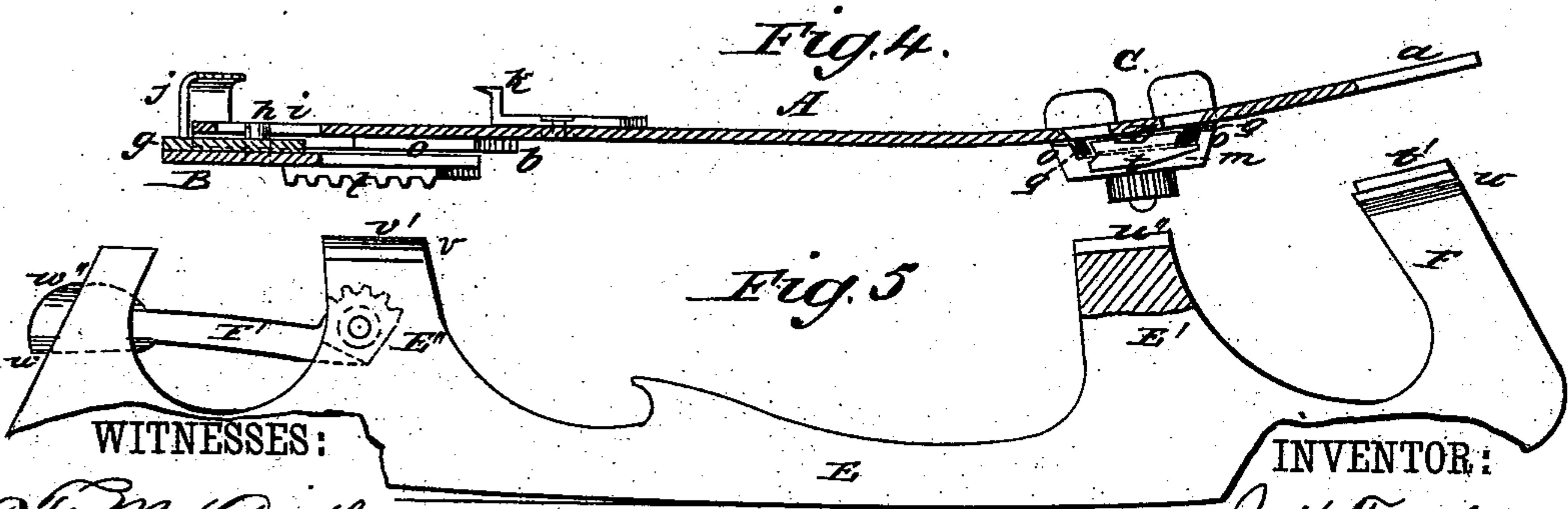
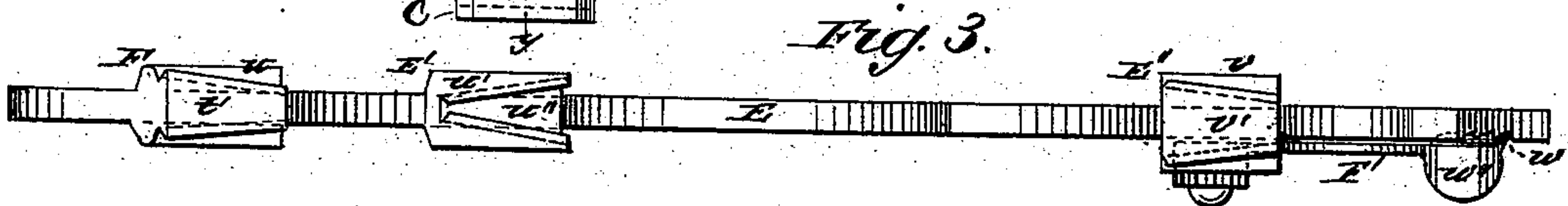
