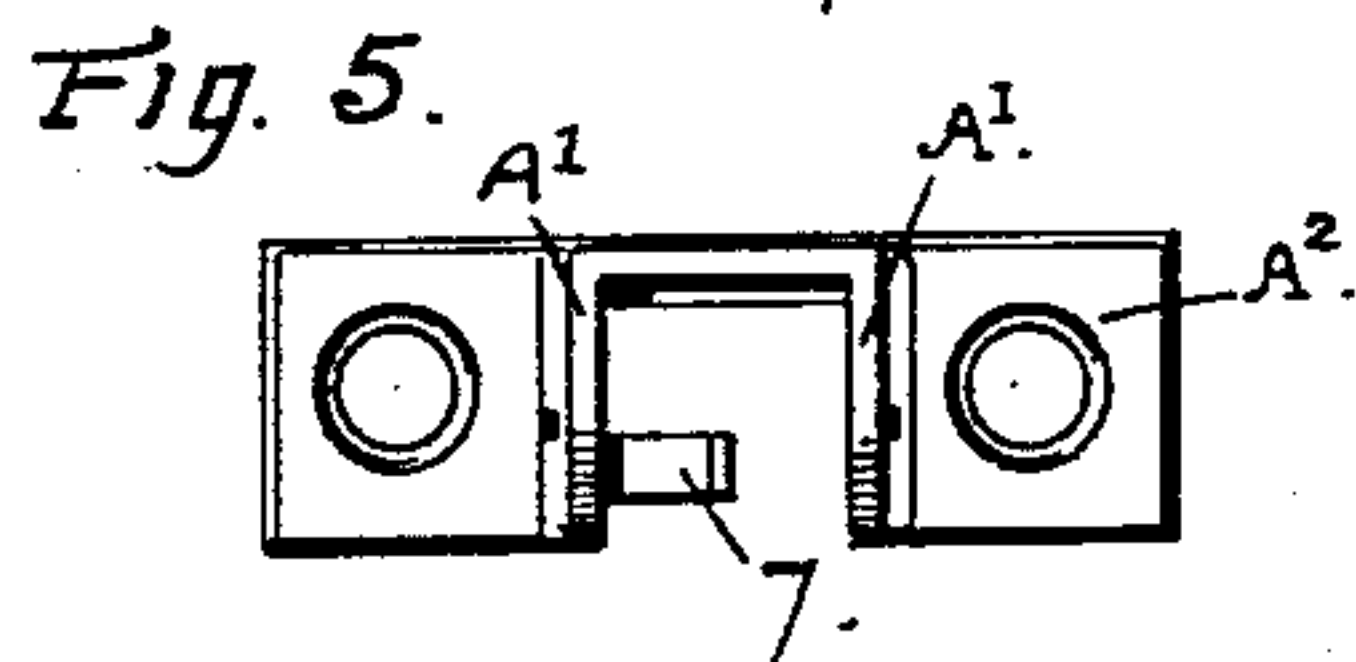
