

W. C. TURNBULL.
Roller-Skate.

2 Sheets—Sheet 1.

No. 215,081.

Patented May 6, 1879.

Fig 1.

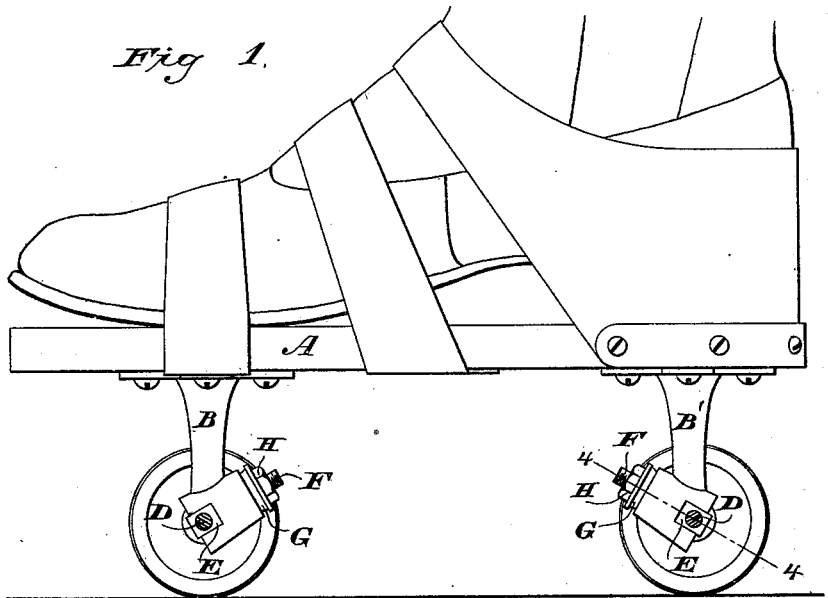


Fig 2.

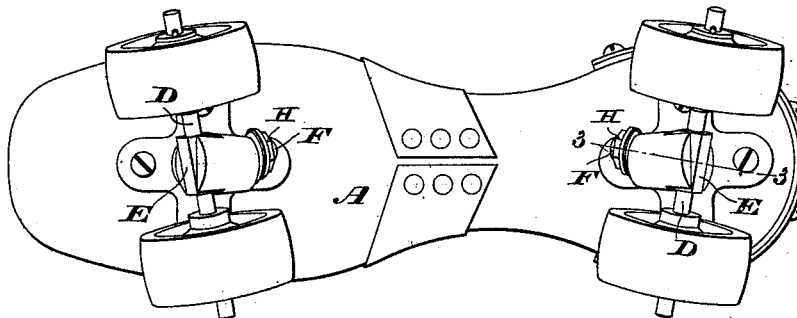


Fig 3.

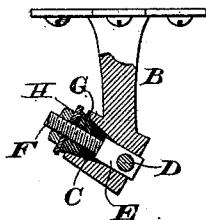


Fig 4.

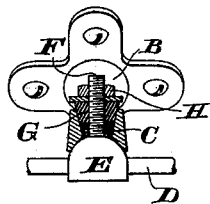


Fig 5.

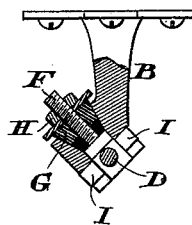
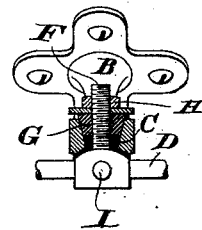


Fig 6.



WITNESSES

Wm A Skinkle
Geo W Bruck.

INVENTOR

William C. Turnbull,
By his Attorneys
Baldwin, Hopkins & Ayres.

W. C. TURNBULL.

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Fig 7.

