

C. DE L. RICE.
 ROLLER SKATE.
 APPLICATION FILED MAR. 27, 1912.

1,034,649.

Patented Aug. 6, 1912.

2 SHEETS-SHEET 1.

Fig. 1.

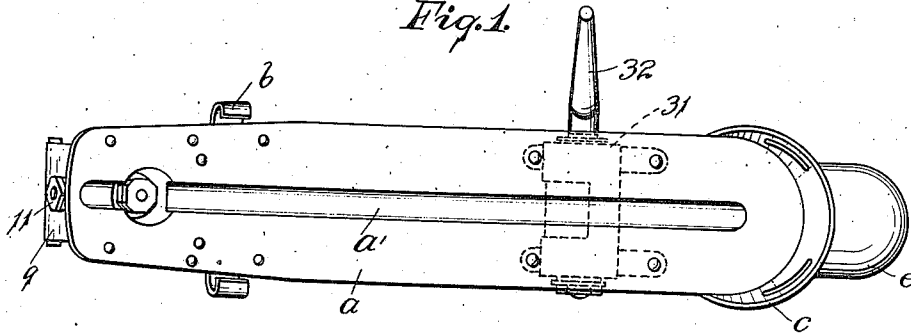


Fig. 2.

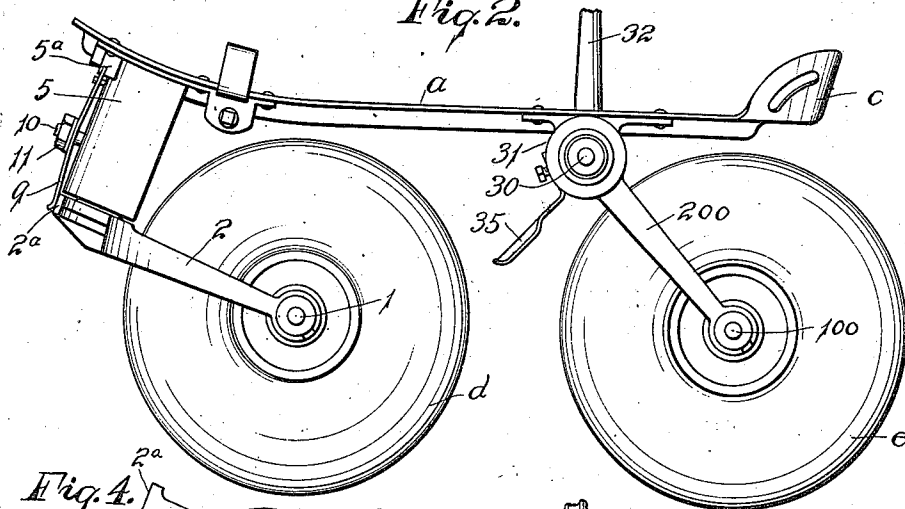


Fig. 4.

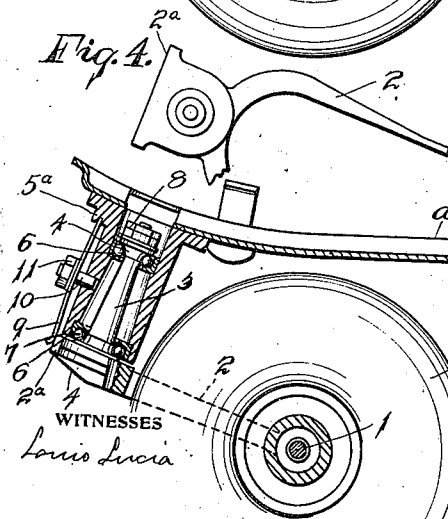
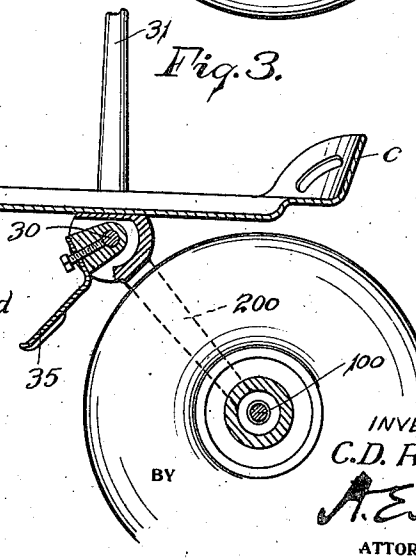


Fig. 3.



