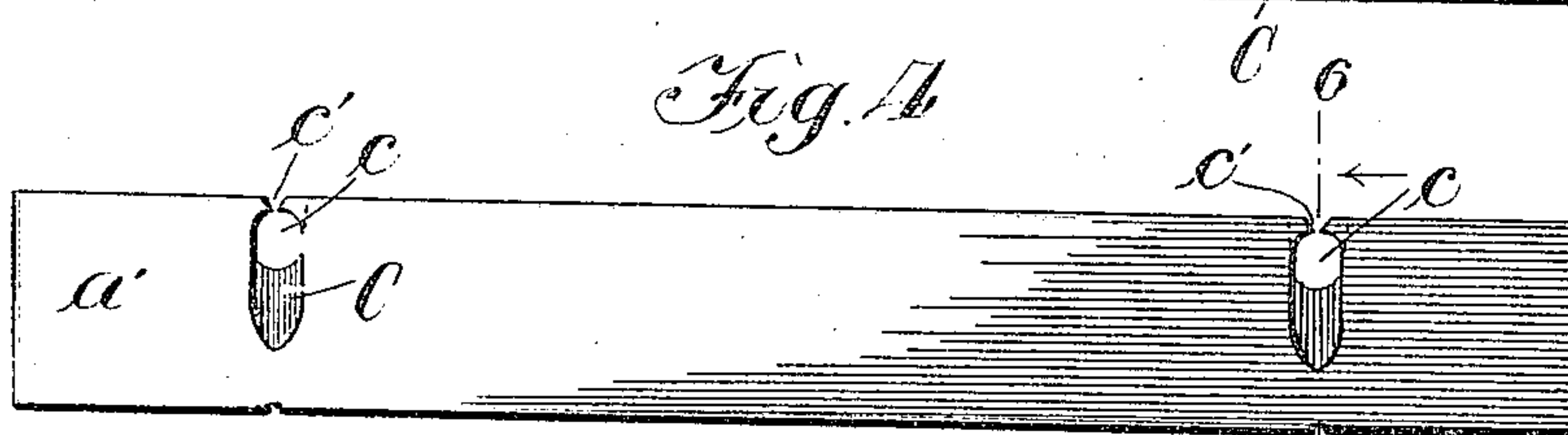
