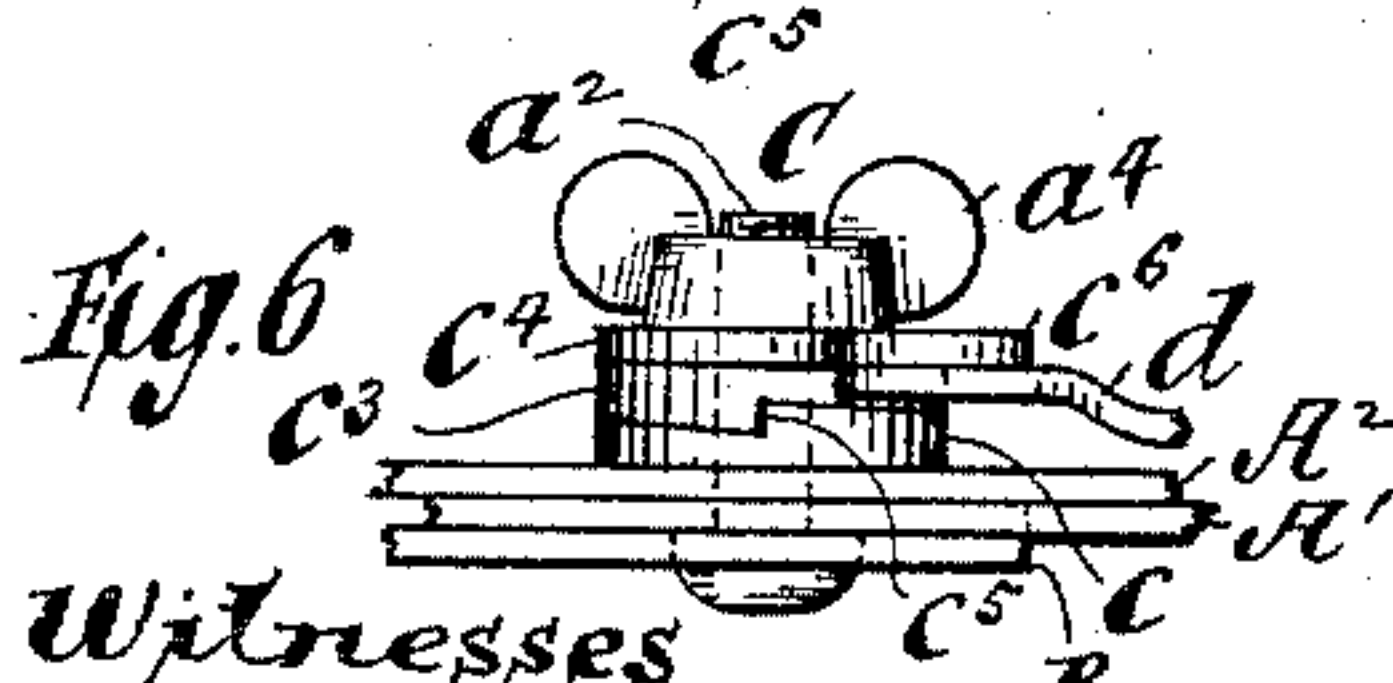