M. A. Shuckrow

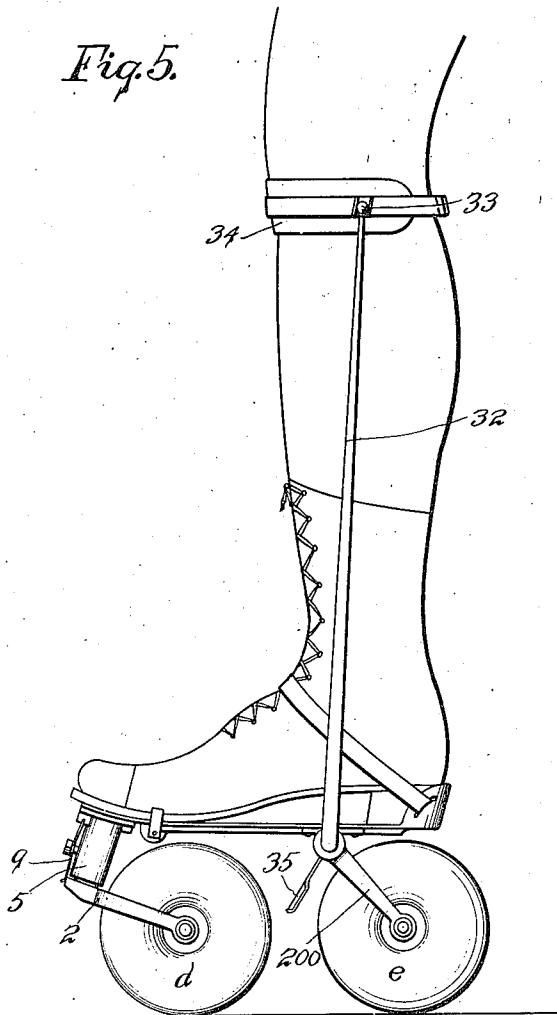
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2 SHEETS—SHEET 2.

Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES DE LOS RICE, OF HARTFORD, CONNECTICUT.

ROLLER-SKATE.

1,034,649.

Specification of Letters Patent.

Patented Aug. 6, 1912.

Application filed March 27, 1912. Serial No. 686,648.

To all whom it may concern:

Be it known that I, CHARLES DE LOS RICE, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification.

The object of the invention is to produce a roller skate of improved construction.

Referring to the drawings—Figure 1 is a plan view of a skate embodying my invention. Fig. 2 is a side view thereof. Fig. 3 is a side view with parts in section to show construction. Fig. 4 is a plan view of the front wheel yoke. Fig. 5 is a side view showing the skate in use.

Referring to the drawings *a* denotes the foot plate formed up out of sheet metal with a centrally arranged stiffening rib *a'*.

b are the toe clamps by means of which the front of the skate is secured to the sole of the shoe.

c is the heel plate, the skate being secured to the heel by a strap passing through the openings in this heel plate.

My skate is provided with two rollers *d* *e*, the front roller being located about under the ball of the foot and the rear roller under the heel. These rollers are preferably of a pneumatic construction which I have devised.

The invention herein described and claimed refers more particularly to the manner of mounting the rollers and their connection with the foot plate.

