

[54] **ROLLER SKATES**

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309,567 10/1918 Germany 280/11.23
 400,436 10/1933 Great Britain 280/11.22

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[56] **References Cited**

UNITED STATES PATENTS

933,929 9/1909 Stott 280/11.27 X
 1,266,386 5/1918 Barr 280/7.13
 3,351,353 11/1967 Weitzner 280/7.13

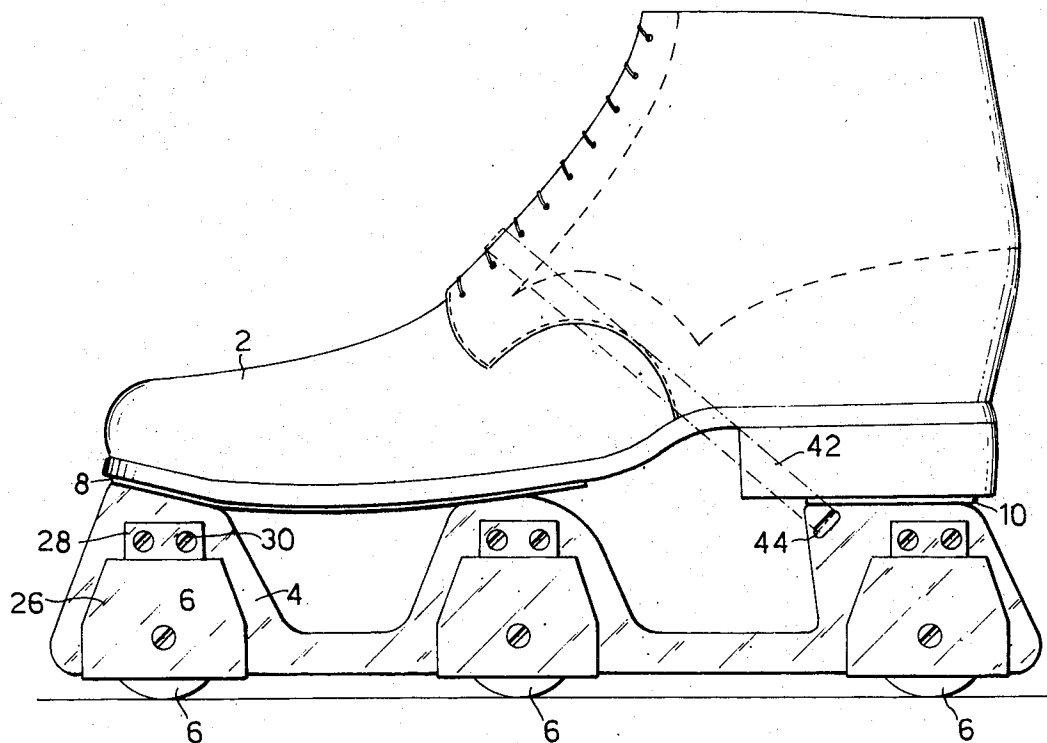
FOREIGN PATENTS OR APPLICATIONS

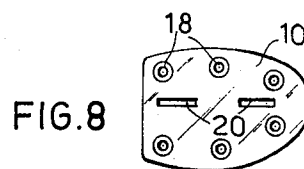
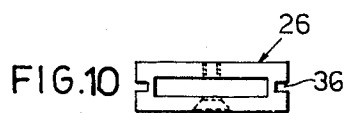
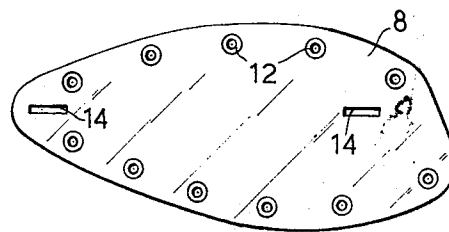
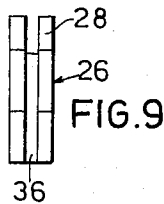
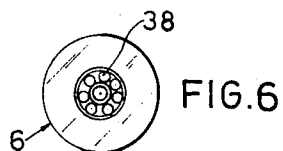
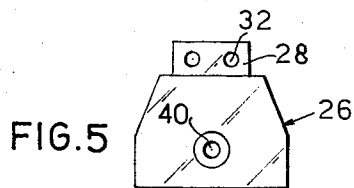
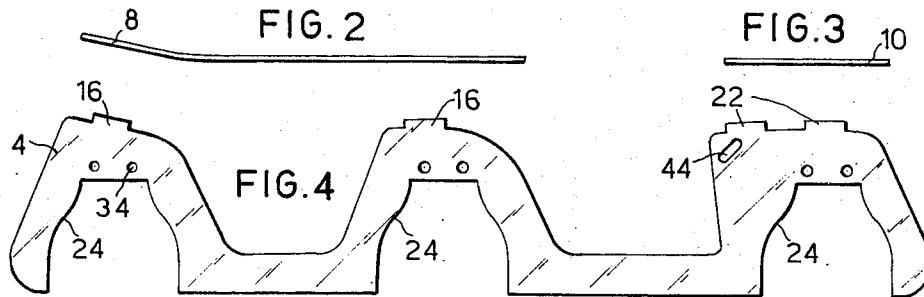
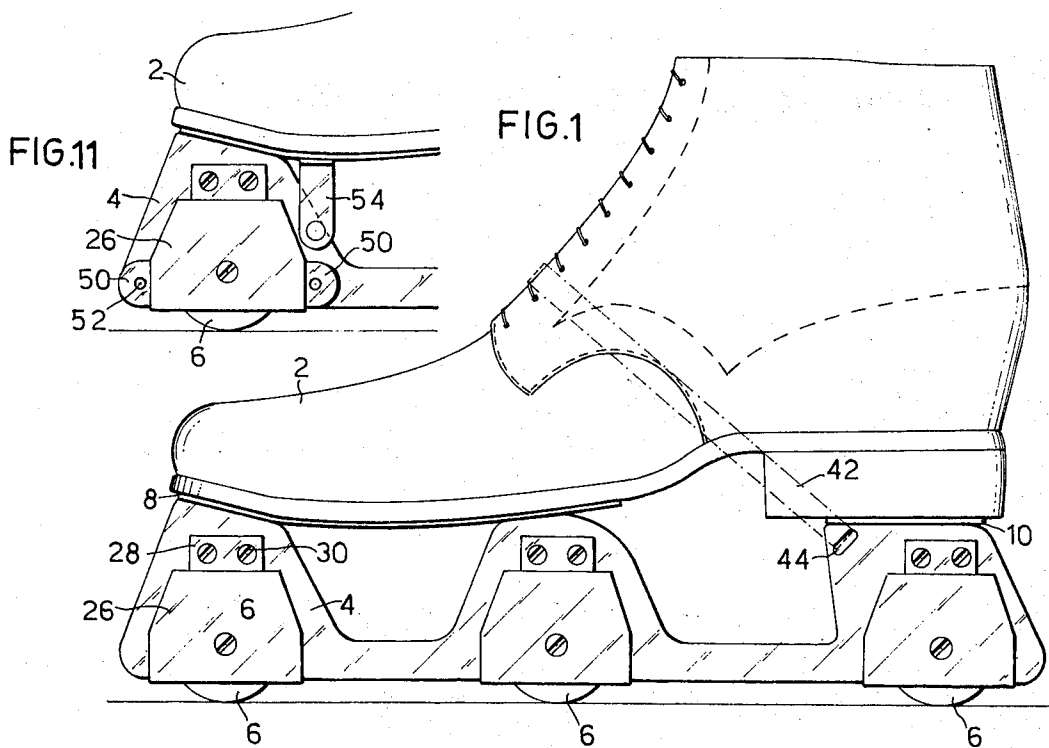
602,592 8/1960 Canada 280/11.1 BR

[57] **ABSTRACT**

A roller skate comprises a flat frame bar having a plurality of downwardly-opening recesses, each recess carrying a housing having a roller, the housing being open at the bottom through which the roller projects, each housing including a pair of mounting ears straddling the frame bar above its recess and fixed thereto by fasteners passing through the ears and the frame bar.

5 Claims, 11 Drawing Figures





ROLLER SKATES

BACKGROUND OF THE INVENTION

The present invention relates to skates, and particularly to roller skates.

Skating is a widely-engaged form of recreation and exercise. The conventional roller skate includes four rollers mounted in two pairs to the bottom of the skating shoe; one pair is fixed to the front (sole) of the shoe, and the other pair is fixed to the back (heel) of the shoe, each roller of a pair being on opposite sides of the shoe longitudinal axis. The conventional ice skate includes a runner or blade mounted along the longitudinal axis of the shoe by a frame member, the lower surface of the blade having sharpened edges. Ice skating requires the user to exercise different movements and skills than in roller skating, but of course also requires that there be ice, which is not naturally available in warmer climates such as in Israel.

Also known are roller skates in which all the rollers are in a straight line, as in an ice skate. The present invention provides an improved construction in the latter type of roller skate.

SUMMARY OF THE INVENTION

According to the present invention, there is provided a roller skate including a plurality of rollers to be rotatably mounted to the bottom of a shoe in alignment with the longitudinal axis thereof, characterised in that the roller skate includes a support in the form of a flat frame bar having a plurality of downwardly-opening recesses, each of said rollers being carried in a housing open at the bottom through which the roller projects, each housing being received within a recess of the frame bar and including a pair of mounting ears straddling the frame bar above its recess and fixed thereto by fasteners passing through the ears and the frame bar.