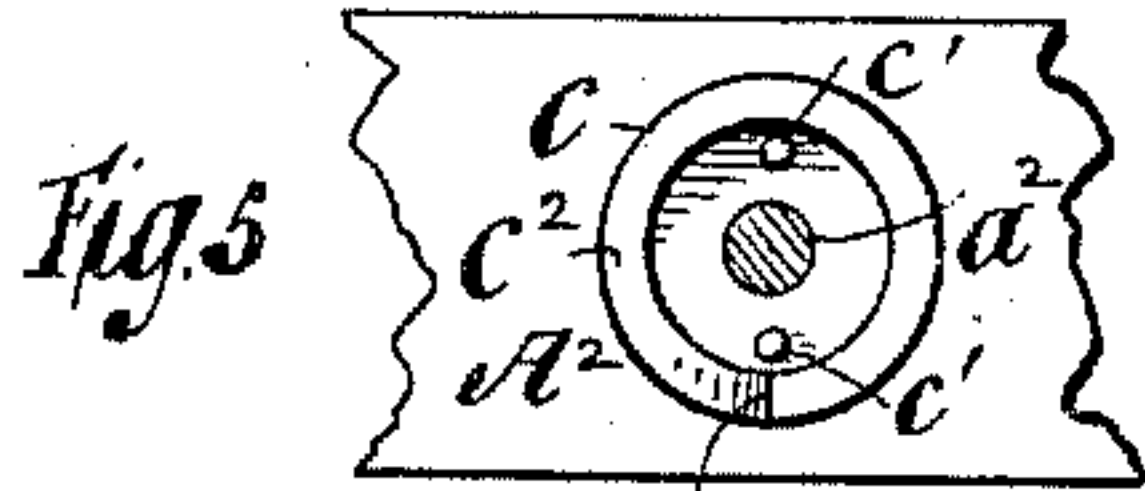
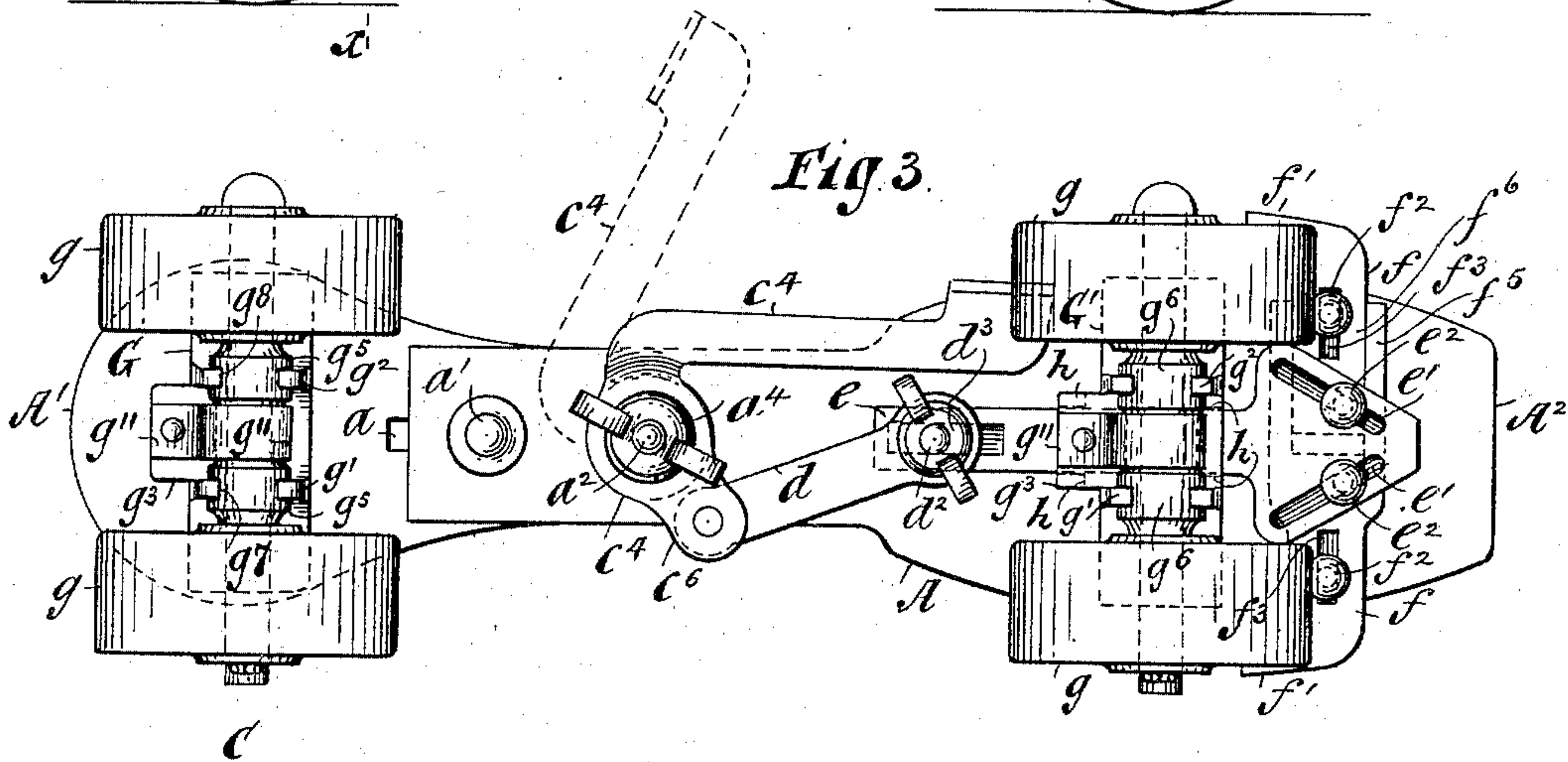
