(No Model.) 2 Sheets—Sheet 1.

L. J. MASTERSON.

ROLLER SKATE.

No. 457,129. Patented Aug. 4, 1891.

Fig. 1.

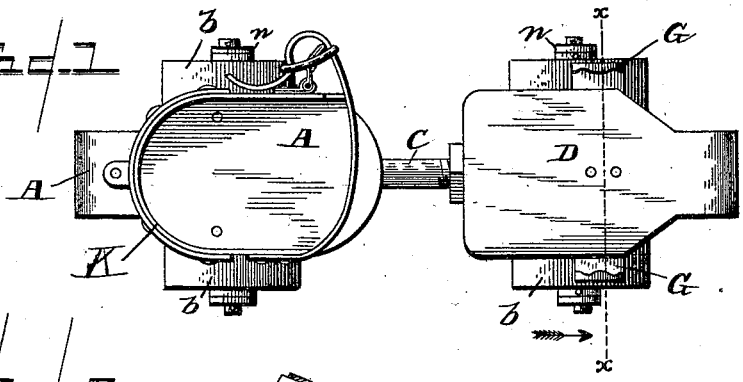


Fig. 2.

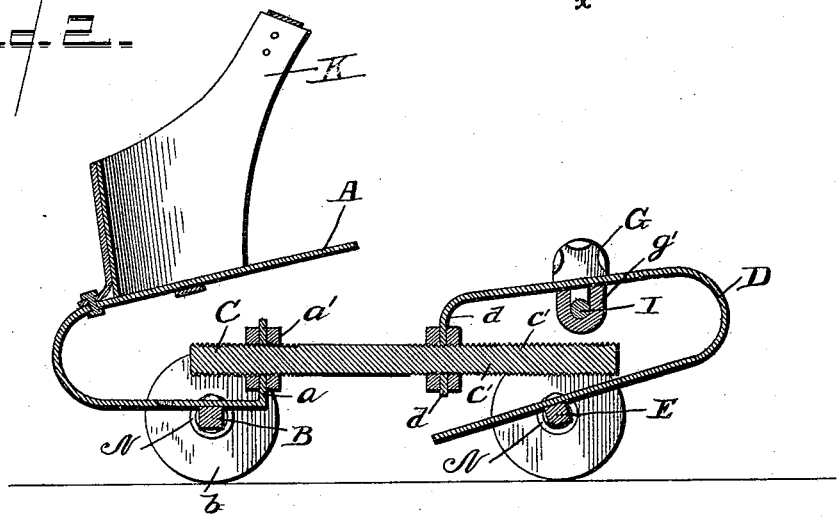
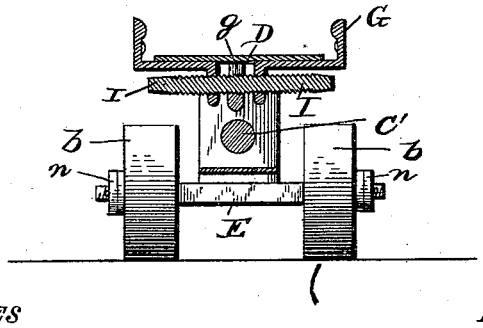


Fig. 3.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

L. J. MASTERSON.

ROLLER SKATE.

No. 457,129. Patented Aug. 4, 1891.

Fig. 4.

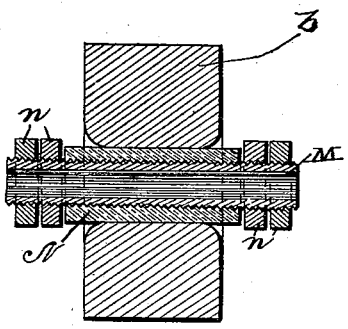
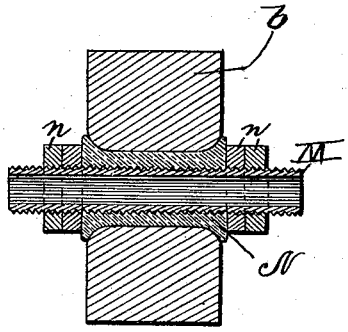


Fig. 5.



