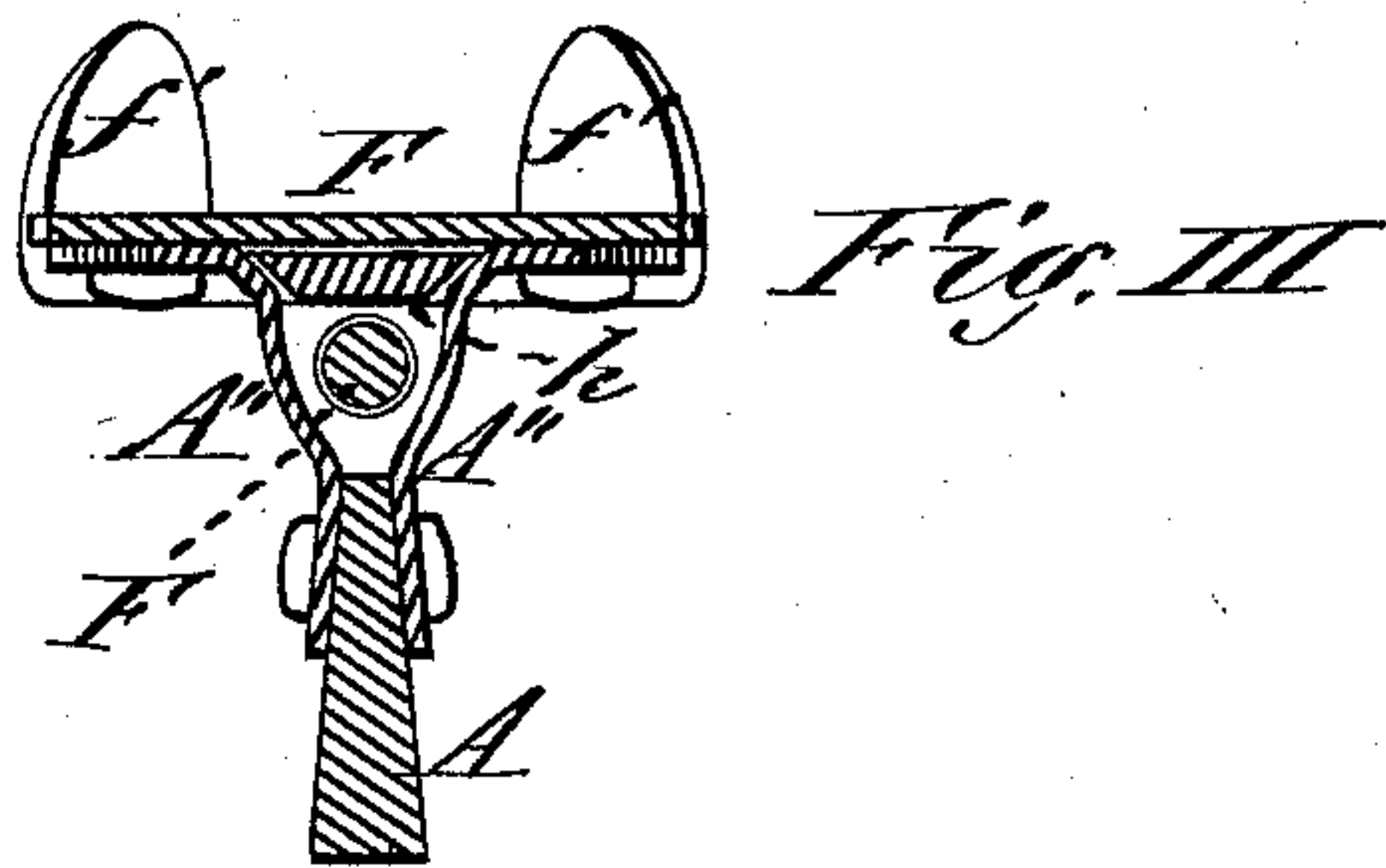