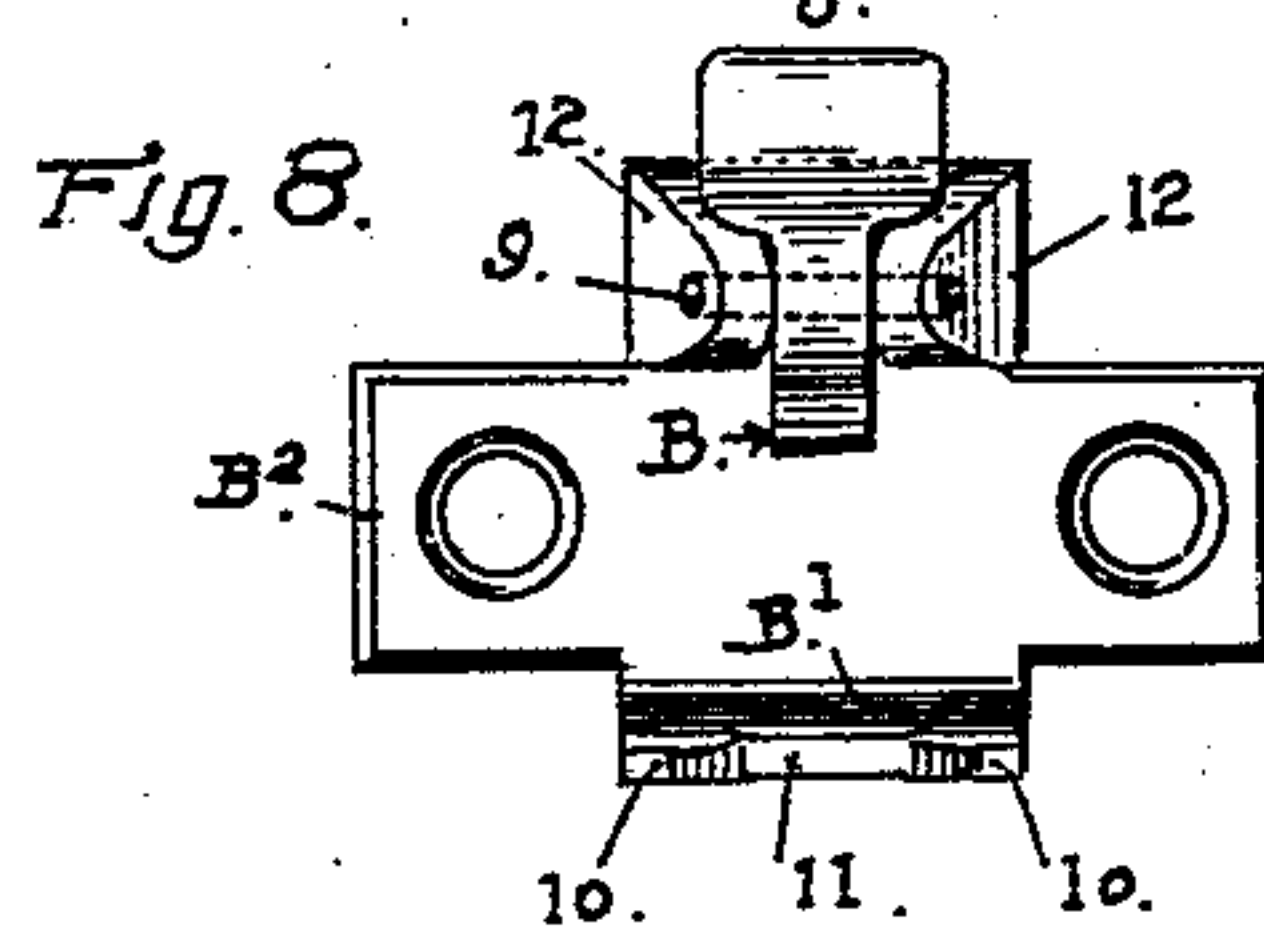