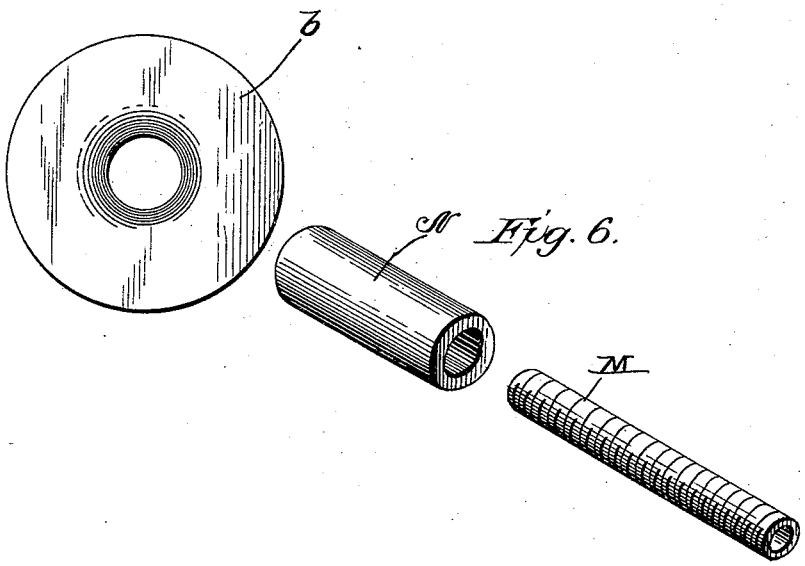


Fig. 6.

WITNESSES
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UNITED STATES PATENT OFFICE.

LEVI J. MASTERSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND HENRY A. FIRTH, OF SAME PLACE.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 457,129, dated August 4, 1891.

Application filed April 25, 1891. Serial No. 390,445. (No model.)

To all whom it may concern:

Be it known that I, LEVI J. MASTERSON, a citizen of the United States, residing at Manayunk, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Roller-Skates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in roller-skates, and the object of my invention is, first, to provide roller-skates having a rigid spring movement, so that when the skates are forced by the position of the foot and the action of the skater they will make various curves; second, to provide a roller-skate having an adjustable mechanism for the ball of the foot and a center bar so arranged that the skates may be lengthened or shortened to suit the foot of the skater. I attain said objects by a certain construction, combination, and arrangement of parts, fully described in this specification, and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of my invention. Fig. 2 is a longitudinal sectional view of same. Fig. 3 is a cross-sectional view on the line $x\,x$ of Fig. 1. Fig. 4 is a transverse sectional view of one of the rollers of my skates. Fig. 5 is a similar view slightly modified. Fig. 6 is a detailed view of the parts which compose said roller.

Referring to the drawings, the letter A designates the curved heel spring-plate of my skate. Said plate is constructed as shown in Fig. 2, and suitably mounted upon the rear axle B of the rollers b. The lower front end a of this plate is bent upward and centrally provided with a threaded orifice a', in which is located the corresponding rear end of the threaded coupling-rod C, which connects the heel and toe spring-plates of my skates. The toe-plate D is curved or bent, as shown in Fig. 2, and suitably mounted upon the front axle E of the rollers F. The rear top end d of the plate D is bent downward and provided with an orifice d', in which is located the front threaded end c' of the coupling-rod C. Upon the under side of said plate D and upon the line $x\,x$ is located the adjustable toe-clamp G. Said clamps are located upon the threaded transverse coupling-rod I, which has bearings in the downwardly-projecting staple-shaped iron g'. The toe-clamp G comprises the portions $g\,g$, and it will readily be observed that said portions are operated by said transverse threaded coupling-rod.

From the foregoing description it will be seen that by means of the longitudinal threaded coupling-rod C the skates may be extended or shortened, so as to be adjusted to the length of the foot, and that the width of the toe-plate D, by means of the adjustable toe-clamps G, may be adapted to the ball of the foot. It will further be observed that the toe and heel plates A and D, respectively, are so constructed as to provide an unsurpassed spring-movement. These are the novel and valuable features of my invention, to which I attach great importance.

