

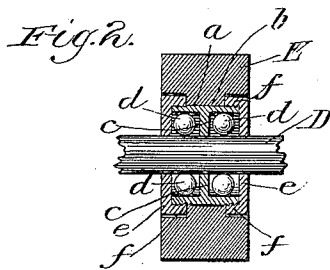
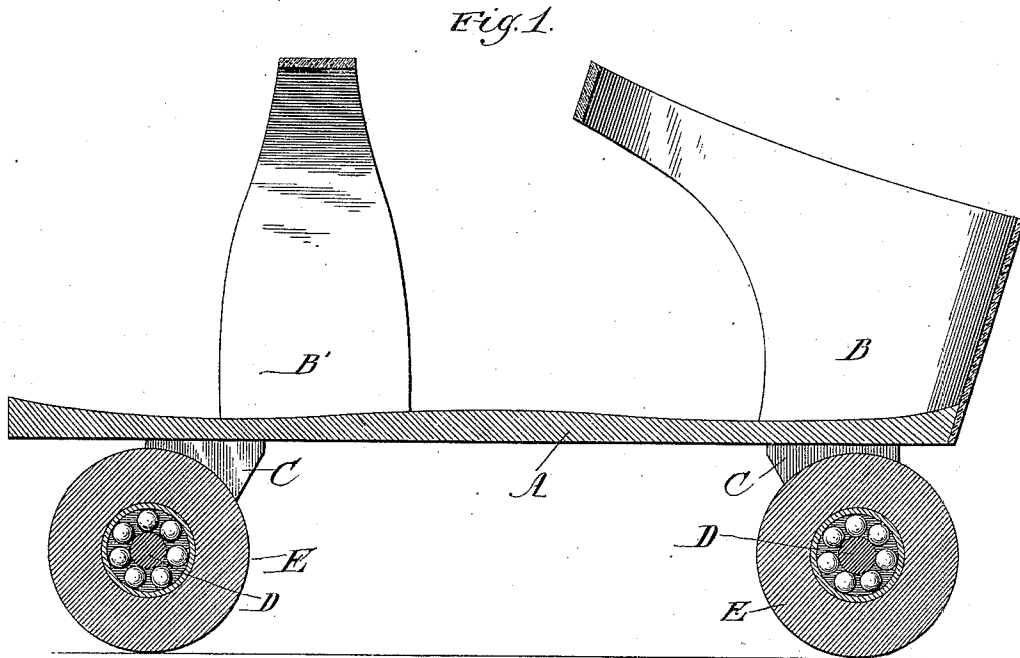
(No Model.)

L. M. RICHARDSON.

ROLLER SKATE.

No. 308,990.

Patented Dec. 9, 1884.



Witnesses.

Will R. Olinchandra.
Louis Nolting.

Inventor.

Lewis M. Richardson
By, W. H. Loz & Co.

Attys.

UNITED STATES PATENT OFFICE.

LEVANT M. RICHARDSON, OF CHICAGO, ILLINOIS.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 308,990, dated December 9, 1884.

Application filed August 6, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEVANT M. RICHARDSON, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in roller-skates.

The object of the invention is to improve the bearings for the rollers with which such skates are provided; and to that end it consists in providing one or more series of balls situated within the rollers, between them and the axles, and held in place in any suitable manner.

Reference will be made to the accompanying drawings, in which Figure 1 is a longitudinal sectional view of a skate, and Fig. 2 a cross-section through one roller thereof.

Like letters refer to like parts in each view.

A represents the foot-rest or body of the skate; B B', the heel and toe straps, respectively; and C, the hangers, secured upon the lower face of the foot-rest A and supporting-axles D. Upon each axle D one or two rollers, E, are loosely mounted so as to revolve thereon, said axles being either loose or stationary in their bearings. Each roller E is provided with an opening preferably larger at each end than at the center, whereby the inwardly-projecting flange or ring *a* is formed. Into each roller a bushing, *b*, is inserted, the length thereof being slightly less than the width of the roller, in order that a small space may be left between the sides of the roller and each end of the bushing. This bushing is of such a size that it will fit snugly within the roller, its outer surface contacting with the flange or ring *a*, before referred to. At or about the center of bushing *b*, and upon the interior thereof, there is formed a ring or flange, *c*, provided with a central opening, through which the axle is adapted to pass and by which the bushing is centrally divided. In each chamber thus formed in the bushing I place a series of small balls, *d*, made of any suitable material and of

a suitable size. These balls form a bearing upon the axle for the rollers, and they are held in position in the bushing by means of plates *e*, now to be referred to. These plates, there being one for each side of each roller, are provided each with a central opening to fit such plates upon the axle, and each is provided with a flange, *f*, which is screw-threaded, as shown in Fig. 2, said flange adapted to engage with a thread formed upon each end of bushing *b*, and being of such a size as to adapt it to fit snugly in the space formed by the central flange or ring, *a*, of the roller, whereby when the plates are screwed to their position their outer faces will be flush with the sides of the roller.

By the arrangement of the parts as described and shown a perfect ball-bearing is provided for each roller, and one which will prove durable and which in appearance is neat.

What I claim is—

1. The combination, in a roller-skate and with the axles thereof, of rollers provided in their bores with a ring or flange, a bushing situated within each roller, balls situated in the bushing, and plates for holding the balls in position, said plates adapted, when in position, to be flush with the rollers, as set forth.

2. In a skate, the combination, with rollers E and axles D, of centrally-divided bushings *b*, screw-threaded at each end, balls *d*, situated therein, and plates *e*, for holding such balls in position, said plates being provided each with a screw-threaded flange, *f*, as and for the purpose set forth.

3. In a skate, the combination, with axles D and rollers E, provided with flange or ring *a*, of centrally-divided bushings *b*, balls *d*, situated therein, and plates *e*, for holding such balls in position, the parts so arranged that plates *e* will be flush with the sides of the rollers, as set forth.

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

LEVANT M. RICHARDSON.

Witnesses:

M. J. CLAGETT,
A. F. SMITH.