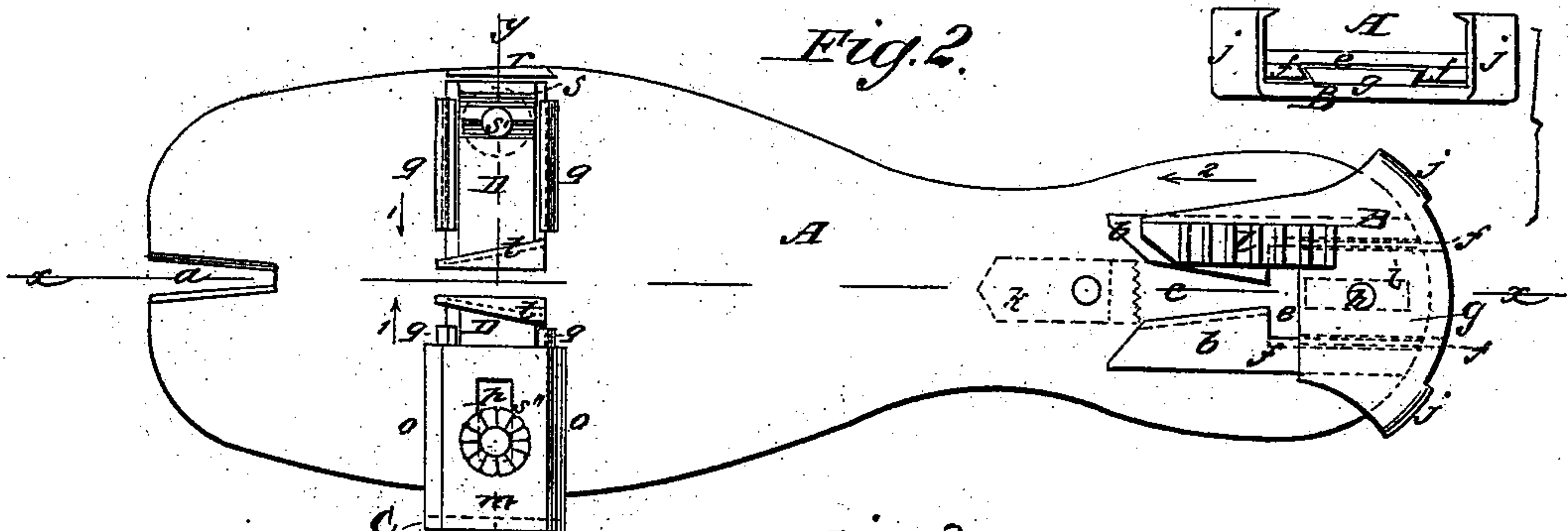
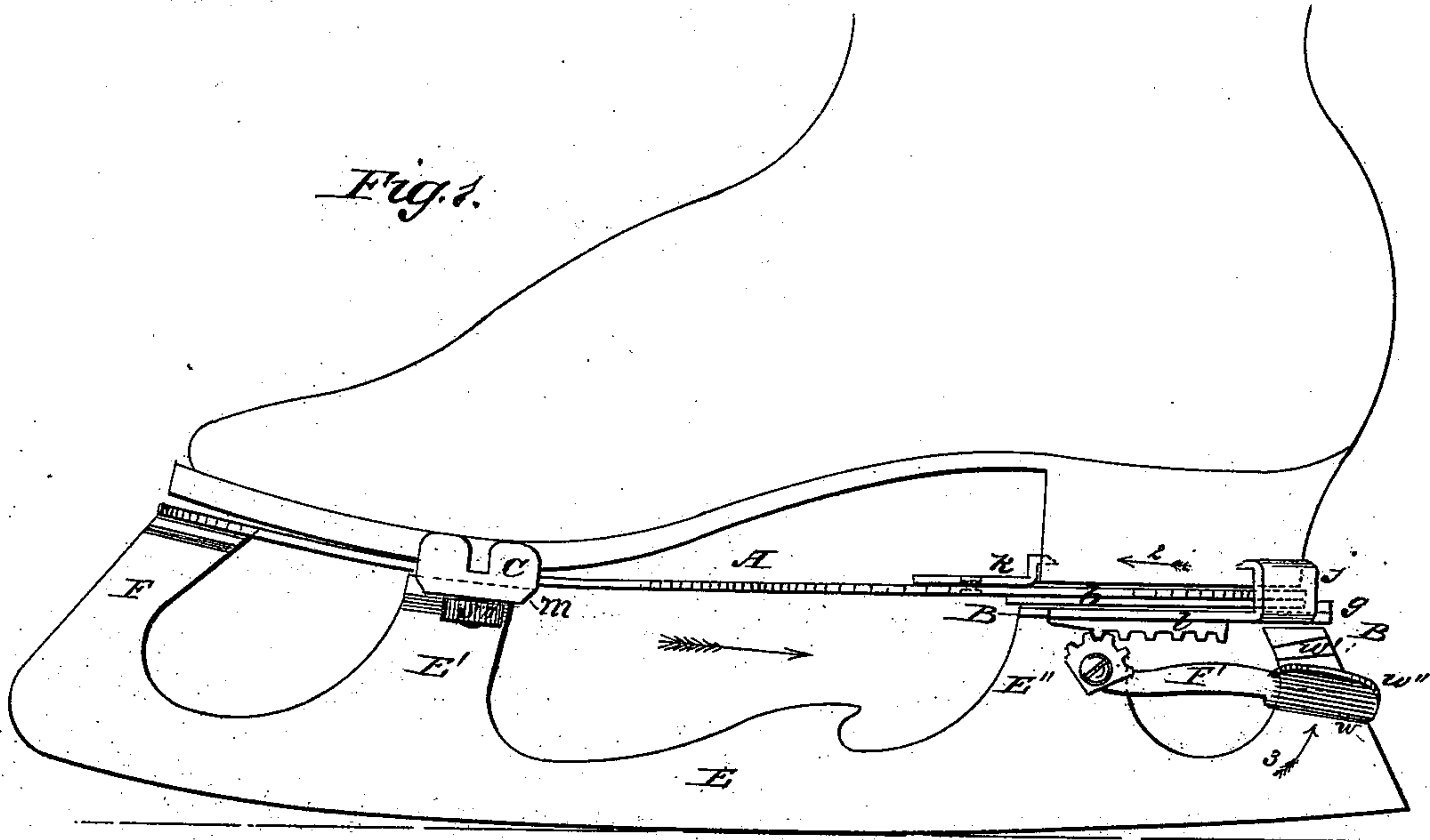