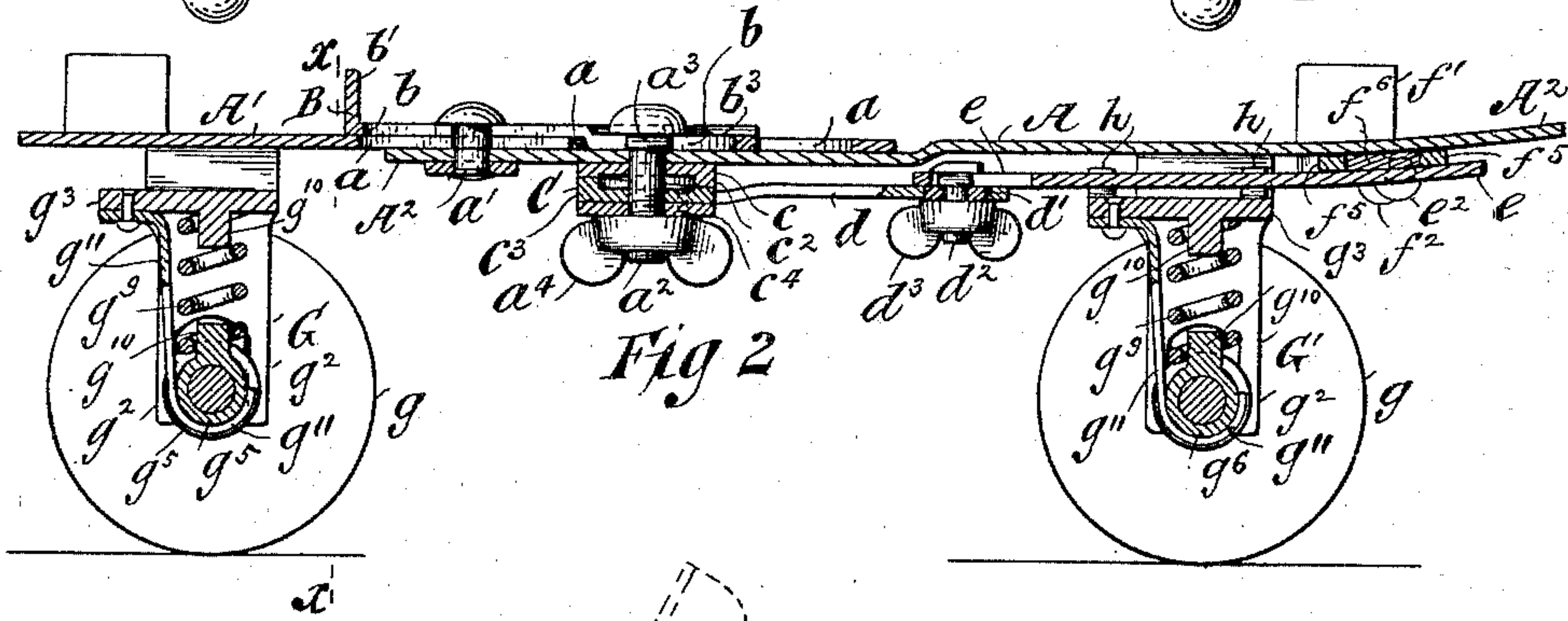