I also attach special importance to the roller or wheel b of my skates, the same being constructed to act in conjunction with the curved heel and toe spring-plates A and D, respectively, whereby almost any curve imaginable can be made by the action of the skater. It will be seen by reference to Fig. 4 of my drawings that the wheel or roller b is provided with a journal-box M, threaded upon the outside, upon which is placed a corresponding piece of elastic N, which may be compressed by means of the screw-taps $n\,n$, which work upon the ends of the journal-box M. When the wheel b is placed upon the axle of the skate for use, the screw-taps $n\,n$ are moved to the points indicated in Fig. 5, which compresses the elastic N, causing the same to assume a cone-shaped appearance at each end. This constitutes a very valuable feature of my invention, for the reason that it gives the roller an elasticity corresponding to that of the curved spring and toe plates. Consequently the rigid spring movement imparted to the skate by means of said springs is correspondingly reciprocated by the rollers and imparted to the same. This enables the skater to make almost any curve imaginable with perfect ease, and at the same time imparts a buoyancy and grace of action that is truly wonderful.

Upon the rear top portion of the heel-plate A there is pivoted a standard or ankle-brace K, which is provided with an adjustable strap and buckle.

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

1. In a roller-skate, the combination of the rear axle mounted upon suitable rollers, the heel-spring plate A, secured to said axle near the upwardly-projecting portion of the lower front end of said plate, the end threaded coupling-rod having its rear end located in the orifice *a* of the plate A and its front end in the downwardly-projecting portion *d* of the toe-plate D, the front axle mounted upon suitable rollers, the curved toe-plate D, secured to the axle E near its lower rear end, the adjustable toe-clamps G, located upon the threaded transverse coupling-rod I, the rod I, having bearings *g'* and located in the downwardly-projecting staple-shaped iron H of the toe-plate D, and the ankle-brace K, pivoted upon the rear top portion of the heel-plate A, all substantially as described, and for the purpose set forth.

2. In a roller-skate, the combination of the axles mounted upon suitable rollers with the heel and toe curved spring-plates A and D, respectively, the end threaded coupling-rod connecting said plates and securing the same in their normal position, and the adjustable toe-clamps G, located in suitable bearings upon the under side of the toe-plate D, all substantially as described, and for the purpose set forth.

3. In a roller-skate, the combination of the curved elastic heel and toe plates A and D, respectively mounted upon suitable axles, with the adjustable coupling-rod which connects and secures said plates in their normal position, substantially as described, and for the purpose set forth.

4. A wheel or roller having a cone-shaped cavity or reduced portion around the rim of the axle-bore and upon each side thereof, in combination with a journal-box threaded upon the side adjacent the bore and located therein, and the elastic located upon said journal-box and between the same and the axle-bore, substantially as described, and for the purpose set forth.

5. In a roller-skate, the combination of the curved elastic heel and toe plates, the axles upon which the same are suitably mounted, the adjustable coupling-rod which connects and secures said plates in their normal position, and the rollers *b*, upon which the axles are mounted, all substantially as described, and for the purpose set forth.

6. In a roller-skate, the curved elastic heel-plate secured near its lower front end to the axle-bar and having said end bent upwardly at right angles and provided with a bearing for the rod which connects the same with the toe-plate, in combination with the axle-bar, substantially as described, and for the purpose set forth.

7. In a roller-skate, the curved elastic toe-plate secured near its lower rear end to the axle-bar and having its rear topmost end bent downwardly at right angles and provided with a bearing for the rod which connects the same to the heel-plate, in combination with the axle-bar, substantially as described, and for the purpose set forth.

8. In a roller-skate, the end threaded rod located in bearings in the lower upwardly-bent front end of the elastic heel-plate A and in the rear downwardly-bent and topmost end of the elastic toe-plate D, and adapted to hold said plates in their respective positions, substantially as described, and for the purpose set forth.

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

LEVI J. MASTERSON.

Witnesses:

HUGH J. BYRNE,

JOHN J. CONNELLY.