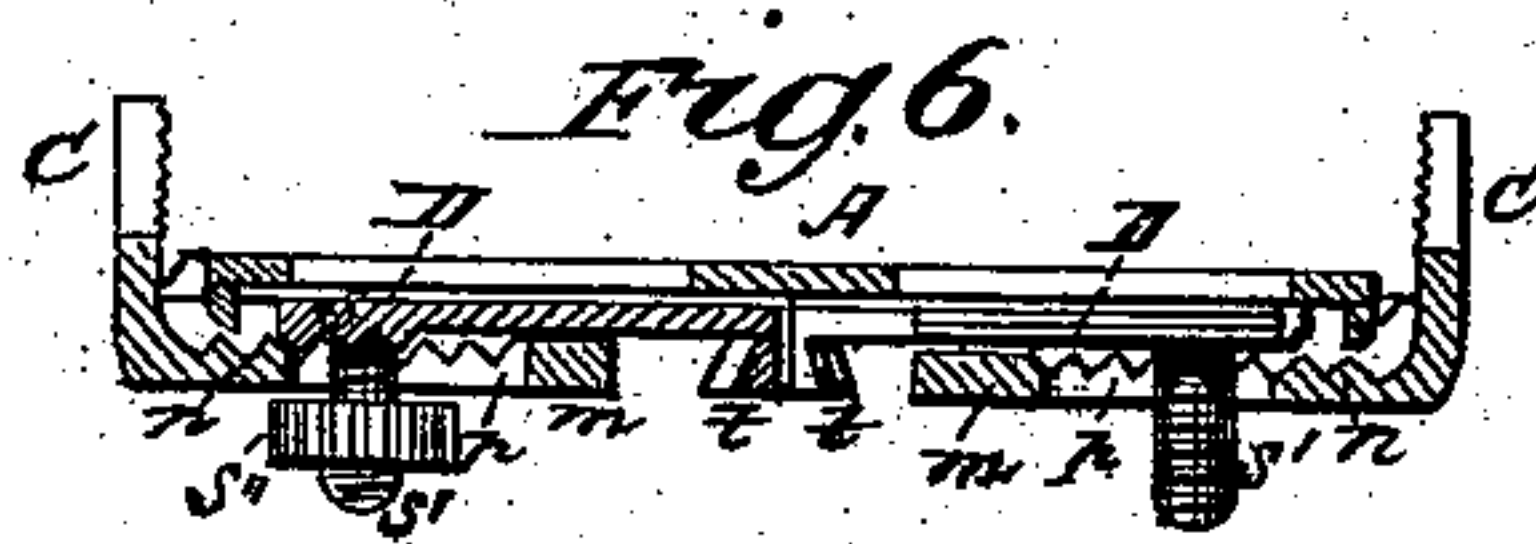
J. H. FORSHAY.  
Skate.