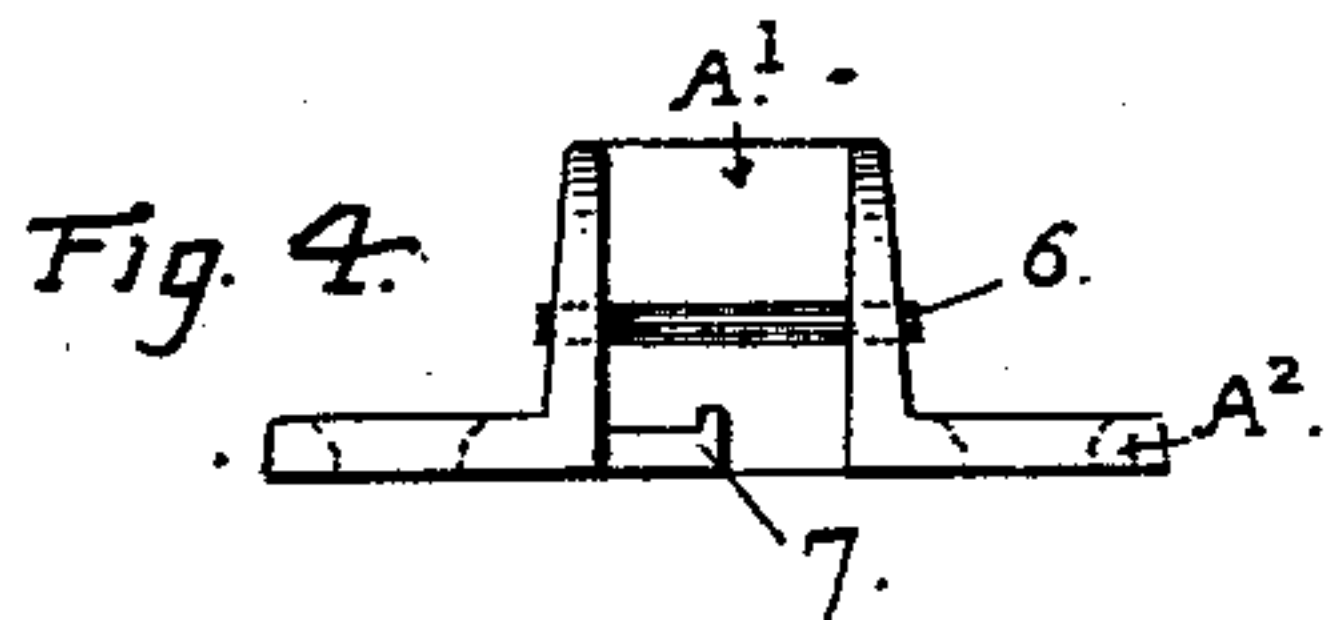
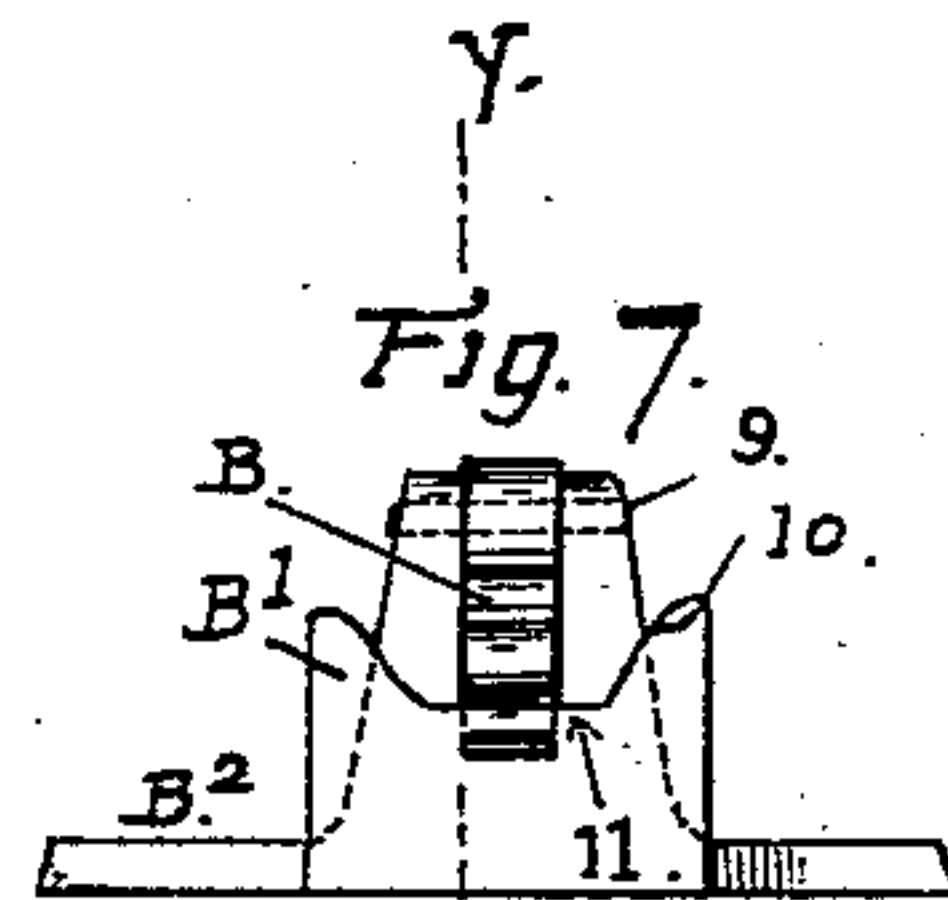
