

Jan. 23, 1934.

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1,944,409

SUPPORTING DEVICE ON SKATES, ROLLER SKATES, AND THE LIKE

Filed Aug. 27, 1932

Fig. 1.

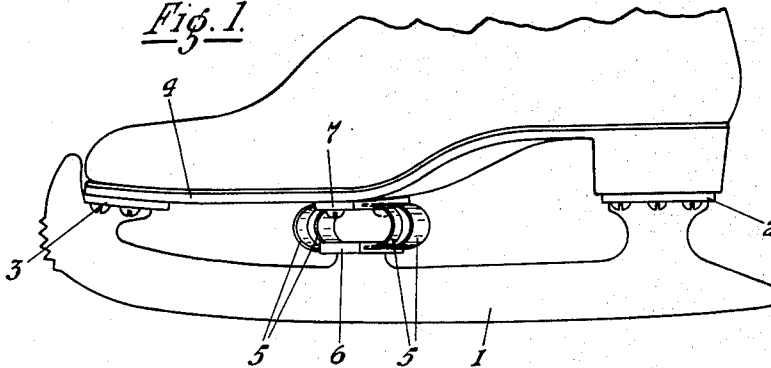


Fig. 2.

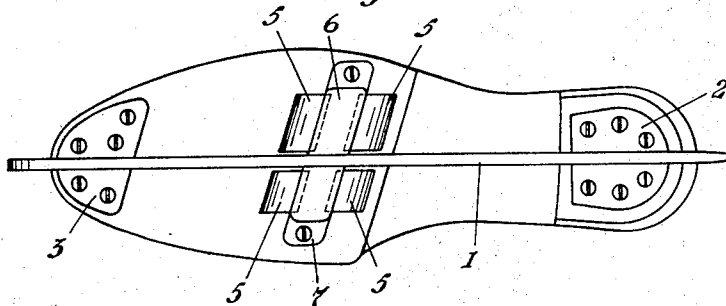


Fig. 3.

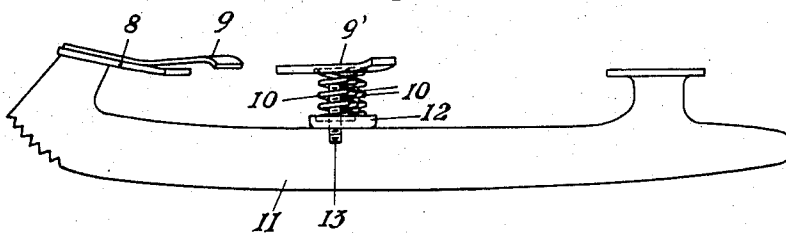
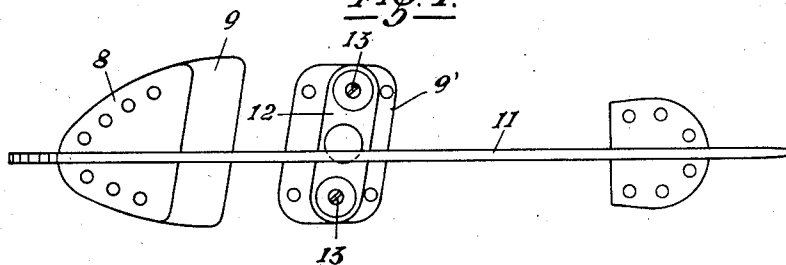


Fig. 4.



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UNITED STATES PATENT OFFICE

1,944,409

SUPPORTING DEVICE ON SKATES, ROLLER
SKATES, AND THE LIKE

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Application August 27, 1932, Serial No. 630,617,
and in Switzerland and Germany August 29,
1931

4 Claims. (Cl. 208—167)

This invention relates to a supporting device on skates, roller skates and the like, which is constructed in such a manner that, when skating, a natural supporting of the foot neutralizing the pressure is obtained. It has been proposed to effect this by an entirely resilient supporting of the foot on the skate, and other constructions are also known in which at least the middle and front portions of the foot are resiliently supported. This at least approximately resilient supporting of the foot is, as experience has shown, not practical and detrimentally affects the steering in the case of figure-skating skates and results in pains in the middle of the foot, when learning to skate.

