

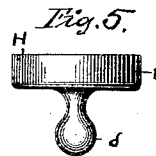
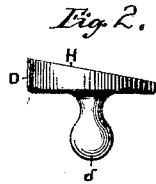
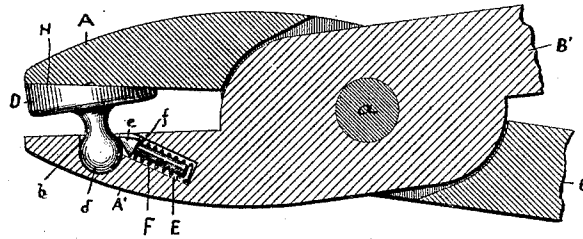
(No Model.)

G. W. MILLER.  
JAWS FOR CLAMPING TOOLS.

No. 448,451.

Patented Mar. 17, 1891.

*Fig. 1.*



Witnesses:  
*Chas. P. Sumner*  
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Inventor:  
*George W. Miller*  
By *George D. Seymour*  
*Att'y.*

# UNITED STATES PATENT OFFICE.

GEORGE W. MILLER, OF MERIDEN, CONNECTICUT.

## JAW FOR CLAMPING-TOOLS.

SPECIFICATION forming part of Letters Patent No. 448,451, dated March 17, 1891.

Application filed August 8, 1889. Serial No. 320,078. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. MILLER, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Jaws for Clamping-Tools; and I do declare the following to be a full, clear and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in that class of clamping-tools which have one of their two jaws provided with a bearing-piece adapted to automatically accommodate itself in position to the contour of the object gripped, the object being to simplify the construction and application of the said bearing-piece.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in longitudinal section of a pair of pliers provided with a bearing-piece constructed in accordance with my invention. Fig. 2 is a detached view, in side elevation, of the said bearing-piece. Fig. 3 is a similar view of the headed retaining-pin. Fig. 4 is a similar view of the spring, and Fig. 5 is a similar view of a modified form which the bearing-piece may assume.

As herein shown, the bearing-piece consists of a disk-shaped head *D*, having a beveled outer face *H*, and a ball *b* offsetting from the center of the rear face of the said head and reduced in size or necked where it joins the same. An open socket *d*, formed in the jaw *A'* of the pliers, to which, as shown, my invention is applied, receives the said ball, which is retained therein by the engagement with it on the side of its neck of the conical head *E* of a pin, which is located in a cylindrical chamber *E*, formed in the said jaw at an inclination to the face thereof and opening into the outer end of the said socket. A spiral spring *F*, interposed between the bottom of the said chamber and the shoulder *f* of the pin which it encircles, exerts a constant effort to push the conical head of the pin toward the necked portion of the bearing-piece, whereby the same is held in place, without, however, being thereby confined or limited in

movement. When the bearing-piece is seized and pulled outward, the spring allows the pin to retire into the chamber to permit its removal, and so when the bearing-piece is pressed inward in being replaced. If desired, the outer face of the bearing-piece may be made flat, as shown by Fig. 3 of the drawings; but the beveled form is preferred. The pliers herein shown also consist of a jaw *A*, handles *B* and *B'*, and a pivot *a*, and are of ordinary construction, except as specified.

My invention is not limited to use in pliers, although especially adapted to small tools like pliers and pinchers, but may also be used in vises and in large clamping-tools of like character.

I am aware that a clamping-tool having its jaws provided with ball-and socket bearing-pieces is not broadly new, and that it is old to enter a screw into a recess in the ball of such a bearing-piece for holding the same in place. I do not therefore claim any of these constructions, broadly; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a clamping-tool, the combination, with a jaw thereof having an open socket and an inclined recess formed in its inner face, the latter opening into the open end of the former, of a bearing-piece having a head and a ball offsetting from the rear face thereof and necked or reduced where it joins the same and fitting into the said socket, a pin located in the recess in the face of the jaw and provided at its outer end with a conical head which engages with the ball of the bearing-piece on the necked side thereof and holds the ball in the socket without interfering with its free movement therein, and a spring encircling the shank of the pin and tending to press the head thereof toward the necked portion of the ball of the bearing-piece, but yielding on occasion to permit the pin to retire for the removal of the ball from its socket, substantially as described.

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

GEORGE W. MILLER.

Witnesses:

GEORGE A. CLARK,  
E. A. MERRIMAN.