(No Model.)

L. L. RYERSON.

ROLLER SKATE.

No. 299,682. Patented June 3, 1884.

Fig. 1.

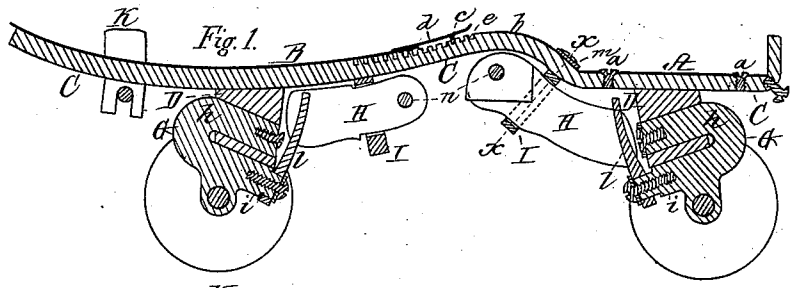


Fig. 2.

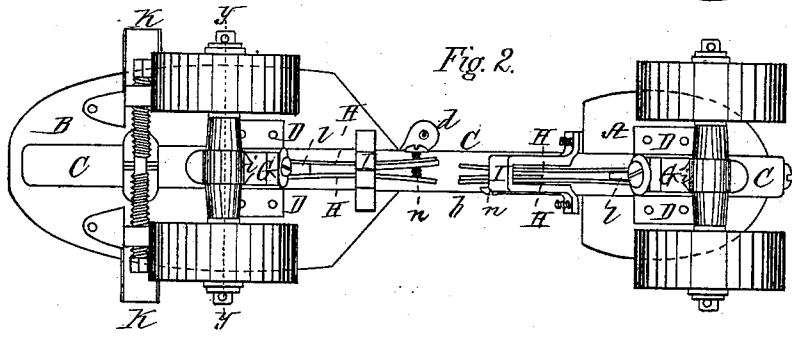


Fig. 5.

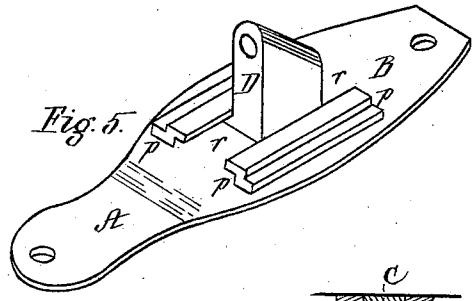


Fig. 3.

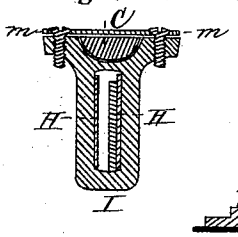


Fig. 6.

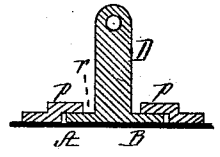
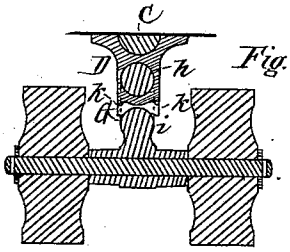


Fig. 4.



Witnesses:

Benjamin S. Stokes

Jas. W. Chapman

Inventor:

Lucius Lorenzo Ryerson,

pr Norman W. Stearns,

Atty.

UNITED STATES PATENT OFFICE.

LUCIUS LORENZO RYERSON, OF BOSTON, MASSACHUSETTS.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 299,682, dated June 3, 1884.

Application filed April 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS LORENZO RYERSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Roller-Skates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical longitudinal section through the center of a roller-skate constructed in accordance with my invention. Fig. 2 is a plan of the under side of said skate. Fig. 3 is a section on the line *x x* of Fig. 1; Fig. 4, a section on the line *y y* of Fig. 2; Fig. 5, a perspective view of the under side of a foot-support provided with ways, within which may be slid the bearing of one of the axles. Fig. 6 is a transverse section through the same.

One of the features of my present invention relates to an improved construction of the strengthening-rib secured to and extending under the foot-support of a roller-skate, said feature consisting of a solid rib secured to the under side of the heel-plate, and turned up at its rear to serve as a heel-stop, and to which the heel-strap is secured, the rib being so formed that the portion thereof extending under the heel is located in a plane below the portion of the same extending under the adjustable sole-plate, the middle or connecting portion of the rib upon which the shank rests serving as a support for the instep, the employment of said rib strengthening and re-enforcing the foot-support and preventing the bending of the same incident to that class of skates not so provided, while the adjustability of the parts admits of the skate being adapted for shoes of different lengths.