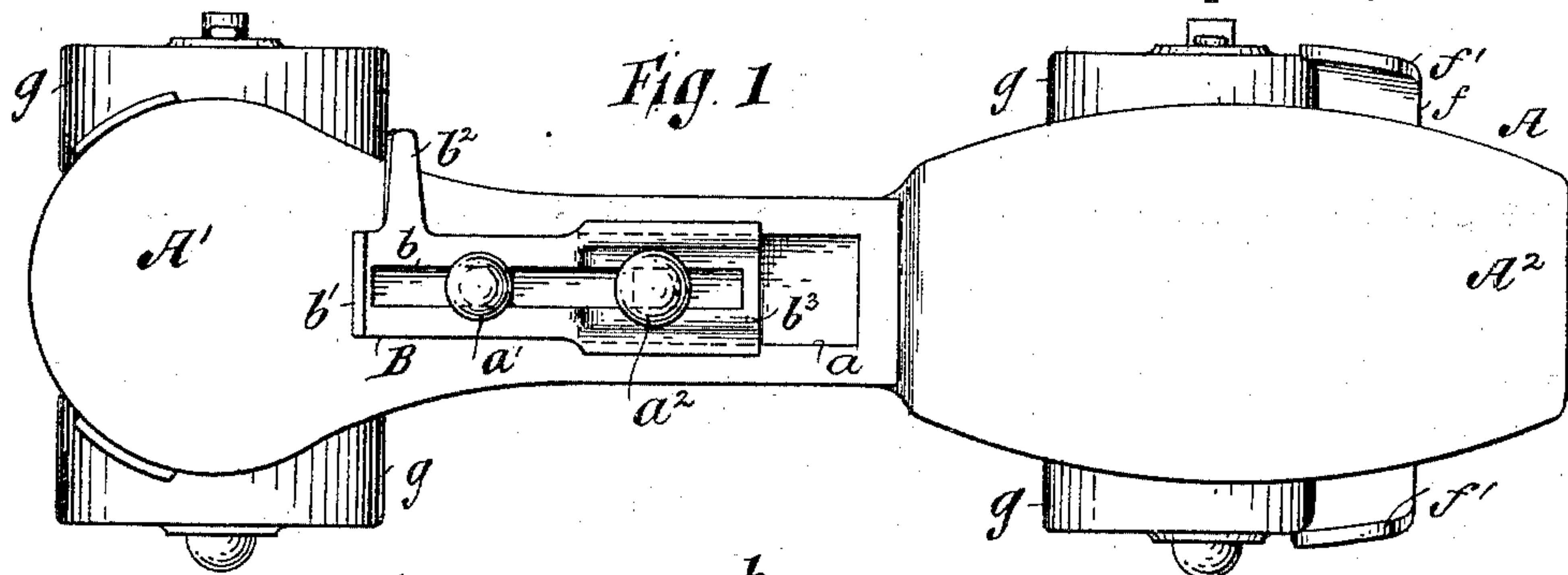