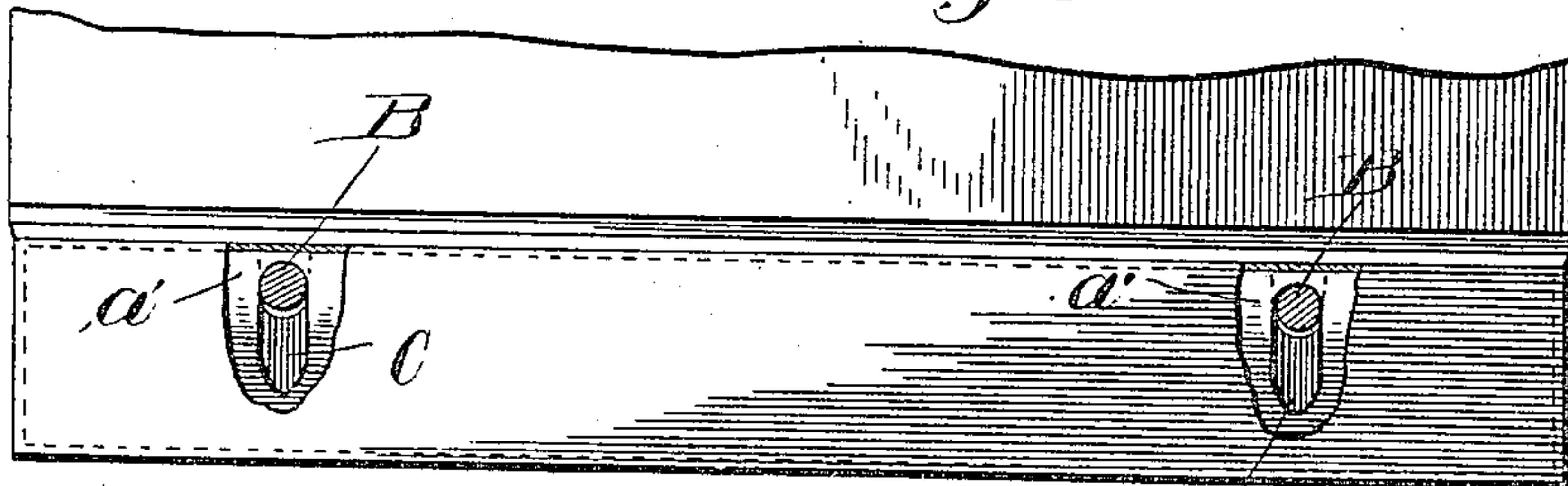
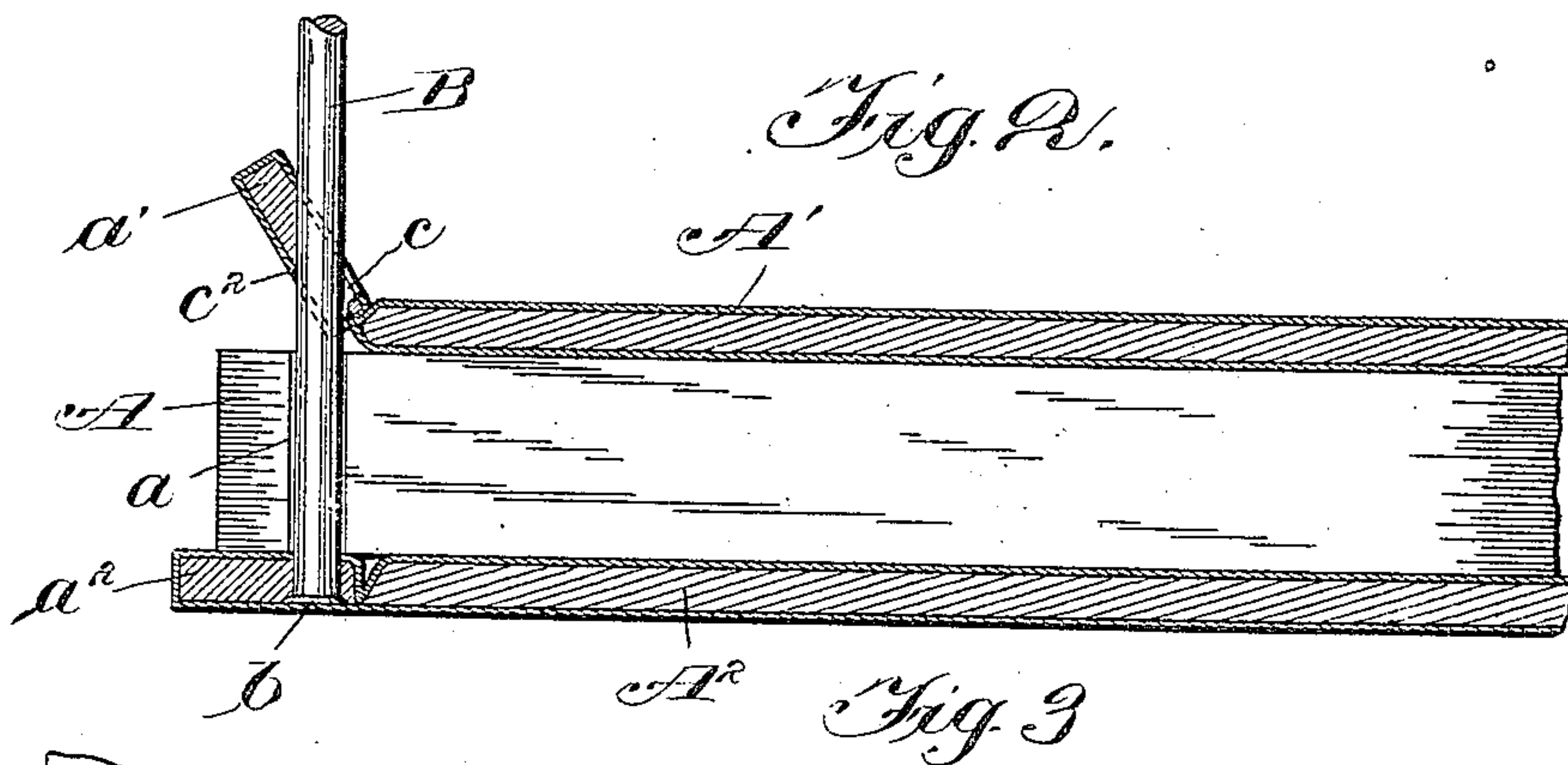