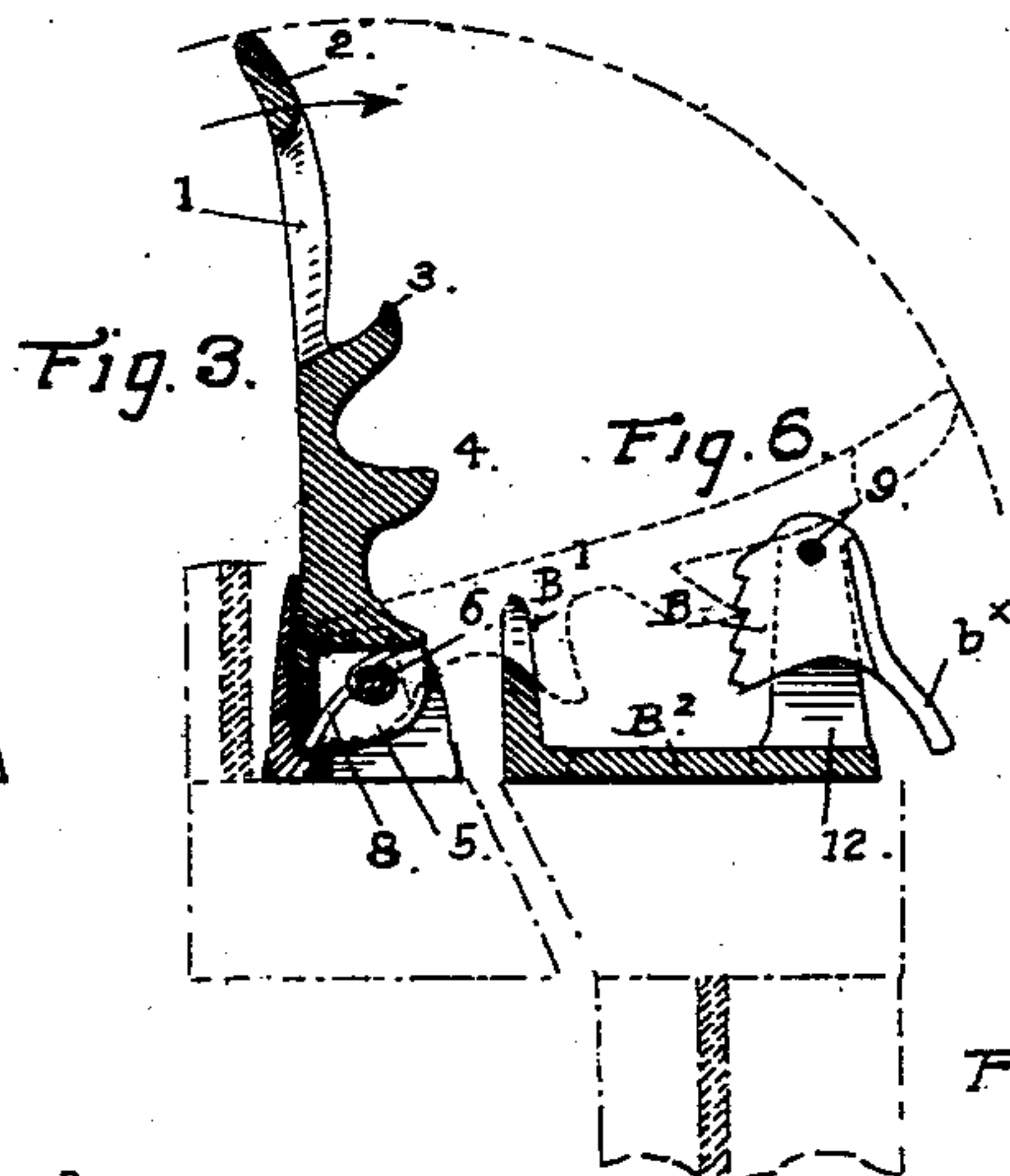