Referring now to the front roller it will be seen that it is mounted as usual on a horizontal axle 1, this axle being supported at each end in the ends of the yoke 2, this yoke 2 at its outer end having a spindle 3 extending at right angles to the yoke, the spindle being provided with ball bearing races 4. A tubular shell or hub 5 is secured at one end to the under side of the foot plate *a* and has ball cases 6, 6. The spindle 3 projects into this hub and balls 7 are arranged between the ball races on the spindle and the ball cases in the hub to provide a ball bearing for this spindle, suitable adjusting nuts 8 being provided for adjusting the bearings. A flat spring 9 is secured at one end to the base 5^a of the shell its opposite end resting against the flattened end 2^a of the yoke 2. This spring 9 is bowed, as clearly seen in Figs. 2 and 3, and a tension-

ing device, such as the stud 10 and the nut 11, is provided to cause the lower end of the spring to exert pressure on the flattened end 2^a of the yoke 2. The purpose of this spring is to keep the front roller in alignment with the rear roller and to maintain the axis of the front roller normally parallel with the axis of the rear roller. The rear roller *e* is also mounted on a horizontal axis 100 which at its ends is supported in the ends of the yoke 200, which yoke is fixedly secured to the foot plate, thus fixing the rear roller so that it has no movement except of rotation on its own axis.

In a properly constructed roller skate the stroke of one foot should diverge on a slightly curving line from the stroke of the other foot. This is accomplished by throwing the axis of the front roller a little out of parallelism with the axis of the rear roller. By my construction the spring 9 will permit of a slight deflection of the front roller and as soon as the force of the stroke is spent the spring returns the roller to its normal position in which its axis is parallel with the axis of the rear roller. The caster-like support of the front roller on ball bearings makes it sensitive to slight impulses and provides a very sensitive and satisfactory construction for the purpose designed. It is intended to use rollers about five and one-half inches in diameter. This raises the foot plate a considerable distance from the ground and in view of the fact that there are but two rollers set one back of the other an excessive strain would be placed upon the ankle of the user unless provision were made to overcome it. I provide against this in the following manner: Extending transversely of the foot plate at a point which is about in alinement with the ankle joint is a shaft 30 mounted on ball bearings not shown in a suitable bracket 31. This shaft has an upwardly extending arm 32 which extends up alongside of the leg, its end engaging an eye in a leg band 34 which preferably is strapped about the leg just above the calf. Fig. 5 shows this arrangement clearly. This arm 32 supports the ankle so as to prevent its bending or turning sidewise and yet allows of entire freedom of action in making a stroke and in bending the knee. Secured to the shaft 30 is a brake-spoon 35 which in the normal use of the skate is always out of contact with the rear roller, but when it is desired to stop or to slow down one foot can

be allowed to drag behind the other, or the knee can be bent, so as to throw the arm 32 forward far enough to bring the brake-spoon into contact with the rear roller.

5 The rollers as well as all moving parts are to be mounted on ball bearings so as to make the skate very free in its action.

The construction herein illustrated and described provides a skate which presents 10 many features of decided novelty and efficiency and when used in connection with the pneumatic rollers which I have devised a skate is produced which is very comfortable to use and adds greatly to the pleasure of 15 the roller skating sport.

I claim as my invention—

1. A roller skate comprising a foot-plate, a tubular shell fixedly secured to the foot-plate near the forward end thereof and extending forwardly and downwardly from 20 the under side thereof, a spindle rotatably mounted on ball bearings in said shell, a yoke secured to and extending rearwardly of said spindle, said yoke having its forward end squared, a roller mounted in said 25 yoke, a flat spring having one end located

in a slot under said foot-plate and its other end resting against the squared end of said yoke, means engaging said spring between its ends causing it to exert pressure on said 30 yoke to resist the turning movement thereof, a second yoke secured to said foot-plate to the rear of said first mentioned yoke, and a roller mounted in said yoke.

2. A roller skate comprising a foot plate, 35 a forwardly extending tubular shell fixedly secured to the under side of the foot plate near the front end thereof, a spindle rotatably mounted on ball bearings in said shell and projecting from the lower end thereof, 40 a yoke secured to the projecting end of the spindle and extending rearwardly and downwardly, a roller mounted in said yoke, yielding means on said shell and engaging said yoke to normally hold it in position, a 45 second yoke secured to said foot plate by the rear of the first mentioned yoke and a roller mounted thereon.

CHARLES DE LOS RICE.

Witnesses:

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