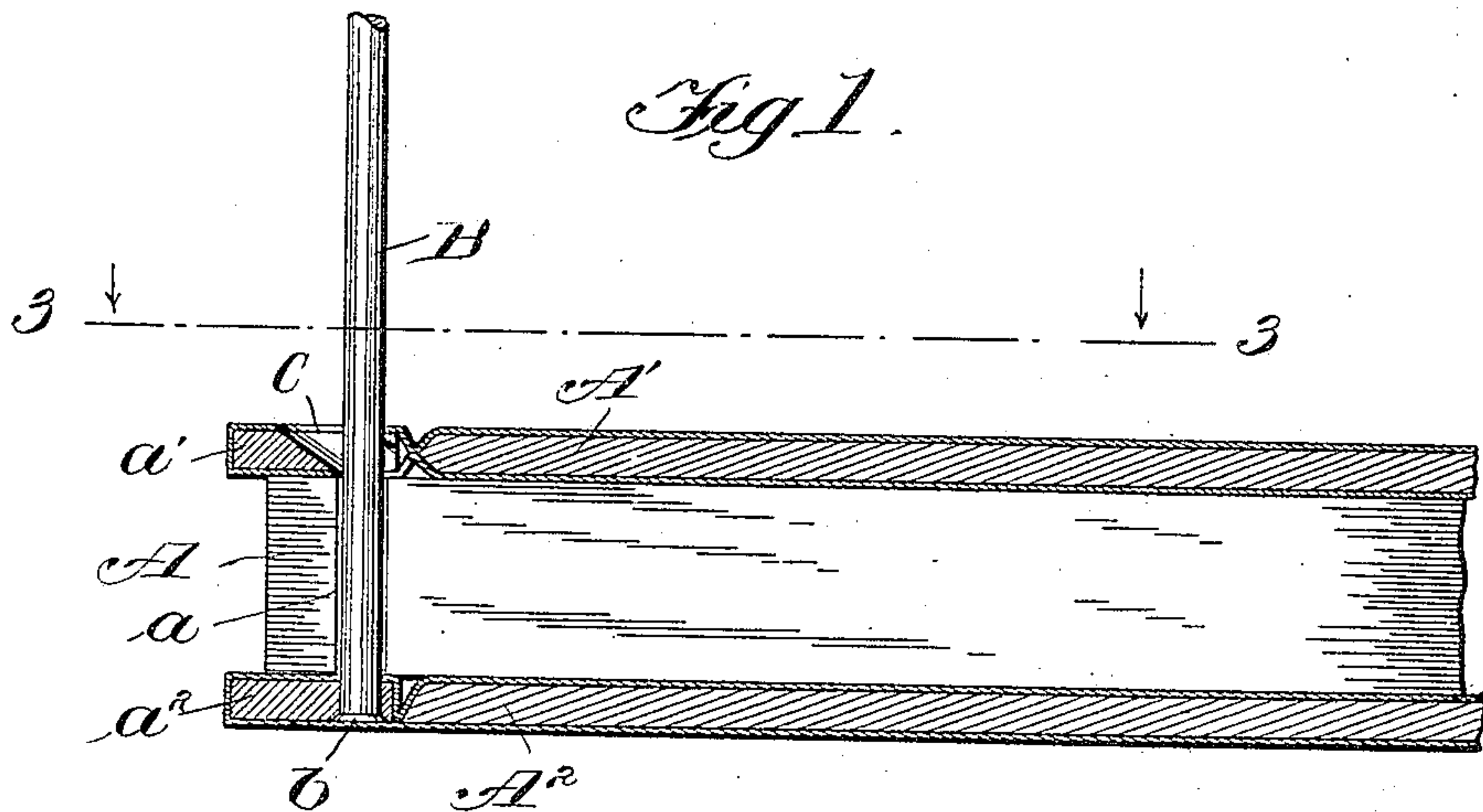