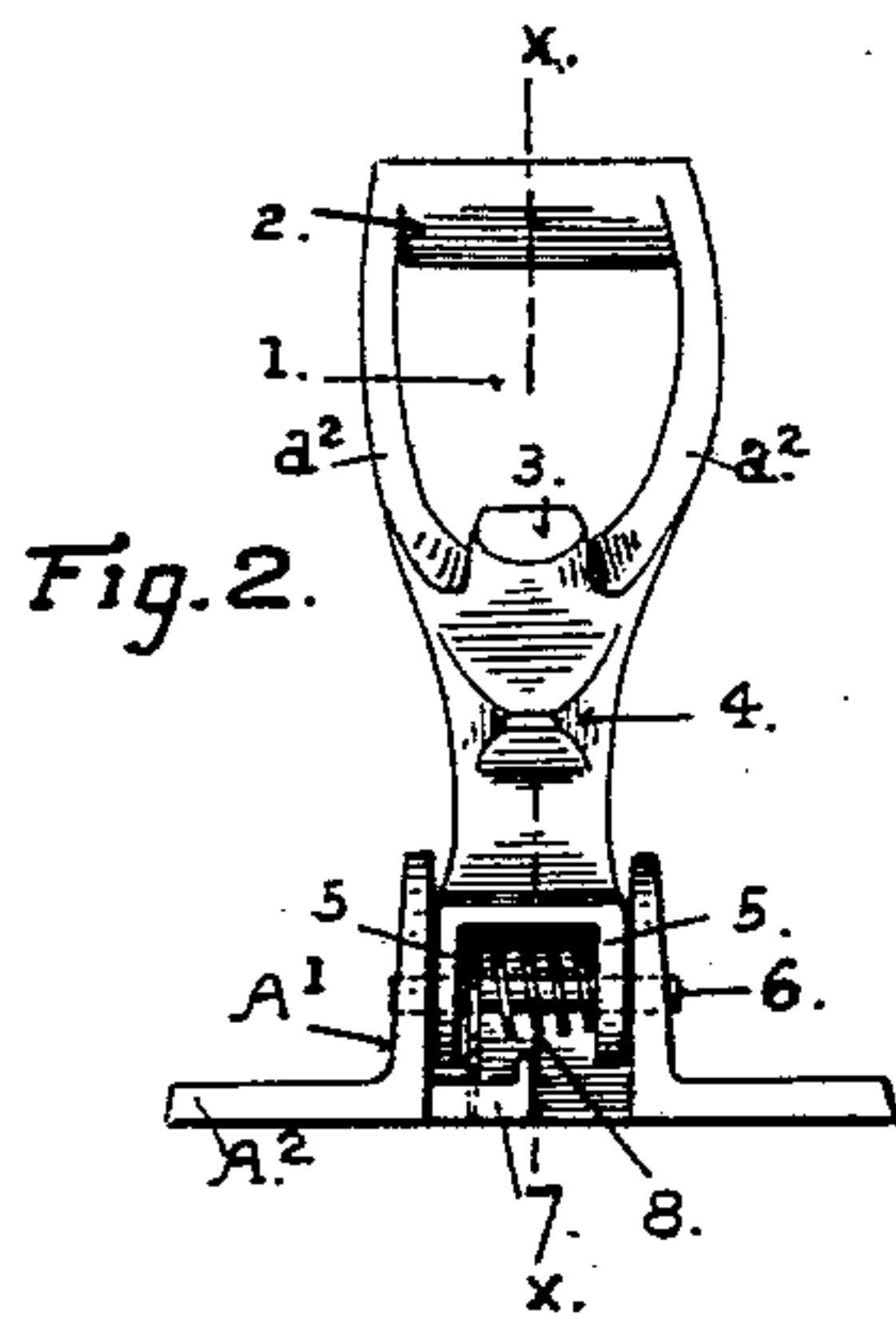
