C. T. MADSEN.

SKATE.

APPLICATION FILED SEPT. 18, 1917.

1,260,692. Patented Mar. 26, 1918.

Fig. 1.

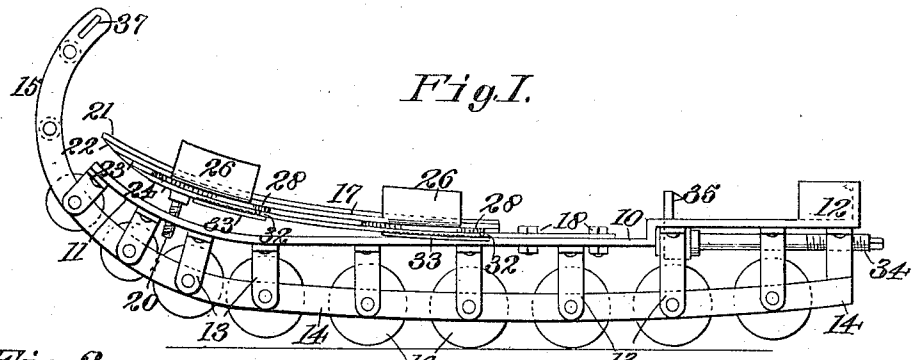


Fig. 2.

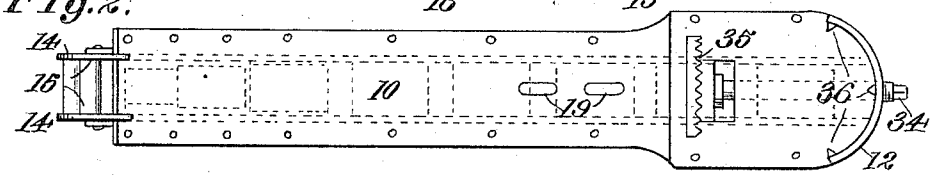


Fig. 3.

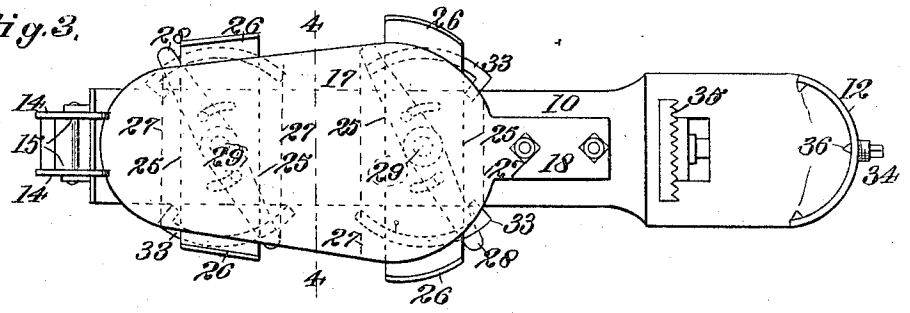


Fig. 4.

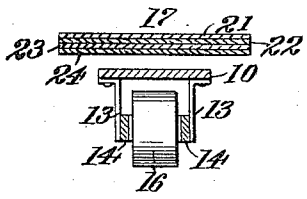
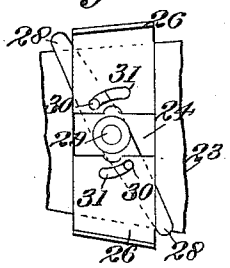


Fig. 5.



WITNESSES:

Charles Ackles

J. C. Benesch

INVENTOR

Chresten T. Madsen

BY Strong & Townsend

ATTORNEYS

BACHETT & WILHELMS CORP. N.Y.

UNITED STATES PATENT OFFICE.

CHRESTEN TORBEN MADSEN, OF OAKLAND, CALIFORNIA.

SKATE.

1,260,692. Specification of Letters Patent. Patented Mar. 26, 1918.

Application filed September 18, 1917. Serial No. 192,010.

To all whom it may concern:

Be it known that I, CHRESTEN T. MADSEN, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Skates, of which the following is a specification.

This invention relates to skates; and has for its object to provide a novel construction, suitable for ice or roller skates, whereby a flexible and adjustable sole piece may be used without diminishing the rigidity of the skate.

In carrying out the invention, a frame carrying supporting means, such as runners or rollers, is fitted with a superposed, flexible sole piece capable of vertical and horizontal adjustment.

One form which my invention may assume is exemplified in the following description and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation.

Fig. 2 is a plan view with the adjustable sole piece removed.

Fig. 3 is a plan view of the complete skate.