No. 225,276.

Patented Mar. 9, 1880.



WITNESSES:  
F. McOrde.  
C. Seaguirer



INVENTOR:  
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# UNITED STATES PATENT OFFICE.

JACOB H. FORSHAY, OF NEW YORK, N. Y.

## SKATE.

SPECIFICATION forming part of Letters Patent No. 225,276, dated March 9, 1880.

Application filed October 21, 1879.

*To all whom it may concern:*

Be it known that I, JACOB H. FORSHAY, of the city of New York, in the county and State of New York, have invented a new and useful Improvement in Skates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my improved skate applied to a shoe. Fig. 2 represents the under side of the sole-plate. Fig. 3 is an upper-edge view of the runner. Fig. 4 is a longitudinal section of the sole-plate, taken on line *x x* of Fig. 2. Fig. 5 is a side elevation of the runner; and Fig. 6 is a cross-section of the sole-plate through the toe-clamps, taken on line *y y* of Fig. 2.

Similar letters of reference indicate like parts in the several figures.

My invention relates to that class of skates wherein the runner and sole-plate are made separate, and which are attached or detached to or from the foot simply by the operation of attaching or detaching the runner and sole-plate to or from each other, thus dispensing with the use of straps; and my invention consists, first, of an improved skate the runner and sole-plate of which are made separate, and constructed in such manner as to be readily attached and detached to and from each other, and in which the same mechanism that holds the runner and sole-plate together also firmly secures the skate to the foot, as will be hereinafter fully described; second, in combining the sliding toe-clamps of the sole-plate with dovetailed projections adapted and arranged to enter and fit a dovetailed slot in the runner, so that by the act of drawing the runner onto the sole-plate to connect them together the sliding toe-clamps will be drawn in against the edges of the sole, of the shoe; and, third, in providing the runner with a cog-lever adapted to engage a rack on the slide which carries the heel-clamps, so that by means of this lever the runner will be drawn into place on the sole-plate, the toe-clamps forced in against the edges of the sole, and the heel-clamps pressed against the back of the heel, all these operations being performed simulta-

neously and by one continuous movement of the lever.

Having thus briefly stated the nature of my invention, I will now proceed to describe its construction and mode of operation.

Referring to the drawings, A represents the sole-plate, in the extreme toe part of which is a dovetailed slot, *a*, and at the heel, on the under side, is fitted a plate, *b*, provided at its forward end with a dovetailed slot, *c*, in line with slot *a* in the toe. Back of this dovetailed slot *c* in plate *b* is a rectangular recess, *e*, the edges *f f* of which are beveled inward to form guides for the dovetailed plate *g* on heel-slide B. The dovetailed plate *g*, being held under the beveled sides *f* of recess *e*, connects the heel-slide B with sole-plate A, and the backward-and-forward movement of the heel-slide B is limited by a stud, *h*, projecting up from plate *g* into a slot, *i*, in the sole-plate.

*j j* are the adjustable heel-clamps projecting up from the ends of heel-slide B over the edge of the sole-plate A, and in position to take hold of the heel of the shoe. *k* is the stationary heel-clamp attached to the upper side of sole-plate A, and *l* is a rack attached to the under side of plate *g*.

C C represent the toe clamps for claspings the sole at the ball of the foot, and they are shown as attached to plates *m m* and projecting up above the edges of the sole-plate at right angles thereto. The plates *m m* are provided with flanges *o o* and slots *p*.

Between the plates *m m* and the sole-plate are slides D D, having beveled edges, which are held under parallel guides *q q*, formed on the under side of sole-plate A. The slides D D move freely back and forth under the guides *q q* and at right angles to the length of the sole-plate; but their outward movement is limited by flanges *r*, projecting downward from the edges of the sole-plate, as shown.

The plates *m m* and slides D D are connected so as to move together by threaded studs *s'* projecting down from the sides through the slots *p* in the plates, the studs *s'* being provided with nuts *s''*, and the upper surface of the plates *m* and under surface of the slides D are serrated in order to prevent the plates from slipping and to lessen the strain on the



studs  $s'$  and nuts  $s''$ , while plates  $m$  are prevented from turning sidewise by reason of the flanges  $o$  projecting over the guides  $q$ . By this arrangement of slides  $D D$  and plates  $m$  5  $m$  it will readily be seen that by simply unscrewing the nuts  $s''$  the plates and slides can be disconnected and the plates moved in and out on the slides to the extent of the length of slots  $p$  to adjust the toe-clamps  $C C$  to soles of 10 different widths, while the movement allowed the slides  $D$  permits the clamps  $C$  to be drawn in against the edges of the sole.

On the inside adjacent ends of slides  $D D$  are secured downward-projecting dovetailed 15 pieces  $t t$ , extending in the direction of the length of the sole-plate and at right angles to the slides.

$E$  represents the runner, the toe-standard  $F$  of which is provided at its top  $u$  with a dovetailed projection,  $t'$ , which in position and 20 shape is adapted to enter the toe-slot  $a$  of the sole-plate.

