H. LUMBYE.

Roller-Skates.

No. 197,385. Patented Nov. 20, 1877.

Fig. 1.

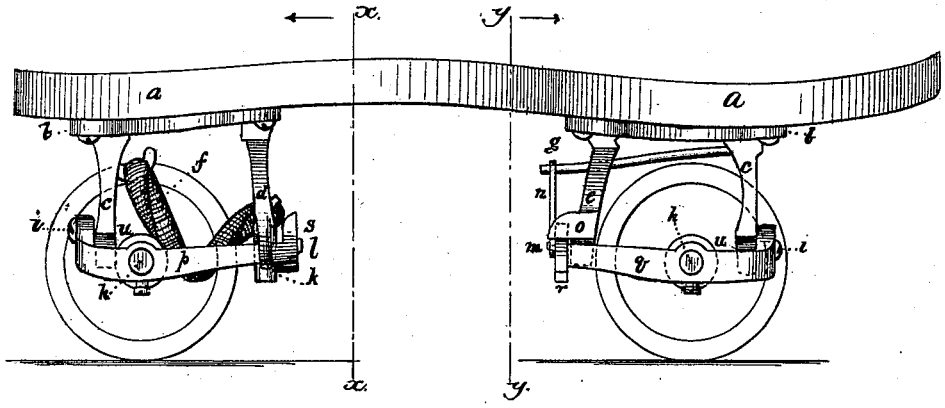


Fig. 2.

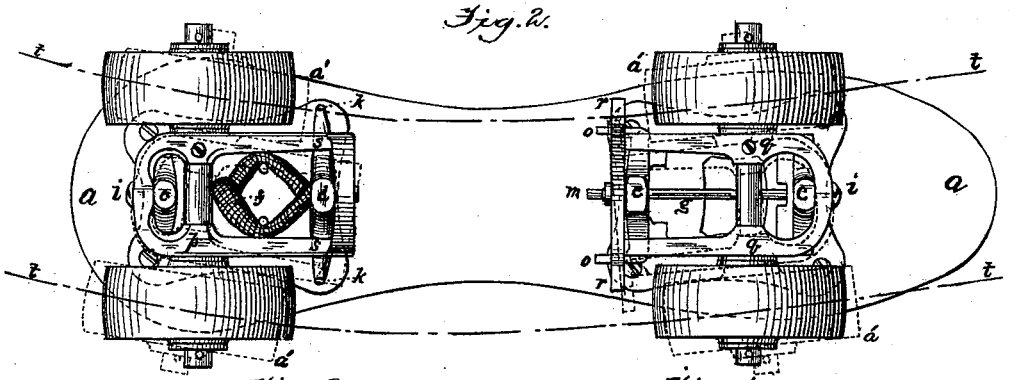


Fig. 3.

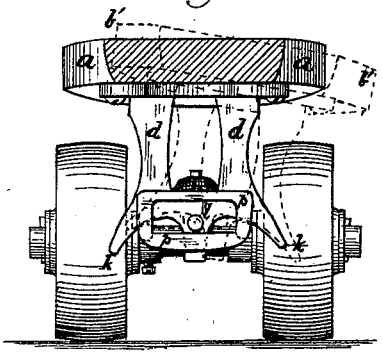
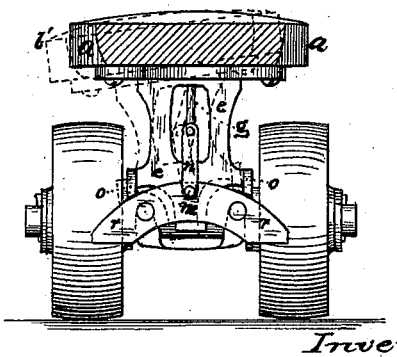


Fig. 4.



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HANS LUMBŸE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN ROLLER-SKATES.

Specification forming part of Letters Patent No. **197,385**, dated November 20, 1877; application filed August 28, 1877.

To all whom it may concern:

Be it known that I, HANS LUMBŸE, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Parlor or Roller Skates, which improvement is fully set forth in the following specification and the accompanying drawing, in which—

Figure 1 is a side elevation of a parlor or roller skate, two of the wheels being removed to more plainly show the general construction. Fig. 2 is a bottom view or inverted plan of the same, with dotted lines showing relative changes of position of the several parts incident to a change of inclination of the foot-board, and also the consequent change of the line of direction of the skate. Fig. 3 is a section in the dotted line *x x* in Fig. 1, in the direction indicated by the arrow; and Fig. 4 is a section in the dottedl ine *y y*, Fig. 1, in the direction indicated by the arrow.