Another feature of this invention consists, in combination with a "goose-neck" journal and its bearing, of a pair of springs and an arm extending between them, and by which they are actuated, said arm being secured to the goose-neck and partaking of the vibratory or rocking motion imparted thereto by the various changes in the position of the skater while in motion, the springs insuring the gradual yielding of the journals in their bearings as they depart from and return to their normal position.

This invention also consists in a grooved or channeled way formed on the under side of the foot-support, for the reception and to admit of the sliding therein of the bearing of the axle of a pair of rollers, in order thereby to adapt the skate to feet of different lengths.

My invention also consists in a bracket for supporting the springs connected with the yielding goose-neck bearings, in combination with a means of adjusting the tension of said springs; and my invention also consists in a "clip" for securing the rear spring-supporting bracket to the under side of the longitudinal central rib.

In the said drawings, A represents the heel-support, B the support for the sole, and C a strong metallic rib, (of the form seen in Figs. 1 and 4,) securely attached by screws *a* to the under side of the heel-plate, and extending centrally and longitudinally therewith and across the space between it and the sole-plate and under the latter, the portion *b*, corresponding to the shank of the shoe, being located above the planes of the heel and sole plates.

D D are two bearings—one secured to the under side of the heel-support and the other to the under side of the sole-support—both bearings bridging over the central rib, C, and the sole-plate being adapted to slide on the latter to and from the heel-support, and when adjusted to the length of the foot of the skater being held fast by a pin, *c*, on a swinging plate, *d*, entering one of a series of holes, *e*, in the upper side of the rib. The bearings D D are for the reception of the cylindrical journals *h* of two inclined bent arms or goose-necks, G G, the lower bend, *i*, of each projecting outside of and under the lower surface of its bearing, which is provided with a raised lip, *k*, at each edge, the form of the bearing between its edges being concave or rounded outwardly in cross-section, Fig. 4. Secured to the inner lower end of each goose-neck is an arm, *l*, its upper end being interposed between the outer ends of two springs, H H, vertically located in one of two brackets, I I, one bracket being secured to the under side of the rear of the sole-plate, and the other bracket secured to the under side of the shank of the central rib by a clip, *m*, passing thereover at a point just beyond the front of the heel-plate. The inner ends of

each pair of springs are provided with an adjusting-screw, *n*, by which the tension of their outer ends is increased or diminished, by which construction the goose-neck journals are free to gradually yield and vibrate in their bearings against the resistance of the springs when the position of the skater is inclined in either direction, thus allowing the axes of both pair of rolls also to incline, and the bearing-surfaces of the rolls to rest squarely on the floor or pavement, the influence of the springs on the rolls admitting of their gradual departure from and return to their normal position.

K K are clamps, of well-known construction, for holding the skate upon the sole of the foot.

Another form of my invention which admits of the adjustment of a skate to feet of different lengths is shown in Figs. 5 and 6. In said figures the foot-support A B is represented as continuous from toe to heel, and is provided on its under side with a pair of parallel guides, *p*, forming a grooved way, *r*, in which the upper end of a bearing, D, is adapted to be slid.

I claim—

1. A strengthening-rib, C, secured to the under side of the heel-plate A and turned up at its rear to serve as a stop for the heel, in combination with a sole-support, B, capable of adjustment upon said rib, for the purpose set forth.

2. A goose-neck axle-bearing and a goose-neck journal-bearing, with an arm, *l*, secured to the lower bend, *i*, of the goose-neck, in combination with a pair of springs, H H, and a holder or bracket, I, therefor, secured to the under side of a portion of the foot-support or around the central rib, as and for the purpose described.

3. A goose-neck, G, with an arm, *l*, projecting therefrom, in combination with a pair of springs located within a holder and having their tension regulated by an adjusting-screw, substantially as set forth.

4. A clip, *m*, extending over the rib C, in combination with and secured to a spring-holder, I, thereunder, substantially as and for the purpose specified.

Witness my hand this 14th day of April, 1884.

LUCIUS LORENZO RYERSON.

In presence of—

N. W. STEARNS,

BENJAMIN S. STOKES.