In the preferred embodiment of the invention described below, the frame bar is mounted to the shoe by a sole plate fixed to the sole of the shoe, and by a heel plate fixed to the heel of the shoe, the frame bar including lugs along its upper edge received and fixed within slots formed in the sole and heel plates.

Further features and advantages of the invention will be apparent from the description below.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is herein described, by way of example, with reference to a preferred embodiment thereof illustrated in the drawings, wherein:

FIG. 1 is a side elevational view of a roller skate constructed in accordance with the invention;

FIGS. 2-6 illustrate the essential parts of the roller skate of FIG. 1;

FIGS. 7-8 are plan views, respectively, of the sole and heel mounting plates in the roller skate of FIG. 1;

FIGS. 9 and 10 are side and bottom views, respectively, of the housing for each of the rollers in the skate of FIG. 1; and

FIG. 11 illustrates a modification that may be used for strengthening purposes.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The roller skate illustrated in FIG. 1 comprises a shoe 2 to the bottom of which is fixed a flat frame bar 4 carrying a plurality (three being shown) of rollers 6.

Frame bar 4 is made of stamped sheet metal, e.g. steel, and is mounted vertically along the longitudinal axis of the shoe by means of a sole mounting plate 8 fixed to the sole of the shoe, and a heel mounting plate 10 fixed to the heel of the shoe. The sole mounting plate 8 is formed with a plurality of openings 12 (FIG. 7) receiving fasteners (not shown) for attaching the mounting plate to the sole of the shoe, and is further formed with a pair of rectangular slots 14 for receiving lugs 16 (FIG. 4) formed on the upper edge of frame bar 4. Similarly, heel mounting plate 10 is formed with a plurality of openings 18 (FIG. 8) adapted to receive fasteners (not shown) for attaching same to the heel of the shoe, and also with a pair of rectangular slots 20 for receiving lugs 22 (FIG. 4) formed on the upper edge of frame bar 4. Lugs 16 and 22 are fixed within recesses 14 and 20, as by welding or swaging.

Frame bar 4 is further formed with a downwardly opening recess 24 for each of the three rollers 6. Each roller 6 is rotatably mounted in a plastic housing 26. Each housing 26 includes a pair of spaced mounting ears 28 adapted to straddle frame bar 4 above its recess and is fixed within the recess by fasteners 30 (FIG. 1) passing through openings 32 (FIG. 5) in the ears 28 and openings 34 in the frame bar. The side walls of housings 26 are grooved, as shown at 36 in FIGS. 9 and 10, which grooves receive the edges of the frame bar defining the respective recess.

The rollers 6 are rotatably mounted within their respective housing 26 by axles 6' (FIG. 1). Each roller includes a roller bearing 38 (FIG. 6). Axle 6' of each roller is journaled through roller bearing 38 and openings 40 (FIG. 5) formed in the opposed walls of the housing 26. The outer peripheral surface of the rollers 6 is preferably made of hard plastics material.

A strap 49 (FIG. 1) is passed through a slot 44 (FIG. 4) of the frame bar 4 and around the shoe to provide support for the skate when applied to the user's foot.

FIG. 11 illustrated a modification wherein the sides of housing 26 are formed with further ears 50 for receiving fasteners 52 passing through them and the frame bar 4, for strengthening purposes. In addition the frame bar 4 is braced to the sole mounting plate 8 by braces 54.

Frame bar 4, mounting plates 8, 10 and housings 26 could all be made as one integral unit, of strong molded plastic or cast metal. Also, instead of permanently fixing the skate to the shoe, it could be attached so as to be removable from the shoe, for example by the use of conventional roller skate clamps.

What is claimed is:

1. A roller skate including a plurality of rollers to be rotatably mounted to the bottom of a shoe in alignment with the longitudinal axis thereof, characterised in that the roller skate includes a support in the form of a flat frame bar having a plurality of downwardly-opening recesses, each of said rollers being carried in a housing open at the bottom through which the roller projects, each housing being received within a recess of the frame bar and including a pair of mounting ears straddling the frame bar above its recess and fixed thereto by fasteners passing through the ears and the frame bar.

2. A skate according to claim 1, wherein said frame bar is mounted to the shoe by a sole plate fixed to the sole of the shoe and by a heel plate fixed to the heel of the shoe, said frame bar including lugs formed along its

3

upper edge received and fixed within slots formed in said sole and heel plates.

3. A skate according to claim 1, wherein each of said roller housings is formed with grooves in its side walls receiving the edges of the frame bar defining the respective recess.

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4. A skate according to claim 1, wherein the outer peripheral surfaces of said rollers are made of hard plastics materials.

5. A skate according to claim 1, wherein the skate includes three equally-spaced rollers.

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