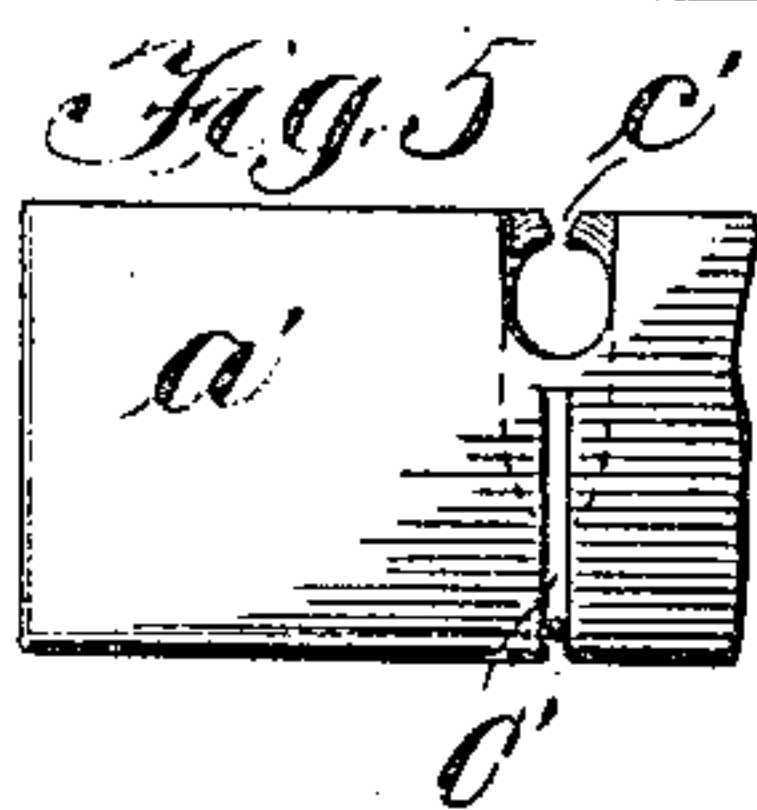
No. 816,691.