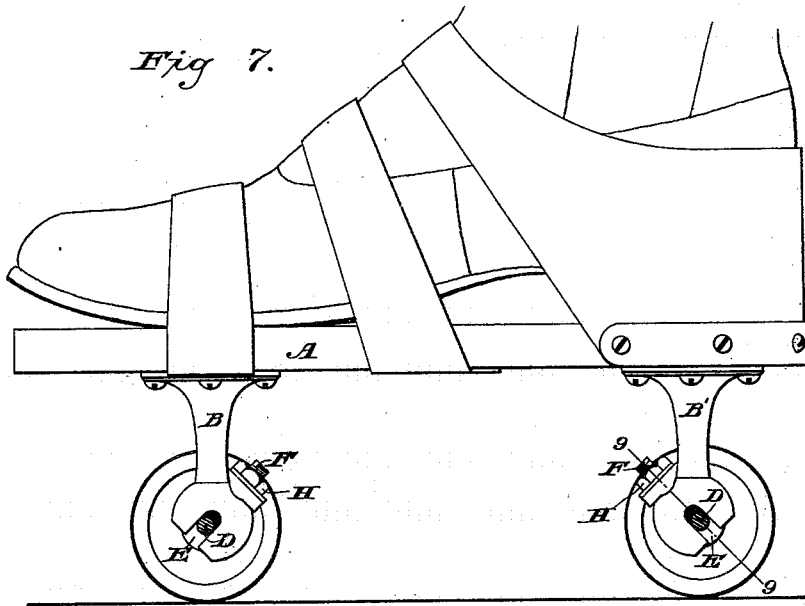


Fig 8.

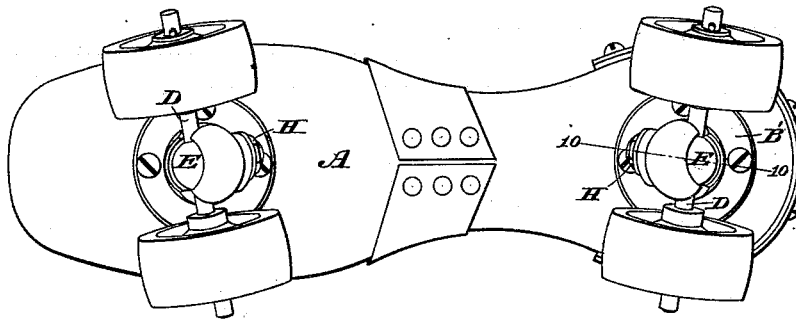


Fig 9.

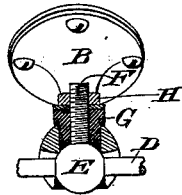
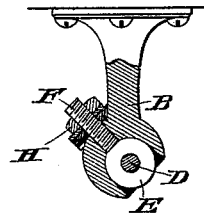


Fig 10.



WITNESSES

Wm A Sprinkle
Geo W Buck

INVENTOR

William C. Turnbull,

By his Attorneys

Baldwin, Hopkins & Layton.

UNITED STATES PATENT OFFICE.

WILLIAM C. TURNBULL, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN ROLLER-SKATES.

Specification forming part of Letters Patent No. **215,081**, dated May 6, 1879; application filed March 6, 1879.

To all whom it may concern:

Be it known that I, WILLIAM C. TURNBULL, of Baltimore, in the State of Maryland, have invented certain Improvements in Roller-Skates, of which the following is a specification.

The object of my invention is to secure lightness, durability, simplicity of construction, cheapness of manufacture, and efficiency in action of the parts which give to the roller-axes their necessary movement to facilitate turning or describing curves by the skater. To this end my plan is to employ two standards secured firmly to the bottom of the foot-plate, and provided at their lower ends each with a slot or bearing having an aperture through its bottom, the slot and aperture being preferably in the same line and at an angle of about forty-five degrees, more or less, those in the front standard inclining forward, and those in the rear standard backward. I employ roller-axes provided with enlargements or journal-pieces at their middle semicircular on one side to fit the bearings.