(No Model.)

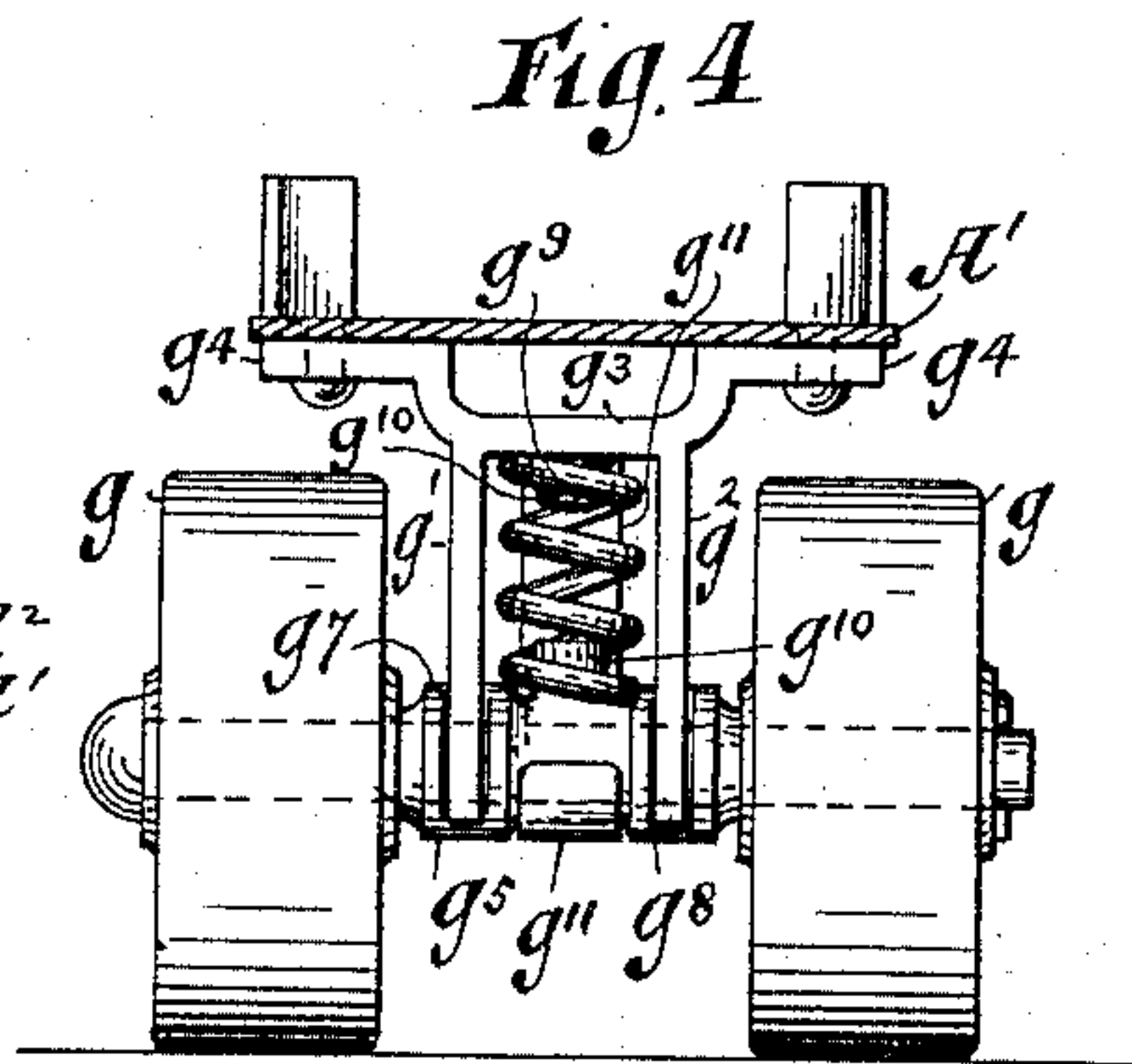
J. CARRIE.  
ROLLER SKATE.