The object of my invention is to furnish a skate so constructed that either when running forward or backward its line of direction may be changed at the pleasure of the wearer simply by inclining the foot-board to the right or left, according to the change of direction desired; and it consists in the combination, with the segment of a circle placed at one end of the supporting-frame or of the axle-frame, of travelers on the corresponding end of the other of such frames, operating on such segment of circle to automatically give to the axle-frame the desired adjustability of position with reference to a pivotal point at which such frames are attached together, as shown in the drawing, and hereinafter fully described.

Two forms of construction are shown in the figures; but the variance consists merely in the details of construction, the principle of operation being the same in both.

In the figures, *a a* is the foot-board, to which the supporting-frames *b b* with their depending arms *c*, *d*, and *e* are attached. The arms *c* are the same in both forms of construction shown. *p* and *q* represent two forms of the axle-frame. Upon *p* are formed travelers or bearing-surfaces *s s*, to move upon the surfaces of the segments of circles *k k*, with which the end of the arm *d* is provided, as shown in Fig. 3; while in the other form of construction, as shown in Fig. 4, travelers or bearing-surfaces *o o* are formed upon the lower end of the arm *e* to move upon and follow the line of a segment of a circle, *r*, attached to the axle-frame *q*. *i* is a pivotal point, at which the supporting-frame and the axle-frame are connected. *f*, in Figs. 1, 2, and 3, is an elastic strap attached to and operating upon the supporting-frame and the axle-frame, its office being to hold the travelers *s s* against the curved surfaces *k k* when the skate is lifted up, and also to restore the parts to their normal relative positions when the lateral pressure is removed; and *g*, in Figs. 1, 2, and 4, is a steel spring connected to the axle-frame at *m* by the link *n*, for the same purpose in that form of construction.

It is obvious that the forms as well as the positions of these springs may be varied.

The dotted lines *a* in Fig. 2 show the relative change of the parts when the foot-board is inclined to the right, and the dashed lines *t* in same figure show the result and change in the line of direction incidental thereto; while the dotted lines *b'*, in Figs. 3 and 4, show the relative change of parts when the foot-board is inclined. *u* in Fig. 1 is a shoulder on the arm *c*, and serves as a stop to the axle-frame *p* and *q*, and prevents the wheels from coming in contact with the foot-board, as would be the result of too great an inclination of the foot-board were no stop provided; but this stop may be dispensed with, if desired, for another is obtained at or near the other end of the axle-frame by its contact on excessive inclination of the foot-board with the standard *e*, Figs. 1, 2, and 4, and by the addition of the pin *l* and slot in *p p* and projection *d*.

The operation is as follows: When a skate provided with my new combination for its running-gear stands in position for use without any lateral pressure upon its foot-board, the springs hold the axle-frames against the supporting-frames, the travelers rest upon the curved surfaces described, and the axles lie parallel with each other in a plane parallel to the plane of the foot-board, and at right angles to its major axis.

If a forward or backward impetus be given to the skate while its several parts occupy toward each other the relative positions de-

scribed, its line of direction will be coincident to the line of the major axis of the foot-board. If the foot-board be inclined to either side, the crowding of the travelers upon the curved surfaces described will force those ends of the axle-frames over toward the other side, and, the other ends of those frames being held at the pivotal points *c*, the axles will assume toward each other the relative positions of radii of a circle, the center of which will be in the direction of the inclination of the foot-board, and the line of direction will be the circumference of such circle, the extent of which is determined by the angle of inclination.

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

1. The supporting-frame *b*, provided with the dependent arms *c* and *d*, and attached to the foot-board *a*, in combination with the axle-frame *p*, all constructed and arranged to operate substantially as shown and described, for the purpose set forth.

2. The supporting-frame *b*, provided with the dependent arms *c* and *e*, and attached to the foot-board *a*, in combination with the axle-frame *q*, provided with the segment of circle *v*, all constructed and arranged to operate as shown and described, for the purpose set forth.

3. The method herein shown and described for securing an automatic relative adjustment of the foot-board and running parts of the skate on inclination of the foot-board by means of axial arms, having a curved surface, and travelers to move upon and follow such curve at one end of such frames, and a union of the frames by a pivotal point at their other ends.

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