Fig. 4 is a cross-sectional view on the line 4—4 of Fig. 3.

Fig. 5 is a plan view of one of the clamping means.

In constructing the skate, a plate 10 of suitable dimensions, preferably made of sheet metal, is curved upward at one end to support the toe, as shown at 11, and fitted with a curved flange 12 at the other to receive the heel of a shoe. Secured to the underside of plate 10 is a series of brackets 13 (see Fig. 4), the lower ends of which are united by a pair of stringers 14, extending the whole length of plate 10 and which are slightly convex beneath the main bearing portion of the foot, this convexity being rapidly increased at the front so that the toe is practically inclosed and held in place by this curvature in conjunction with other securing means to be hereinafter described.

Between the stringers 14, preferably at each point where they unite with the brackets 13, rollers 16 are journaled. These rollers are gradually decreased in diameter under the front end of the plate 10 and thus provide for an increased tilt of the foot when the bearing is shifted toward the toe. The curvature of the stringers and bearing rollers is so designed as to provide the utmost flexibility of foot movement and thus permitting the skate to move in other than straight lines.

A sole piece, indicated generally at 17, is secured on the upper side of plate 10 by means of bolts 18 slidably fitted in slots 19 in the plate 10. This construction is suitable for either ice or roller skates since it permits longitudinal adjustment of the shoe-receiving parts of the skate without in any way weakening the structure as a whole or necessitating a change in runners or in the position of the rollers. The forward end of the member 17 is supported upon a cap screw 20, which is screwed into the plate 10 and serves as a means to vertically adjust the flexible member 17 to fit the foot of the wearer.

Means are carried by the sole piece 17 to clamp the shoe of the wearer. Any suitable number of such means could be provided but in the drawings only a pair of clamping devices are shown. The preferred way of constructing these clamps is to make the forward part of the sole piece 17 of four superposed plates of sheet metal, indicated at 21, 22, 23 and 24 (see Fig. 4). The plates 21 and 24 serve as supporting pieces and are solid throughout, while the plates 22 and 23 have transverse segments removed to provide working space for the clamping means. Thus plate 22 provides the spaces shown between the dotted lines 25 in which jaws 26 are slidably carried, while plate 23 provides the spaces between the dotted lines 27, in which levers 28 move to actuate the jaws 26.

Levers 28 are centrally fulcrumed at 29 on pivots secured in the plates 21 and 24. On either side of this fulcrum pins 30, carried by levers 28, engage eccentric slots 31 in the jaws 26 and serve to open or close said jaws upon actuation of the levers 28. The outer ends of the levers 28 are provided with pawls 32 which, by engaging racks 33 carried on the plate 24, serve to hold the jaws in position.

The heel of the skate is fastened to the shoe of the wearer by means of a screw mechanism 34 which serves to force a serrated jaw 35 into contact with the forward part of the shoe heel, thus clamping said heel between the jaw 35 and the flange 12, which is provided with suitable spurs 36. Further means to secure the skate on the shoe of the wearer are provided by the

curved ends 15 of the stringers 14. These ends have slots 37 formed in them and because of their peculiar position form very effective means to receive fastening straps.

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

1. A skate consisting of a main foot plate, parallel stringers and brackets by which said stringers are fixed beneath the foot plate with a slight convexity, said convexity increased at the front to inclose the toe, and rollers journaled between the stringers, said rollers having a substantially equal diameter beneath the main part of the foot and decreasing successively in size toward the upturned toe portion.

2. In a roller skate of the character described, the combination with a foot plate, of parallel stringers fixed beneath the foot plate and having a slightly convex portion presented to the bearing surface and an increased upward curve at the front to inclose the toe, and rollers journaled between said stringers having a substantially equal diameter beneath the foot plate and gradually decreasing in size beneath the upturned toe portion.

3. In a skate, the combination of a frame, supporting means on the underside of said frame, and shoe-receiving means on the upper side, said means comprising a sole piece composed of a plurality of plates, a plurality of jaws slidably mounted between said plates, cam levers carried between said plates to actuate the jaws, and a screw mechanism to vertically adjust the sole piece.

4. In a skate, the combination of a frame, supporting means on the underside of said frame, shoe-receiving means on the upper side, said means comprising a sole piece composed of a plurality of plates, a plurality of jaws slidably mounted between said plates, cam levers carried between said plates to actuate the jaws, ratchet mechanisms to hold said levers in adjusted position, and a screw mechanism to vertically adjust the sole piece.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHRESTEN TORBEN MADSEN.

Witnesses:
W. W. HEALEY,
M. E. EWING.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."