PATENTED APR. 3, 1906.

F. N. VOLKERT.  
PAPER BINDER.  
APPLICATION FILED DEC. 8, 1902



Witnesses:  
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# UNITED STATES PATENT OFFICE.

FERDINAND N. VOLKERT, OF CHICAGO, ILLINOIS.

## PAPER-BINDER.

No. 816,691.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed December 8, 1902. Serial No. 134,319.

*To all whom it may concern:*

Be it known that I, FERDINAND N. VOLKERT, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Paper-Binders; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates in general to binders for retaining sheets of paper in a desired sequence or for uniting the separable leaves of a book.

My invention relates more particularly to means for adjustably locking the binder in the position required by the number of sheets of paper or leaves of a book which it is desired to retain in the binder.

It is essential that a binder for uniting sheets of paper or the separable leaves of a book should be readily adjustable to accommodate any number of leaves or sheets of paper within a predetermined limit and should be capable of being securely locked in any desired position, so as to retain the leaves or sheets of paper in proper arrangement.

The primary object of my invention is to provide a binder possessing the above-mentioned characteristics which will be simple in construction, inexpensive in manufacture, and efficient in use.

My invention, briefly described, consists in a pair of clamping-bars, between which the sheets of paper or leaves of a book are inserted, pins adapted to pass through holes in the sheets of paper or leaves and rigidly secured to one bar and extending through holes in the other bar, the contour of the holes through which the pins pass being such that when the bar is in one position the pins will be tightly gripped and held immovable with respect to the bar and when the bar is in another position the pins will pass freely through the surrounding openings, thereby permitting the bar to be moved relatively to the pins.

My invention will be more fully described hereinafter with reference to the accompanying drawings, in which the same is illustrated as embodied in a convenient and practical form, and in which—

Figure 1 is a longitudinal section showing the binder in its locked position; Fig. 2, a

view similar to Fig. 1, showing the binder in its unlocked position; Fig. 3, a plan view of the binder, parts being broken away to more clearly show the locking means; Fig. 4, a top plan view of a modified form of the adjustable bar; Fig. 5, a plan view, looking from beneath Fig. 4, of one end of the bar illustrated in said figure; and Fig. 6, a cross-sectional view on line 6 6, Fig. 4.

Similar reference characters are used in the several figures of the drawings to designate similar parts.

Reference characters  $A'$  and  $A^2$  indicate the covers of the binder, which are adjustably united and which are designed to inclose a number of sheets of paper  $A$ .  $a'$  and  $a^2$  designate clamping-bars secured to the covers  $A'$  and  $A^2$ , respectively. The covers  $A'$  and  $A^2$ , as well as the clamping-bars  $a'$  and  $a^2$ , are preferably surrounded by cloth or other covering material, which may also serve as a hinge for flexibly uniting the covers  $A'$  and  $A^2$  and the bars  $a'$  and  $a^2$ , respectively, or other hinging means may, if desired, be provided.

One or more pins  $B$  are rigidly secured to one of the clamping-bars—as, for instance,  $a^2$ —and project upwardly therefrom. The pins may be united to the bar  $a^2$  by any desired means—such, for instance, as by heading the pins, as shown at  $b$ . The pins  $B$  are adapted to pass through perforations  $a$ , formed in the sheets of paper or leaves of a book, thereby retaining the sheets or leaves in the desired order. The other clamping-bar—as, for instance,  $a'$ —is provided with holes through which the pins  $B$  are adapted to pass. These holes are of such a size and contour with respect to the cross-section of the pins  $B$  that when the bar  $a'$  is tilted to the position shown in Fig. 2 the pins are free to move through the holes, thereby permitting the clamping-bar and cover  $A'$ , hinged thereto, to be raised or lowered or to be entirely removed from the pins.

The holes through the clamping-bar  $a'$  preferably comprise a portion  $C$ , extending in an inclined direction through the bar and of a diameter slightly greater than the diameter of the rods, and a portion  $c$ , communicating with the portion  $C$ , but of a diameter slightly less than the diameter of the rods  $B$ . The portion  $c$  of the hole extends downwardly through the upper surface of the bar  $a'$  at a point adjacent to the edge thereof, thereby forming a biting edge for tightly gripping the



rod B when the bar  $a'$  is swung downwardly from the position shown in Fig. 2 to that shown in Fig. 1.

The portion  $c$  of each of the holes through the clamping-bar  $a'$  may extend through the adjacent edge of the bar  $a'$ , as clearly shown at  $c'$  in Figs. 4 and 5, and, if desired, a saw-cut  $C'$  may extend into the clamping-bar  $a'$  from the opposite edge thereof. By providing the passage  $c'$  leading from the portion  $c$  of each of the holes and the corresponding saw-cut  $C'$  a limited resiliency is imparted to each end of the clamping-bar, thereby producing a resilient grip upon the pins in addition to the frictional grip.

