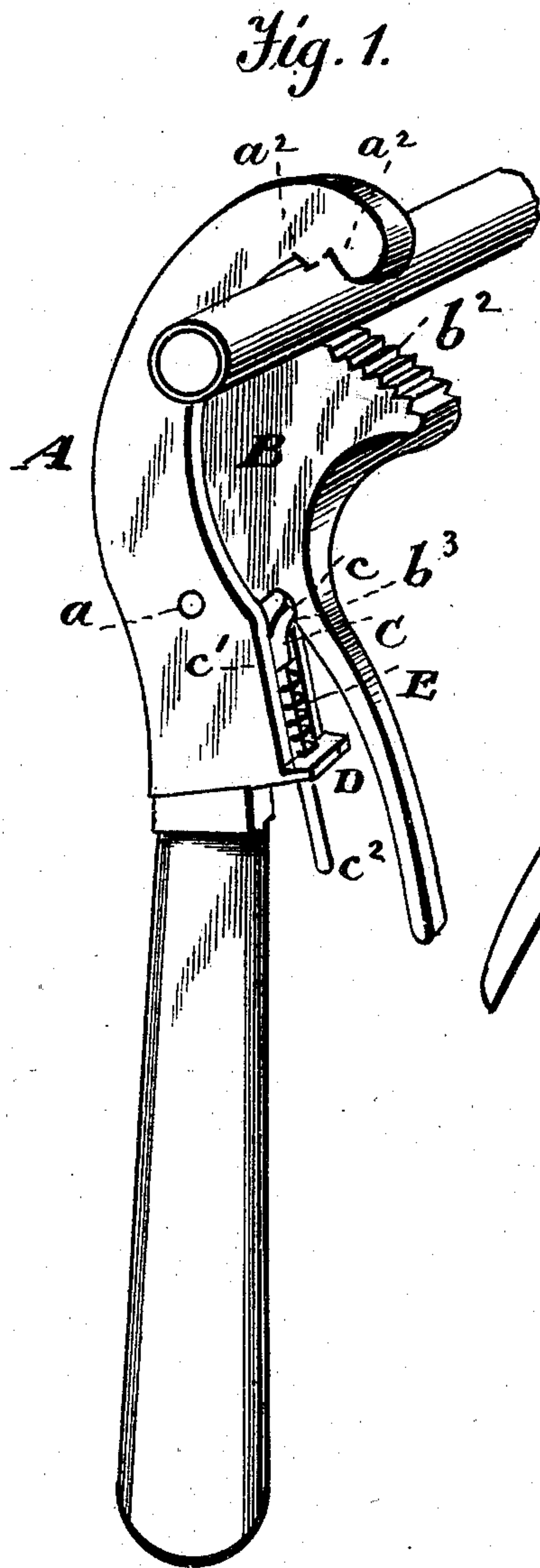


(No Model.)

M. H. RIZA.  
PIPE WRENCH.

No. 550,693.

Patented Dec. 3, 1895.



Witnesses.  
A. Rupert.  
H. A. Daniel,

**Inventor:**  
Mike H. Riza  
Per  
Thomas P. Simpson  
att'y



# UNITED STATES PATENT OFFICE.

MIKE HENRY RIZA, OF CENTRE MILL, TEXAS.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 550,693, dated December 3, 1895.

Application filed April 29, 1895. Serial No. 547,581. (No model.)

*To all whom it may concern:*

Be it known that I, MIKE HENRY RIZA, a citizen of the United States, residing at Centre Mill, in the county of Hood and State of Texas, have invented certain new and useful Improvements in Pipe-Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The special object of the invention is to make a pipe-wrench with a pivoted jaw which shall rest at its rear end against a solid support when gripping the pipe, so that all strain shall be taken from its pivot, while the wrench shall also have a stationary jaw with two bearings for pipes of varying sizes to rest against and shall also have a setter to act against the rear of the movable jaw in the manner and for the purpose hereinafter described.

Figures 1 and 2 of the drawings are respectively perspective and sectional views; Fig. 3, a detail view of the movable jaw, and Fig. 4 a similar view of the stationary jaw.

In the drawings, A represents the fixed jaw of my pipe-wrench, integral with the handle, and B the movable or lever jaw, which turns upon a fulcrum or pivot  $a$ , its hole  $b$  being larger than the pivot to allow the curved rear end  $b'$  to bear against the wall of the corresponding concave curve  $a'$  in the jaw A. This relieves the pivot  $a$  of all strain, which is thereby thrown upon the stationary jaw at the curve  $a'$ .

The pivoted jaw B is provided with the customary teeth  $b^3$  to bite upon one side of the pipe, while the opposite side rests upon one of the notches or bearings  $a^2 a^2$ , the latter being concave angles, which furnish a very stable support.

C represents my setter, having a front end

$c$ , fitting into a socket  $b^3$  of the jaw B, the shoulder  $c'$ , and the rear arm  $c^2$ , the latter extending through a guide-hole  $d$  of a rear flange D. The line of strain when the jaw B is acting upon a pipe passes through the middle of the pipe held and through the pivot  $a$ , so that the back strain from the pipe will all be taken by the curves  $a' b'$  and none by the pivot  $a$ .

E is a spiral spring which encircles the arm  $c^2$  and bears at one end against the flange D, while at the other end it presses against the shoulder  $c'$ . Thus the pivoted jaw B is held in position while holding a pipe, but may at any time, by thumb-pressure, be raised up and away from the pipe as the teeth increase in their distance from the pivot  $a$  from the inner to the outer end.

Having thus described all that is necessary to a full understanding of my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. The setter C having a front end  $c$ , shoulder  $c'$  and rear arm  $c^2$  in combination with a flange D with the guidehole for said arm, a spiral spring E encircling said arm, and a pivoted jaw B having the socket  $b^3$ , all substantially as and for the purpose specified.

2. A pipe wrench consisting of the handle, jaw A having the pivot  $a$ , concavity  $a'$ ; and bearings  $a^2 a^2$ ; the jaw B turning loosely on said pivot and having a rear end  $b'$  fitting the concavity  $a'$ ; and the setter C having a front end  $c$ , shoulder  $c'$  and rear arm  $c^2$ ; the flange D having a guide-hole for said arm and the spiral spring E encircling said arm; all combined constructed and arranged substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MIKE HENRY RIZA.

Witnesses:

L. W. PACE,  
L. M. PACE.