No. 482,721.

Patented Sept. 20, 1892.



Witnesses  
Geo. Wadman  
H. Schmidt



Inventor

J. Carrie



# UNITED STATES PATENT OFFICE.

JAMES CARRIE, OF BROOKLYN, NEW YORK.

## ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 482,721, dated September 20, 1892.

Application filed May 18, 1892. Serial No. 433,426. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES CARRIE, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Roller-Skates, of which the following is a specification.

I will describe a roller-skate embodying my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a top view of a roller-skate constructed according to my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is an inverted plan view thereof. Fig. 4 is a transverse section taken at the line  $xx$ , Fig. 2. Figs. 5 and 6 are respectively an inverted plan and elevation of certain parts of a locking device.

A designates a foot-plate made in two sections  $A^1 A^2$ , having overlapping end portions adjustably secured together.

B is a heel-grip provided with a slot  $b$  and having an upwardly-turned end  $b^1$ , capable of being adjusted against the heel of a shoe by means of a finger-piece  $b^2$ . The opposite end of this grip has its central portion  $b^3$  sunk to fit an enlargement of a slot  $a$  contained in the section  $A^1$ . The sections  $A^1 A^2$  of the foot-plate and the grip B are connected together by means of a rivet  $a^1$  and a bolt  $a^2$ , each having their head portions resting on the grip B and their shank extending through the slots  $b$  and  $a$  and through holes in the section  $A^2$ . The rivet  $a^1$  is rigidly secured to the section  $A^2$  and is fitted to slide freely in the slots  $a$  and  $b$ . The bolt  $a^2$  has a square neck portion  $a^3$  to prevent its turning, and its head portion rests on the sunk part  $b^3$  in order to avoid having the shoe of the user resting thereon. The shank of this bolt extends through a locking device C and is provided with a thumb-nut  $a^4$ . This locking device comprises a disk  $c$ , secured to the section  $A^2$  by rivets  $c^1$  and provided with an annular inclined rim  $c^2$ , forming a cam-surface.

$c^3$  is a disk rigidly secured to or integral with a lever  $c^4$  and has an inclined rim corresponding to that of the disk  $c$ , against which it is held by the thumb-nut  $a^4$ .

$c^5$  is a shoulder formed in each disk to limit the motion of the lever when turned in a di-

rection to release the parts. The lever  $c^4$  has an arm  $c^6$ , to which is pivotally connected a link  $d$ , whose other end is loosely mounted on a washer  $d^1$ , adjustably secured to the slotted end of a reciprocating bar  $e$ . This washer is clamped to the bar  $e$  by means of a bolt  $d^2$  and thumb-nut  $d^3$ . The bar  $e$  has its forward end provided with slots  $e^1$ , converging toward each other, and in which are fitted to slide the shanks of rivets  $e^2$ . These rivets are rigidly secured to the inner extensions  $f$  of toe-grips  $f^1$ , which are supported by means of rivets  $f^2$ , fitted in slots  $f^3$  and rigidly secured to the shoe-plate A. The inner extension of one of these toe-grips has a bifurcated or forked extremity  $f^5$ , as shown in Figs. 2 and 3, and in which is fitted to slide the extremity or tongue portion  $f^6$  of the other or opposite toe-grip. By this construction the toe-grips are guided to move to and fro transversely of the skate.

G G' are brackets, in which the rollers  $g$  have their bearings. Each bracket consists of two vertical side portions  $g^1 g^2$ , united by a cross portion  $g^3$  and provided with flanges  $g^4$ , by which the brackets are rigidly secured to the shoe-plate.  $g^5 g^6$  are journal-boxes extending between the hubs of each pair of rollers and having the axles of the latter loosely mounted therein. The journal-boxes  $g^5 g^6$  are provided with grooves  $g^7 g^8$ , fitted to slide on bifurcated end portions of the sides  $g^1 g^2$ .

$g^9$  is a coil-spring arranged between the journal-box and the cross portion  $g^3$  of the bracket and is secured in position by projecting studs  $g^{10}$ , extending from the journal-box and the said cross-piece  $g^3$ .

$g^{11}$  is a stop-plate secured at one end to the cross-piece  $g^3$  of the bracket and extending around the under side of an annular groove in the journal-box to limit the downward motion thereof. By this construction the coil-spring serves as a cushion to afford an easy movement in use.