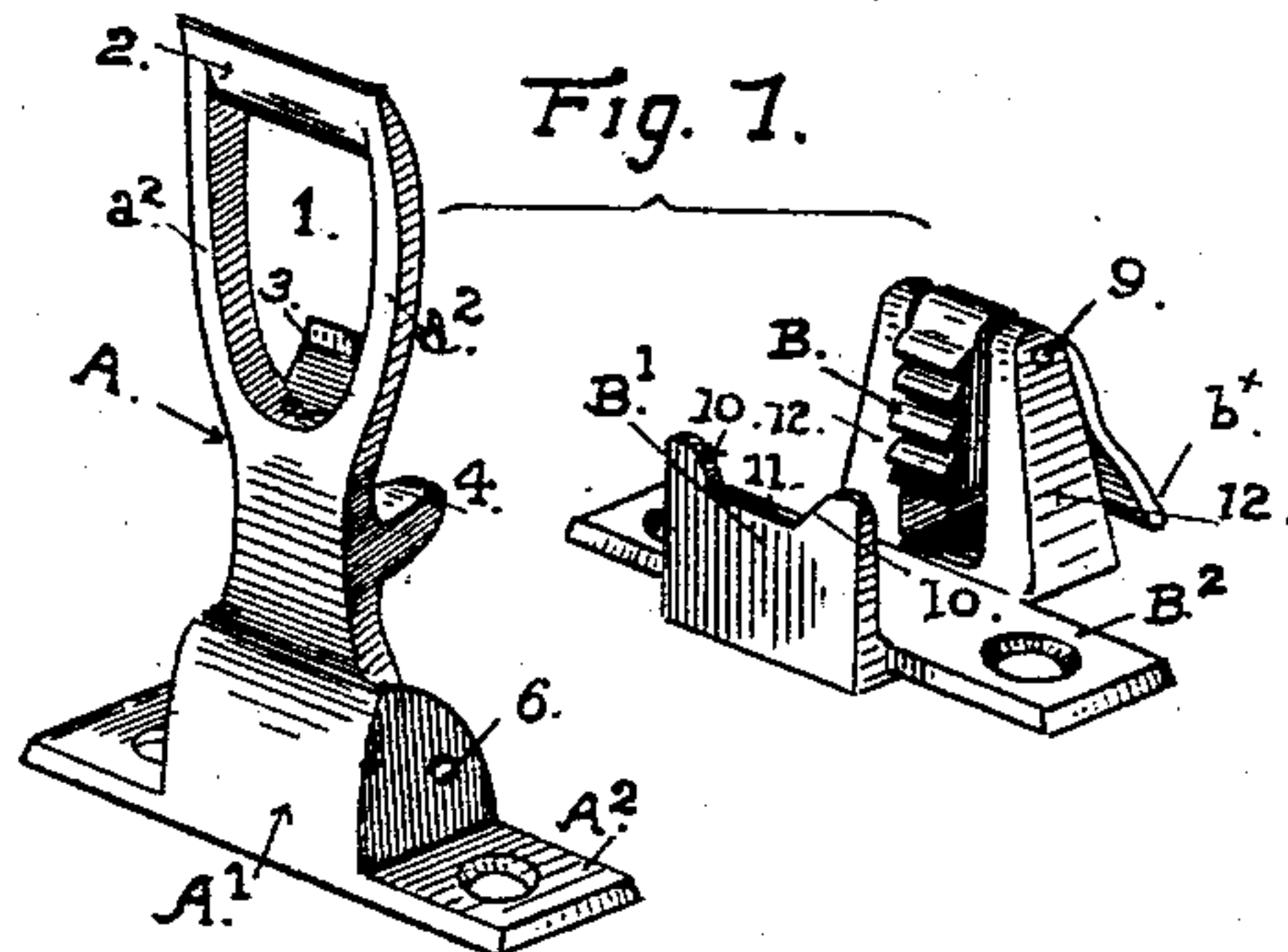