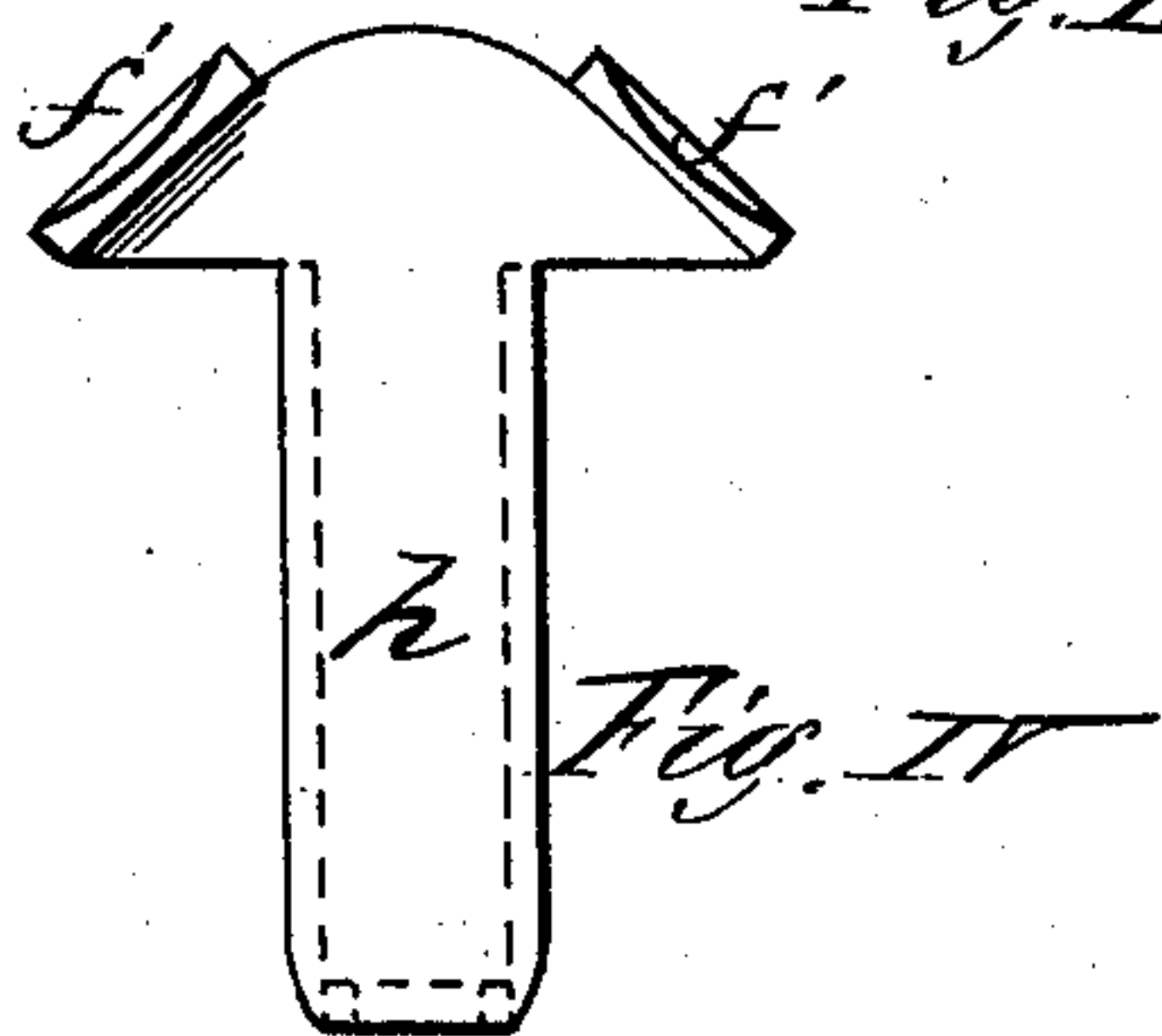
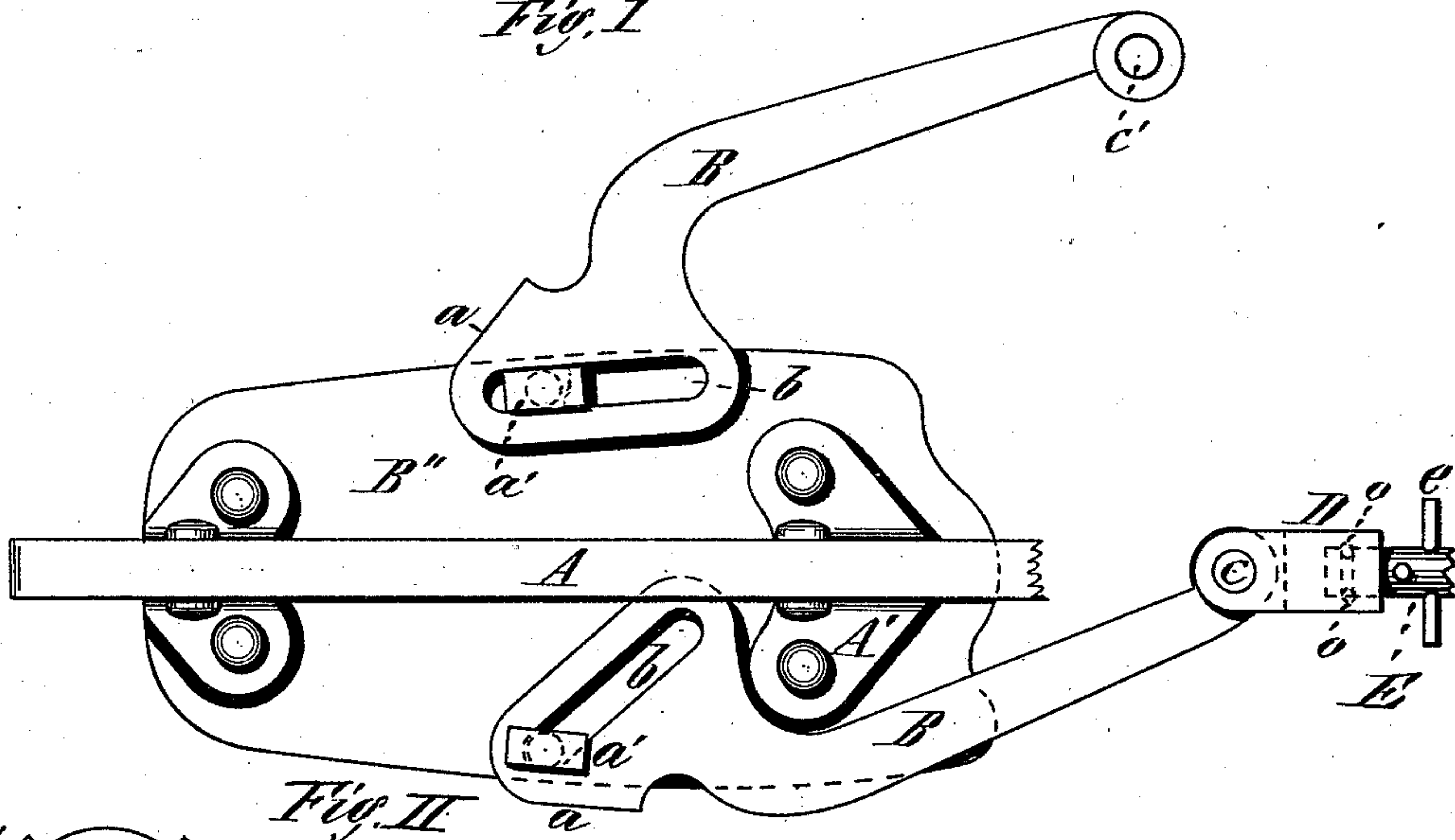