From the foregoing description of my invention its operation will be readily understood. The adjustable clamping-bar  $a'$  is tilted to the position shown in Fig. 2, when it may be readily moved up and down with respect to the pins or entirely removed therefrom. The sheets of paper or leaves of a book may then be placed upon the lower cover  $A^2$  by means of the perforations  $a$  in the sheets or leaves passing around the pins B. The top cover  $A'$  may then be placed above the sheets or leaves by holding the clamping-bar  $a'$  in the inclined position and then sliding the same downwardly about the pins until the cover rests upon the sheets of paper or leaves. The bar  $a'$  may then be readily clamped upon the pins B and the covers thereby retained in proper relation with respect to the inserted sheets of paper or leaves by merely pressing downwardly the clamping-bar  $a'$  from the position shown in Fig. 2 to that shown in Fig. 1. The downward pressure upon the clamping-bar  $a'$  in the position shown in Fig. 2 rocks the same about the pins, thereby drawing the restricted portion  $c$  of the holes around the pins, which causes the edges of the bar around the restricted portions of the holes to bite or grip the pins. When it is desired to either remove or add sheets of paper or leaves to those already inserted between the covers, the clamping-bar  $a'$  may be readily oscillated from the position shown in Fig. 1 to that shown in Fig. 2 by exerting a slight pressure under the outer edge thereof.

From the foregoing description it will be observed that I have invented a binder for sheets of paper or the leaves of a book which requires no locking means in addition to the usual clamping-bars and pins which pass through the inserted paper. It will be further observed that by my invention the clamping-bars of a binder may be locked in any desired relative position and easily unlocked when it is desired either to insert or remove sheets or leaves of paper.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form, the

proportion of parts, and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit of my invention.

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

1. In a device of the character described, the combination with a pair of clamping-bars, of a pin uniting said bars, one end of said pin passing through a keyhole opening in one of said bars, the larger portion of the opening being slightly greater than, and the smaller portion of the opening slightly less than the diameter of the pin whereby when said bar is tilted so that the larger portion of the opening surrounds the pin, the pin and bar may be relatively moved while when said bar is tilted so that the smaller portion of the opening surrounds the pin, the wall thereof engages the pin at diametrically opposite points thereby positively retaining the bar immovable with respect to the pin.

2. In a device of the character described, the combination with a pair of clamping-bars, of a pin uniting said bars, one of said bars having an inclined hole extending there-through of a diameter slightly greater than the thickness of said pin whereby when said bar is tilted relatively to the pin the pin and bar may be relatively moved, and a restricted hole communicating with and of less diameter than said first hole whereby when the bar is at right angles to said pin the latter will be gripped at diametrically opposite points by the wall of said second hole and the pin and bar thereby relatively locked.

3. In a device of the character described, the combination with a pair of clamping-bars, of a pin uniting said bars, one of said bars having an irregular hole extending to one edge thereof through which said pin passes, said bar also having a saw-cut extending from its opposite edge in alinement with said hole, the width of said hole being so related to the thickness of said pin that in one position of the bar the pin and bar may be relatively moved while in another position of said bar the wall of the hole will engage the pin and lock the same relatively to the bar.

4. In a device of the character described, the combination with a pair of clamping-bars, of a pin uniting said bars, one of said bars having an inclined hole extending there-through of a diameter slightly greater than the thickness of said pin whereby when said bar is tilted relatively to the pin, the pin and bar may be relatively moved, and a restricted hole extending from one edge of said bar into said first hole but of less diameter than said first hole whereby when the bar is at right angles to said pin the latter will be gripped by the wall of said second hole and locked relatively to the bar, said bar also having a saw-cut extending from the edge thereof opposite



to the edge from which said second hole extends.

5 In a device of the character described, the combination with a pair of clamping-  
bars, of a pin uniting said bars, one of said  
bars having an inclined hole extending there-  
through of a diameter slightly greater than  
the thickness of said pin whereby when said  
bar is tilted relatively to the pin the pin and  
10 bar may be relatively moved, and a restricted  
hole extending from one edge of said bar into

said first hole but of less diameter than said  
first hole whereby when the bar is at right  
angles to said pin the latter will be gripped by  
the wall of said second hole and locked rela- 15  
tively to the bar.

In testimony whereof I sign this specifica-  
tion in the presence of two witnesses.

FERDINAND N. VOLKERT.

Witnesses:

GEO. L. WILKINSON,  
CLARA C. CUNNINGHAM.