(No Model.)

D. O. LIVERMORE.
SASH LOCK.

No. 570,670.

Patented Nov. 3, 1896.



Witnesses:

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Marcus S. Leve

Inventor:

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UNITED STATES PATENT OFFICE.

DARWIN OSCAR LIVERMORE, OF LOS GATOS, CALIFORNIA.

SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 570,670, dated November 3, 1896.

Application filed September 24, 1894. Serial No. 523,924. (No model.)

To all whom it may concern:

Be it known that I, DARWIN OSCAR LIVERMORE, a citizen of the United States, residing at Los Gatos, Santa Clara county, in the State of California, have invented certain new and useful Improvements in Sash-Fasteners, of which the following is a specification.

This invention relates to improvements made in sash-fasteners of the kind or description having a vertically-swinging lever on the rail of one sash and a notched dog or catch on the rail of the other sash; and the present improvements embrace a locking-lever of novel construction in combination and for joint operation with a locking-ratchet also of novel construction, the two parts together forming a strong and effective fastening and lock that cannot be loosened or tampered with from the outside, and that possesses, besides, the quality or peculiar function of drawing the meeting-rails of the sashes together and centering them by the one movement of the lever that locks the sashes.

The following description explains at length the nature of my said improvements and the manner in which I proceed to construct and produce the same, reference being had to the accompanying drawings, that form part of this specification.

In the said drawings, Figure 1 represents in perspective the two parts that go to make the complete fastening. Fig. 2 is a front elevation of the locking-lever and its base-plate. Fig. 3 is a vertical section of Fig. 2, taken on the line $x x$. Fig. 4 is a front view of the base-plate to which the locking-lever is hinged. Fig. 5 is a top view of Fig. 4. Fig. 6 is a view of the keeper-plate and locking-ratchet that coacts with the locking-lever to draw the two rails together and fasten them against both horizontal and vertical movements. Fig. 7 is an elevation of such keeper-plate and its ratchet, looking from the inside of the room when this part is fixed in position on the sash. Fig. 8 is a plan or top view of Fig. 7.

The part A, which I herein term the "locking-lever," is secured to the rail of the upper sash, and the part B is fixed on the rail of the lower sash to engage the lever when that part is turned down. The lever A is attached to the base-plate A^2 by a hinge-joint, on which it is capable of being turned up perpendicu-

larly to a standing position, as represented in Fig. 1, and of being turned down horizontally to engage the ratchet-eccentric B of the other part of the fastening.

The hinge is formed by the ears 5 5 on the lower end of the lever, the standing lugs A' on the base-plate A^2 , and the hinge-pin 6 and spring 8. The function of the spring is to hold the locking-lever with some degree of upward pressure against and into close engagement with the notches of the eccentric B, and also to throw up the lever perpendicularly and hold it out of the way as soon as it is released, and provision is made for increasing or varying the force of this spring, so that its working strength can be adjusted, to which end a lug or projection 7 is formed in the recess between the ears A' and sufficiently below the hinge-pin 6 for the lower end of the lever A to clear it. Such projection 7 forms a stop for one end of the spiral spring 8 to bear against when the straight limb of the spring is brought outside the part 7. With its straight limb inside the stop 7 and resting against the back of the recess the spring should act under ordinary conditions with suitable force upon the lever A; but by throwing such end of the spring outside the stop 7, so that it bears against the front of that part, the tension of the spring is increased, and thus its working force can be made greater at any time when it is desirable.