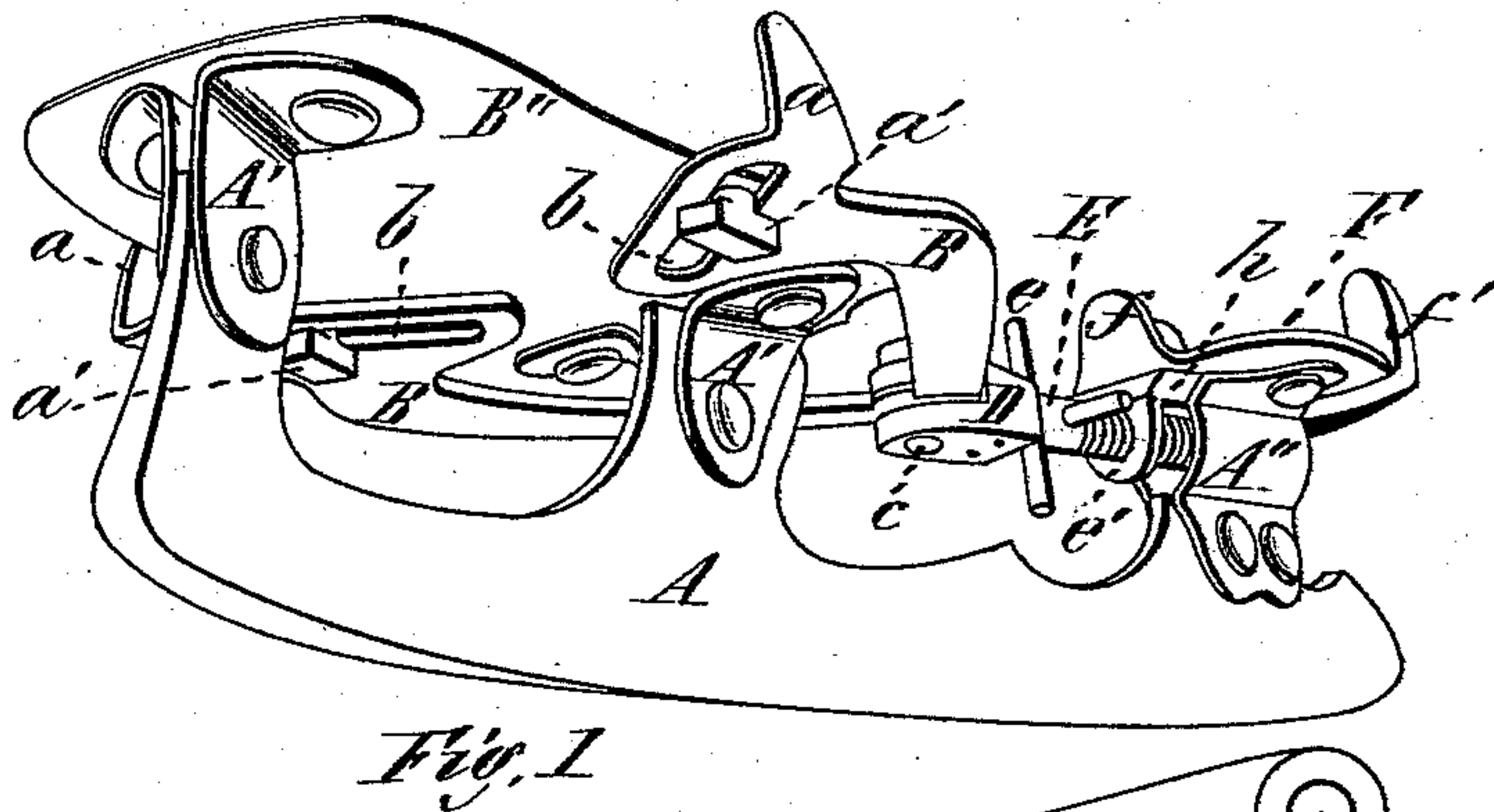