The bracket G' may be provided with projections  $h$ , formed integral therewith, and between which the reciprocating bar  $e$  may be fitted to slide and caused to move in a direction longitudinally of the shoe-plate.

The operation of the device is as follows: The lever  $c^4$  is turned to a position shown



dotted in Fig. 3, which loosens the parts sufficiently to adjust them to a shoe of any size. The nut  $d^3$  is then loosened and the bar  $e$  moved forward or backward to impart the requisite degree of lateral motion to the toe-grips to fit the shoe of the user, after which the nut  $d^3$  is tightened to secure the washer  $d'$  rigidly to the bar  $e$ . The skate is then applied to the foot and the two sections  $A' A^2$  brought together to fit the shoe lengthwise, after which the heel-grip  $B$  is moved against the heel and the parts tightened together by the thumb-nut  $a^4$ . The lever  $c^4$  is then turned to a position shown in full lines in Fig. 3, which imparts a movement to the toe-grips to grip the shoe and at the same time locks the two sections  $A' A^2$  and the heel-grip  $B$  rigidly together.

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

1. A support for a roller-skate axle, comprising a bracket  $G$ , secured to the shoe-plate and having two side portions  $g' g^2$ , provided with perpendicular slots open at the bottom, a journal-box extending the entire width of the axle between the hubs of the rollers  $g$  and having flat-sided and parallel grooves  $g^7 g^8$ , in which are loosely fitted the slotted portions of the sides  $g' g^2$ , a spring  $g^9$ , and a stop-plate  $g^{11}$ , substantially as described.

2. The combination, in a roller-skate, of a shoe-plate, toe-grips having slotted extensions connected thereto and arranged to slide transversely thereof, a reciprocating bar provided with slots converging toward each other and engaging with pins secured to the extensions of the toe-grips, a link pivotally and adjustably connected to the reciprocating bar, means for guiding the latter to move longitudinally of the skate, a lever having an arm pivotally connected to the said link, a heel-grip adjustably connected to the shoe-plate, a locking device, as  $C$ , for locking or unlocking the skate to or from a shoe, and a bolt, secured from turning, extending through the heel-grip, shoe-plates, locking device, and lever and provided with a thumb-nut to clamp the said parts together, substantially as described.

3. In a roller-skate, the combination of a

shoe-plate, toe-grips, each having a slotted extension, one of which is fitted to slide within a bifurcated end portion of the other, rivets secured to the shoe-plate and extending through the slots of the extensions to support and guide the same, a bar fitted to move longitudinally of the shoe-plate and having slots converging toward each other and in which are fitted to slide pins secured to the extensions of the toe-grips, and means for reciprocating the said bar and locking the same in position, substantially as described.

4. In a roller-skate, the combination of a shoe-plate composed of two overlapping sections, a heel-grip adjustably connected thereto, a locking device comprising a disk secured to the front section and having an annular inclined rim forming a cam-surface against which bears a corresponding cam-surface of a disk secured to the hub of a lever, and a bolt, prevented from turning, extending through the heel-grip, front and rear sections of the shoe-plate, and locking device for clamping the said parts together, substantially as described.

5. In a roller-skate, the combination of the shoe-plate  $A$ , composed of two longitudinally-adjustable sections  $A' A^2$ , overlapping each other, the heel-grip  $B$ , and toe-grips  $f f'$ , adjustably connected thereto, the reciprocating bar  $e$ , having slots converging toward each other and adapted to impart a lateral to-and-fro motion to the toe-grips, the link  $d$ , pivotally and adjustably connected to the bar  $e$  and to an arm of a lever  $c^4$ , and the locking device  $C$ , comprising the cam-disks  $c c^3$ , the bolt  $a^2$ , thumb-nut  $a^4$ , and lever  $c^4$ , the latter being arranged to operate the toe-grips and lock the same, together with the heel-grip and the two sections of the shoe-plate, together simultaneously, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of May, 1892.

JAMES CARRIE.

Witnesses:

GEO. WADMAN,  
SAMUEL CROWE.