On the top  $u'$  of standard  $E'$  is a dovetailed slot,  $u''$ , adapted to receive the dovetailed 25 projections  $t t$  of slides  $D D$ , and on the top  $v$  of the heel-standard  $E''$  is a dovetailed projection,  $v'$ , in position to enter the dovetailed slot  $c$  in plate  $b$ .

To the side of standard  $E''$  is fulcrumed a 30 lever,  $F'$ , provided with a segmental ratchet so positioned as to engage the rack  $l$  on plate  $g$ , and the arm of this lever is provided with a thumb-piece,  $w''$ , and an edge,  $w$ , the latter being so placed as to engage ratchet-teeth  $w'$  35 on the heel of the runner, to lock or secure the lever when the parts are in proper position.

The manner of adjusting my improved skate for use is as follows: The toe-clamps  $C C$  are 40 first adjusted in manner hereinbefore described to suit the width of sole to which the skate is to be applied, and the adjustment is made with the slides  $D D$  pushed out to their utmost extent, so as to give room for drawing the clamps  $C C$  in against the edges of the 45 sole. The sole-plate is now applied to the bottom of the sole and heel of the shoe. Then the runner is taken and the dovetailed projection  $t'$  entered in slot  $a$ , the projections  $t t$  entered in slot  $u''$ , and projection  $v'$  entered in 50 slot  $c$ . When thus adjusted the runner is pushed back toward the heel, as indicated by the arrow, so as to wedge the projections into their respective slots, and in the case of projections  $t t$  this movement of the runner draws 55 the slides  $D D$  in the direction of the arrows 1, thereby forcing the clamps  $C C$  against the edges of the sole.

When the runner has been pushed back as far as it will go by hand, the lever  $F'$  (which 60 during these movements should be in a pend-ent position) is thrown up in the direction of arrow 3, which causes the segmental ratchet on the lever to engage the rack  $l$ , and by the

continued movement of the lever acting on rack  $l$  the runner is drawn back in the direc- 65 tion of the arrow, and the clamps  $C C$  thereby pressed more forcibly against the sole, while at the same time the slide  $B$  is drawn against the heel, which is thereby clasped by station- 70 ary clamp  $k$  and movable clamps  $j j$ .

When sufficient pressure is exerted by the clamps  $C C$  and  $j j$  against the sole and heel to make the connection perfectly secure be- 75 tween the runner, sole-plate, and shoe, the edge  $w$  of lever  $F'$  is caused to engage the ratchet-teeth  $w'$ , whereby the lever and the connecting parts are firmly retained in place.

The positions of the several parts when the skate is adjusted are shown in Fig. 1 of the 80 drawings.

To remove the skate from the foot it is only necessary to release the lever  $F'$ , which throws the slide  $B$  back and releases the heel. The runner is then pushed forward, so as to disen- 85 gage the several projections from their slots, which separates the runner from the sole-plate, when it can be removed from the foot. When thus separated it is obvious the runner and sole-plate can be laid close together, so as to occupy but little space, and the pair of 90 skates thus arranged made up into a flat package very convenient to carry.

From the foregoing it will be seen that the lever  $F'$  is of a novel character, performing, 95 as it does, simultaneously and by one continuous movement, the operation of drawing the runner into proper place on the sole-plate, pressing the toe-clamps more forcibly against the edges of the sole, and drawing the heel-clamps in against the heel. 100

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

1. In a skate having the sole-plate  $A$ , provided with dovetailed slots  $a c$ , clamps  $C C$ , 105 connected with dovetailed projections  $t t$ , and sliding plate  $B$ , having rack  $l$  and heel-clamps  $j j$ , and with the stationary clamp  $k$ , in combination with the runner  $E$ , provided with dovetailed projections  $t' v'$ , dovetailed slot  $u''$ , 110 and lever  $F'$ , the whole being constructed and operating substantially as described.

2. In combination with the runner  $E$ , provided with the lever  $F'$ , ratchet-teeth  $w'$ , and dovetailed slot  $u''$ , the sliding heel-plate  $B$ , 115 provided with the rack  $l$  and the clamps  $C C$ , connected with dovetailed projections  $t t$ , substantially as described.

3. The combination, with the clamps  $C C$ , connected with the dovetailed projections  $t t$ , 120 of the dovetailed slot  $u''$ , as and for the purpose substantially as described.

JACOB H. FORSHAY.

Witnesses:

W. C. DONN,  
C. SEDGWICK.