E. H. BARNEY.

SKATES.

No. 176,827.

Patented May 2, 1876.



Witnesses,
E. A. Thayer,
C. E. Buckland.

Inventor,
E. H. Barney
By T. A. Curtis,
his atty.

UNITED STATES PATENT OFFICE.

EVERETT H. BARNEY, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN SKATES.

Specification forming part of Letters Patent No. 176,827, dated May 2, 1876; application filed March 4, 1876.

To all whom it may concern:

Be it known that I, EVERETT H. BARNEY, of Springfield, in the State of Massachusetts, have invented a new and useful Improvement in Skates; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to secure a skate to the foot by operating both the forward or toe clamps and the heel-clamps by the movement of one screw, and to so arrange the toe-clamps that they may be easily and quickly removed from the foot-plate. To this end my invention consists of two clamps, each having a slot, and being arranged to slide upon a pivot having an elongated head secured in the foot-plate, so that by turning the clamp outward until the slot and pivot-head correspond in the direction of their length the clamp may be easily detached from its pivot. These clamps extend backward, and are brought together and pivoted to a piece or socket located in front of the heel-plate; and a screw is swiveled into this piece, and operates through a threaded hole in the heel-clamp, to draw both the toe-clamps and heel-clamps inward, or to force them outward, as will be more fully hereinafter explained.

Figure I is a perspective view of my invention. Fig. II is a reverse plan view of the forward part of the skate, showing the toe-clamps and their mode of attachment to the foot-plate, and also the socket-piece and a portion of the operating-screw. Fig. III is a vertical transverse section of the skate midway the length of the heel-bracket, and Fig. IV is a plan view of the heel-clamp.

