

(No Model.)

J. WILLIAMS.
ROLLER SKATE.

No. 320,108.

Patented June 16, 1885.

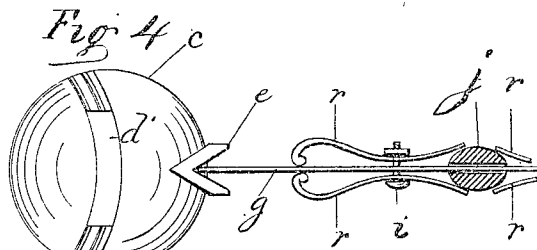
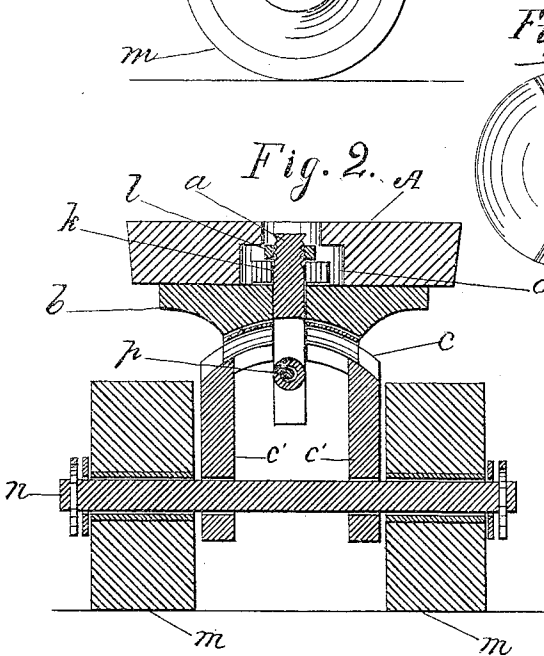
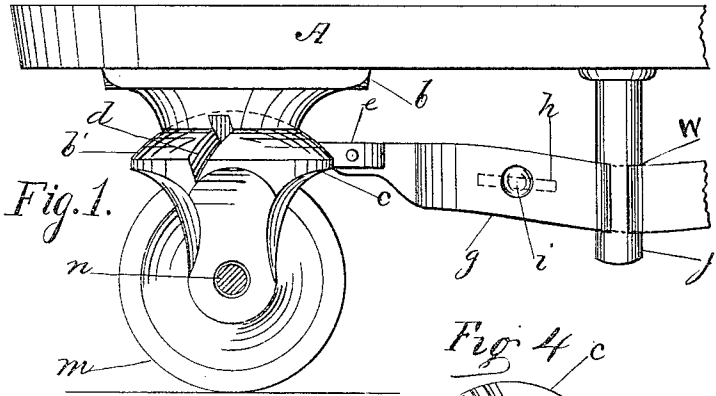
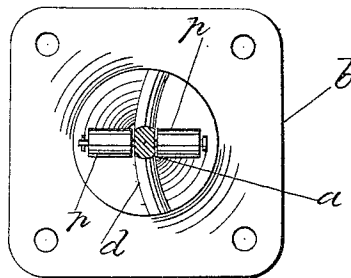


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES WILLIAMS, OF RICHMOND, INDIANA.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 320,108, dated June 16, 1885.

Application filed February 27, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES WILLIAMS, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to that class of roller-skates in common use for rink and parlor skating.

My invention consists in constructing the lower surface of the hanger-plate concave and the upper surface of the saddle block convex, and in providing the concave surface with a curved slot and the convex surface with a curved rib to fit into the same.

It further consists in a novel arrangement of parts to give direction to the trucks of the skate when in motion.

In the drawings, Figure 1 is a side elevation of the rear end of my improved skate. Fig. 2 is a transverse vertical section of the rear truck of the same. Fig. 3 is a plan view of the hanger-plate inverted. Fig. 4 is a top plan view of the convex surface of the saddle-block, showing the spring and its attachments.

In Fig. 1, A represents the foot-piece of a skate of ordinary construction; b, the hanger-plate, composed of a rectangular face-plate secured to the under surface of the foot-piece A. Depending from the face-plate is a pedestal, which has its lower end hollowed out or made concave, and having a laterally-curved opening or slot, d, traversing its central section horizontally.