The body of the lever A is composed of a shank or middle portion and a forked outer end formed of two spread arms or branches $a^2 a^2$, united at the outer ends by a straight cross-bar 2, the opening 1 between the arms being of suitable size to let the arms and the cross-bar pass over the part B, that is secured upon the meeting-rail of the sash.

3 is a hook or projection on the shank of the lever, having an inclination outward below the point where the arms diverge, and 4 is a boss or projection with a curved face also formed integral with the body and standing out from it below the hook 3. These two projections 3 and 4 are the parts on the lever A that engage the parts of the fastening which are fixed on the lower sash. The upper one of these two projections by taking into the notches on the face of the eccentric B holds

the lever down, and the lower one 4, engaging the edge of the upright fulcrum-plate B', draws the two parts of the fastening together in horizontal direction by virtue of the angular shape given to the face of that projection.

The locking-eccentric B is pivoted at 9 between standing lugs 12 on the back or the inner side of the base-plate B². The back or outer face of the eccentric is notched or serrated, and a finger-piece *b*^x is provided on the front for moving the eccentric to release the locking-lever.

B' is an upright plate having the center portion of its top edge cut away to produce the horizontal edge 11 and the stops 10 10 at the sides with inclined inner faces. The office or function of this upright plate B' is to produce a continuous upward pressure of the outer end of the lever when it is bent down over the plate in locking position, and, in addition thereto, to bring the two parts of the fastening together on a central line, thus drawing the two sashes up to a common level and on the center by the single downward movement of the locking-lever.

The base-plates A² and B² have countersunk holes for screws by which the locking-lever is secured to the rail of the upper sash and the locking-eccentric is fixed on the corresponding rail of the lower sash. The broken lines in Figs. 3 and 6 indicate the rails of the two sashes, and the dotted lines show the locking-lever turned down in position to engage the eccentric.

In the operation of the two parts composing this fastening the locking-lever A is retained by its spring-hinge in upright position clear of the lower sash as long as the window remains unfastened. The two sashes are locked with a single motion of the locking-lever by turning it down into horizontal position over the locking-eccentric and pressing down the open end until the two meeting-rails are

drawn together and the catch 3 is caught and held by the notched face of the eccentric. In this movement the projection 4, by striking either of the inclines 10, if there is any loose lateral play of the sashes in the window-casing, draws the two parts of the fastening into line, and the two rails are brought to the center by the contact and pressure of the projection 4 of the locking-lever upon the fulcrum-plate. This part B', being situated between the hinge and that end of the lever to which the power is applied, thus forms a fulcrum for the lever.

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

A sash-fastener comprising a fixture for one sash, consisting of a base-plate having standing lugs, a gravity-catch pivoted eccentrically in said lugs with the longer part thereof below such pivot and provided with angular teeth or notches on the front face, and a standing fulcrum-plate on said base-plate in front of the gravity-catch; and a fixture for the other sash consisting of a base-plate having a recessed bearing on the top, a locking-lever attached thereto by a spring-hinge, and having a shank or body with diverging arms on the outer end that are adapted to admit the gravity-catch of the other fixture between them when the lever is turned down, and the projections on the back of the lever, one of which is adapted to engage the notched face of the gravity-catch, and the other projection the fulcrum-plate, substantially as described for operation set forth.

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

DARWIN OSCAR LIVERMORE.

Witnesses:

J. H. RUSSELL,
G. K. ESTES.