In the drawings, A represents the blade of the skate, to which is secured, by the brackets A', the foot-plate B''. To this plate are secured the rivets or studs a', having an elongated head extending in a direction lengthwise of the foot-plate. The clamps B each have a slot, b, and an ear, a, extending above the foot-plate at one end, and they extend back to a point in the rear of the foot-plate, between it and the heel-plate, and are provided at their rear ends with a hole, c', through

which a pivot, c, is inserted to secure them to the piece or socket D. In the rear end of the socket D is swiveled a screw, E, secured by a pin, o, extending through a groove in the end of the screw, or by any other equivalent means, so that said screw may turn freely in said socket-piece without becoming detached therefrom; and the threaded part of said screw operates through a threaded hole made in the projection e' of the heel-clamp h. This heel-clamp has the upward-projecting parts f' thereon, which are forced against the heel of the boot, when the clamp h is drawn forward, forcing the heel also against the projection f, and grasping the heel firmly between them. The clamp h is supported by and slides between the heel-brackets A''. The screw E may have pins e therein, by which it is turned with the thumb and fingers; or it may be made flat and broad at that point, or may be otherwise conveniently arranged for that purpose.

If it should be desired to entirely remove the toe-clamps from the skate for any purpose, the pivot c is removed to detach the clamps from the socket-piece D, and the rear end of the clamp is swung outward, as shown in Fig. II, until the slot b in the clamp extends in the same direction as the elongated head of the stud a', when the head will pass through the slot and the clamp may be removed. To replace it upon the foot-plate the slot is passed over the head of the stud in the same way. The rear end of the clamp is swung inward and the pivot c inserted, securing the clamps together and to the piece D, as before.

The operation of my invention is as follows: To adjust the skate to the boot the screw E is turned partially out of the projection e', to allow the clamp h and its projecting flanges f' to move back away from the flange or projection f, and also to allow the piece D to move forward, to force the projecting flanges a of the toe-clamps apart sufficiently to place the foot fairly upon the foot-plate B'' and upon the heel-plate F. The screw E is then turned in the opposite direction, or into the projection e', drawing the projecting flanges f' forward against the heel, and the latter against the projection f, grasping the heel of

the boot firmly between them, and also drawing back the piece D, the toe-clamps B sliding backward and inward upon the studs *a'*, and firmly grasping the sole of the boot between the toe-clamp projections *a*.

It will thus be seen that by the turning of one screw both the toe-clamps and heel-clamps are operated at once, both in securing the skate to the foot and in removing it therefrom. If the screw E is flattened on two opposite sides, or made prismatic at a point near the piece D, a small wrench might be applied to turn it up tight.

I am aware that skates have heretofore been made having the heel-clamp supported between the heel-brackets, as shown in Patent No. 137,526, granted to me April 8, 1873, and I do not claim the same in this application irrespective of my construction and arrangement of that feature as combined with a single-threaded screw secured in front of the heel-plate, and drawing said heel-clamp forward in securing the skate to the foot.

I am also aware that skates have heretofore been made in which a right and left hand screw arranged longitudinally with the skate, and placed between the foot and heel plates, and working in a nut, was used to operate both the toe and heel clamps at once; but as one-half of such a screw has to work in the nut, leaving only half to adjust the skate to feet of different sizes, it follows that a right and left hand screw has only one-half the scope of adjustment that a single-threaded screw has; and, moreover, the nut through which one end of the right and left hand screw operates is very much weakened on account of being perforated for the screw to turn therein. As the right and left hand screw

operates the clamps twice as fast as a single screw of the same pitch, it follows that the power of the latter is very much greater to adjust the skate to the foot more securely.

I therefore disclaim any arrangement of a right and left hand screw as a means of adjusting the toe and heel clamps of a skate, and limit myself to the arrangement of a single-threaded screw, socket-piece, and heel-clamp, operating between the heel-brackets, which secure the heel-plate to the blade, as herein described.

It will be seen that by this arrangement of operating screw and heel-clamp, both are located between the heel-brackets, and are protected by them from injury and derangement, while only one movement or operation is required to adjust both the toe and heel clamps.

Having thus described my invention, what I claim as new is—

1. The combination of the clamps B, each provided with a slot, *b*, the piece D, the single-threaded adjusting-screw E, and the clamp *h*, arranged between the heel-brackets A'' of a skate, substantially as described.

2. The combination of the foot-plate B'', the studs *a'*, having elongated heads, and the clamps B, each provided with a slot, *b*, substantially as described, whereby said clamp is secured to the foot-plate when in use, but which may be easily removed by turning said clamp into such position that the slot and the head of the stud will coincide in direction, as specified.

EVERETT H. BARNEY.

Witnesses:

T. A. CURTIS,
C. E. BUCKLAND.