The saddle-block c, having vertical arms c', Fig. 2, has a shell-formed convex top surface corresponding in size and form with the concave lower surface of the hanger-frame b, into which it is fitted, and having a laterally-curved rib or projection, d', which corresponds in form and dimensions with the slot d in the concave surface of the hanger-frame, into which it is fitted and on which it is allowed a lateral sliding motion.

A binding-post, a, occupies a recess, o, in the foot-piece A, and passes through suitable openings in the central part of the concave and convex surfaces, projecting below the lower surface of the shell of the convex surface of

the saddle-block, as seen in Fig. 2, where an axis-pin is fixed in it at right angles to its length, upon which there are placed friction-rollers p p, which are constructed to revolve on their axis-pin, their upper circumference bearing against the lower concave surface of the convex top of the saddle-block, and against which they traverse as the foot-piece of the skate carrying the post oscillates laterally, giving a partial rotary motion in a horizontal plane to the truck, saddle, axle, and wheels attached. This partial rotary motion is produced directly by the rib d' working in the slot d, both of which being curved in the same radius act together as the foot-piece is oscillated laterally to turn the saddle-block and change the direction of the wheels as required. The upper end of the binding-post a is fitted with a screw-nut, l, which rests upon a cubic rubber cushion, k, which in turn rests upon the bottom of the recess o in the foot-piece.

While the friction-rollers p p, whose axis is rigidly inserted in the binding-post a, have their bearing on the under surface of the convex top of the saddle-block, it will be seen that as the screw-nut l is turned down upon the rubber cushion k the reaction of the rubber cushion is met by the pressure of the friction-rollers in their increased pressure against the concave surface of the under side of the saddle-block, and this pressure is evenly maintained in the lateral motion imparted to the binding-post at its lower end in consequence of the lower end of the binding-post a being constructed to move in a circle of the same radius as that which forms the concave of the lower surface of the convex top of the saddle-block.

e, Fig. 1, is a V-shaped projection extending forward horizontally from the upper portion of the saddle-block c, immediately under the lateral center of the foot-piece, and is fixed to the saddle-block, as shown in Fig. 4.

j, Fig. 1, is a post fixed to the lower surface of the foot-piece, and depending vertically from the same, provided with a slot, w, into which a knife-blade spring, g, is secured. The spring g is slightly arched in a horizontal plane, and its ends are loose on the apex of the V-shaped projection e. The spring g is provided with a rectangular opening, h, which holds a screw-

bolt and nut, *i*, which is permitted a longitudinal movement in said opening.

r r are curved re-enforce side prongs, placed one on each side of the spring *g*, and secured to the same by the screw-bolt *i*. One end of each spring *r r* bears against the post *j*, while the opposite ends rest against the sides of the spring *g*, intermediate between the post *j* and projection *e*.

10 The object of the spring *g* is to return the saddle-block *c*, carrying the axle *n* and wheels *m*, to their original position after they have been deflected from a line by the action of the skater in turning the foot-piece. As the re-

15 enforce springs *r r* are moved toward the projection *e*, the spring *g* is made stiffer or more rigid and acts with more strength in operating the saddle-block and truck, and the action of the spring *g* may thus be regulated as desired.

20 Having thus fully described my said improvement, what I claim as new, and desire to secure by Letters Patent, is—

1. In a roller-skate, the hanger-frame *b*, provided with a concave bearing-surface, having a curved slot, *d*, combined with a convex saddle-block, *c*, provided with a curved rib, *d'*, as herein described. 25

2. The binding-post *a*, constructed as described, provided with friction-rollers *p p*, in combination with hanger-frame *b*, saddle-block *c*, and spring or rubber cushion *k*, as herein set forth. 30

3. The convex saddle-block *c*, provided with V-projection *e*, in combination with spring *g* and re-enforce springs *r r* and post *j*, substantially as and for the purposes herein set forth. 35

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

JAMES WILLIAMS.

Witnesses:

W. T. DENNIS,
G. H. WILLIAMS.