A screw-bolt firmly set in each journal-piece projects through the aperture in the bottom of the bearing, and is provided with a nut and an elastic washer or packing to hold the axle in place. The result of this construction and arrangement of parts is, that when the skater desires to turn, and presses upon one side of the foot-plate more than upon the other he will tilt the foot-plate and standards more or less, which, by the action of the sides of the slots on the journal-pieces, will cause the front and rear axles to turn in opposite directions, the rollers on the side to which the foot-plate tilts approaching each other, and those on the opposite side receding from each other. Thus all the rollers are kept on the floor and in action, substantially as when the skater is moving in a right line, and when the skate is lifted from the floor, or the pressure of the foot becomes perpendicular, the elastic packing serves to adjust the rollers to their normal position.

My invention consists, essentially, in combining fixed standards having bearing-slots with axles that are provided with journal-pieces, as indicated, and it extends to all the details and

combinations of parts which are important to the practical operation of a roller-skate constructed on that plan.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side elevation, and Fig. 2 a bottom view, showing the front and rear roller-axes turned slightly in opposite directions. Fig. 3 is a section through the line 3 3 of Fig. 2, and Fig. 4 a section through the line 4 4 of Fig. 1.

A indicates a foot-plate of a skate; B B', front and back standards secured to its bottom, and having bearing-slots in their lower ends; and C indicates a bolt-aperture, preferably circular and slightly funnel-shaped, but which may be elongated in a direction transverse to the foot-plate. D indicates a roller-axle with a journal-piece, E, about at its middle, and F a screw-threaded bolt or projection from the journal-piece, which extends through the aperture C. A washer, G, surrounds this bolt, and when clamped in place by the nut H it will always tend to keep the axles and standards at right angles, which is their normal position.

I may, in some cases, dispense with the screw-bolts, their washers, and the apertures through the bottoms of the bearing-slots, although I prefer to employ them ordinarily. When I dispense with them I spin over the margins of the bearing-slots to cover and hold the journal-pieces in place, or I otherwise secure them in the slots by a pin or cap.

The standards may be made hollow in order to diminish weight, or they may be composed of two or more columns or supports, so arranged as to secure strength and lightness. I do not claim any particular form of standard.

If desirable to strengthen the roller-axes, I may elongate the journal-pieces; but in practice I have not found it necessary.

It will be observed that by my invention I dispense entirely with roller-frames for supporting the axles, and reduce the parts necessary to secure the proper movements or adjustments to a minimum number.

Figs. 5 and 6 show a modification in form of my invention, in which I employ trunnions I, resting in bearing-slots of their own.

Instead of either of the forms described, I may use a ball-and-socket joint, as shown in Figs. 7 to 10, inclusive.

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

1. A fixed skate-standard, having an inclined axle-slot, with a curvilinear bottom and an aperture through the curved bottom, substantially as described.

2. A skate-roller axle provided with a journal-piece at its middle, having its upper or bearing side curvilinear, substantially as described.

3. The combination of a fixed skate-standard, having an inclined axle-slot with a curvilinear bottom, with a roller-axle provided with a journal-piece at its middle having its bearing side curvilinear, substantially as described.

4. A skate-roller axle provided with a journal-piece at its middle, having its bearing side curvilinear, and having a screw-bolt projecting from it, substantially as described.

5. The combination, with a skate foot-plate, of two fixed standards, each having an inclined slot or bearing that has a curvilinear bottom, with roller-axes, each having a journal-piece at its middle, with its bearing side curvilinear, the slot in the front standard inclining forward, and that in the rear standard inclining backward, whereby the proper movements of the parts for describing curves in skating are effected, substantially as described.

6. The combination of a fixed standard, having an inclined slot or bearing and a curvilinear bottom, and a bolt-aperture through said bottom, with a roller-axle and journal-piece, a screw-bolt, an elastic washer, and a nut, substantially as described.

In testimony whereof I have hereunto subscribed my name.

WILLIAM C. TURNBULL.

Witnesses:

MARCUS S. HOPKINS,

WM. J. PEYTON.