The object of the invention is, to overcome these objections by a supporting device having a resilient effect and with three separate foot-plates arranged the one independent of the other on the runner, the front-plate, rigidly fixed on the runner, being very near the point of the skate. Between this front-plate and the heel-plate, likewise fixed on the runner, a third independent foot-plate is resiliently mounted on the runner. This middle plate therefore resiliently supports the middle portion of the foot, which is rigidly supported at the front and rear portions. The resilient plate is narrow and is inclined relative to the runner. As the rigidly-mounted foot-plates under the heel and under the toe are fixed to the sole of the shoe by means of screws or clamping jaws, only the middle portion of the foot can sink in a direction perpendicular to the runner, so that shifting of the longitudinal axis of the shoe sole is impossible.

Two embodiments of the invention are illustrated by way of example in the accompanying drawing, in which:—

Fig. 1 shows one form of construction in side elevation.

Fig. 2 is a bottom plan view of Fig. 1.

Fig. 3 shows a second form of construction in side elevation,

Fig. 4 being a bottom plan view of Fig. 3.

In Figs. 1 and 2, 1 designates the runner, 2 the heel-plate and 3 the toe-plate, this latter being according to the invention arranged very near to the point of the skate. Consequently, the gap between the heel-plate 2 and the toe-plate 3 would be bridged by the shoe sole 4. In order to resiliently support the middle portion of the shoe sole a narrow resiliently supported middle plate 7 is provided between the runner 1 and the shoe sole 4 approximately in the middle of the gap. The resilient support itself is composed of,

for example, blade springs 5 curved on a semi-circle and directed the one towards the other, fixed at one end on the foot-plate 7 and at the other end to a plate 6 fixed on the runner 1. In the example illustrated four blade springs 5 are provided, one pair of which being arranged on each side of the runner. The ends of the blade springs 5 are preferably exchangeably slipped into grooves in the plates 7 and 6. The resiliently supported plate 7 is arranged transversely and inclined at an angle to the runner 1 and can be rigidly attached at its ends to the shoe sole 4 by means of screws. The plates 2 and 3 are likewise detachably connected to the shoe sole either by screws or by any other suitable fixing means.

In the second form of construction, illustrated in Figs. 3 and 4, the toe-plate 8 carries a blade spring 9 which supports the front portion of the foot. This spring 9 projects beyond the rear edge of the toe-plate 8 and is bent slightly upwards. The resilient middle supporting is effected by means of a wide plate 9¹ supported by means of three spiral springs 10 on a narrow plate 12 fixed on the runner 11. Through the two outer springs 10 adjusting screws 13 extend which are rotatable and adjustable in height by means of a screw thread in the plate 12. The springs do not extend over the entire width of the plate 9¹, but terminate at a certain distance from the edges. The adjusting screws 13 prevent excessive tilting of the foot in lateral direction on the skate, as the lateral descending movement of the plate 9¹ when skating is limited in that it bears on upper ends of the adjusting screws 13. The wide plate 9¹ is fixed on the shoe sole. In this form of construction not only the middle of the foot, but also the front portion thereof is resiliently supported.

By screwing the adjusting screws higher or lower the tilting movement of the middle plate 9¹ can be increased or decreased.

The supporting devices above described can be fitted to all kinds of skates and roller skates. They have for their object to make skating more agreeable, easier and safer.

I claim:

1. A supporting device on skates, comprising in combination with the runner, three independent foot-plates on said runner, the front and rear plates rigidly fixed on the runner and the third plate in the form of a narrow strip arranged transversely and inclined at an angle to the runner, and means for resiliently supporting said middle plate on the runner.

2. A supporting device as specified in claim 1, 110

comprising in combination with the runner and the middle plate having grooves in its front and rear edges, a supporting plate on said runner under said middle plate likewise provided with grooves in its front and rear edges, and two pairs of exchangeable blade springs of semi-circular shape directed the one towards the other and arranged one pair on each side of said runner detachably engaging in the grooves in said middle plate and in said supporting plate to interconnect said plates.

3. A supporting device as specified in claim 1, comprising in combination with the runner and

the middle plate, a supporting plate fixed on said runner under said middle plate, a plurality of springs connecting said middle plate to said supporting plate, and adjusting screws adjustable in height in said supporting plate one on each side of said runner adapted to form an abutment for said middle plate to limit the lateral tilting movement thereof.

4. A supporting device as specified in claim 1, comprising in combination with the front-plate, blade springs on the upper side of said front-plate projecting beyond the rear edge thereof.

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