June 11, 1968 E. DE SARRO 3,387,852

DETACHABLE AND REMOVABLE ROLLER SKATES

Filed July 25, 1966 3 Sheets-Sheet 1

Fig. 1

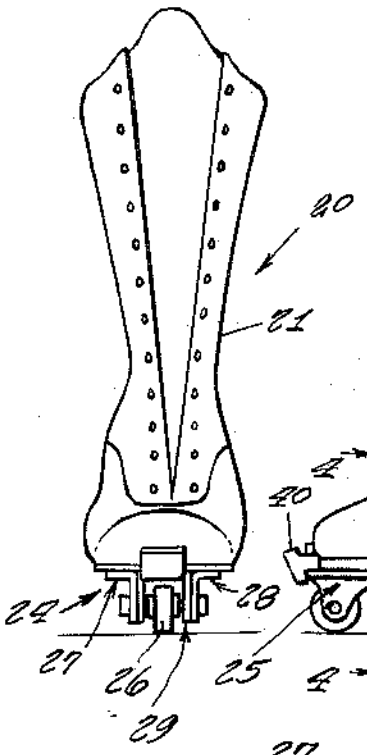
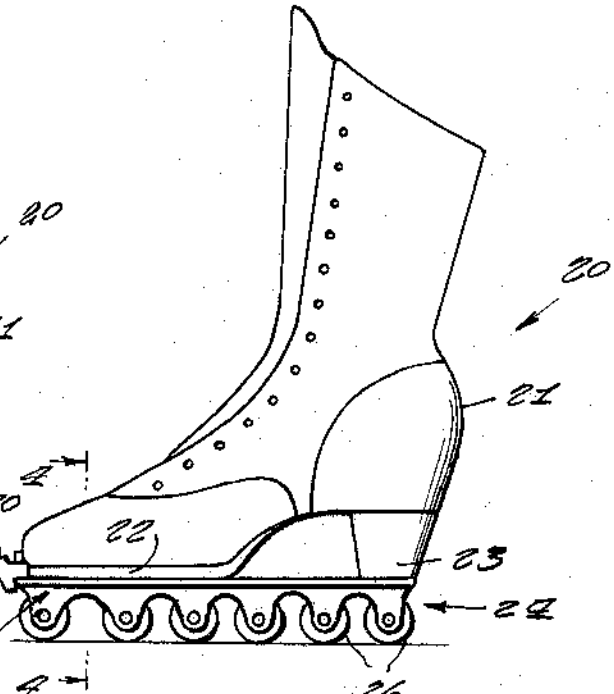


Fig. 2



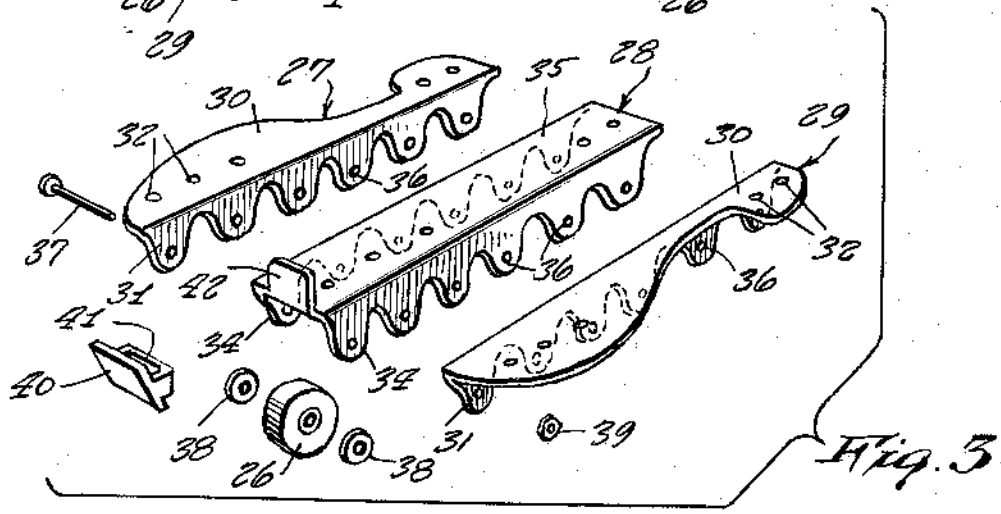


Fig. 3

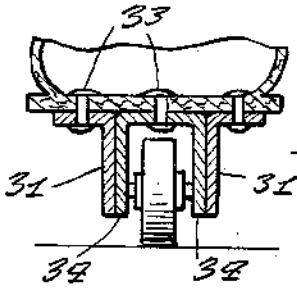


Fig. 4

INVENTOR

EMMA DE SARRO

June 11, 1968 E. DE SARRO 3,387,852

DETACHABLE AND REMOVABLE ROLLER SKATES

Filed July 25, 1966 3 Sheets-Sheet 2

Fig. 5

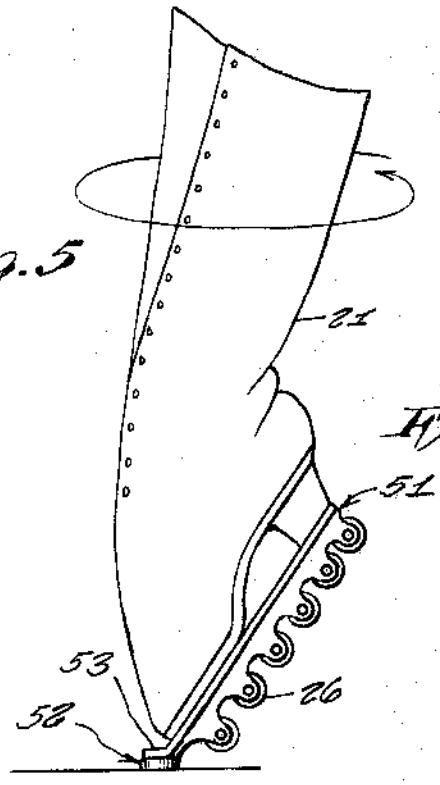


Fig. 6

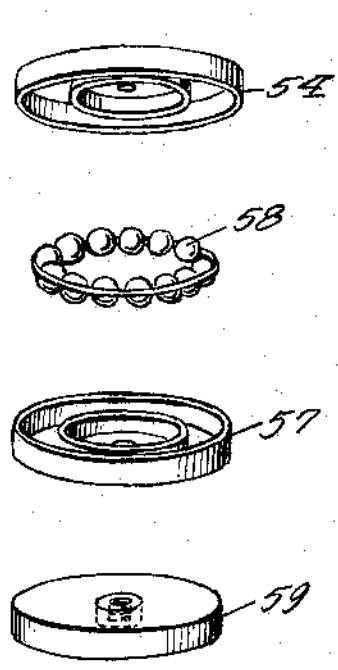


Fig. 8

Fig. 9

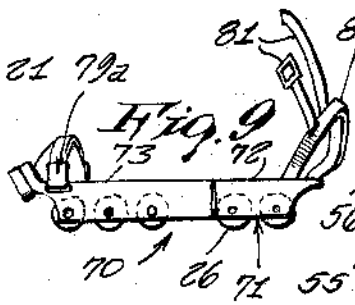


Fig. 7

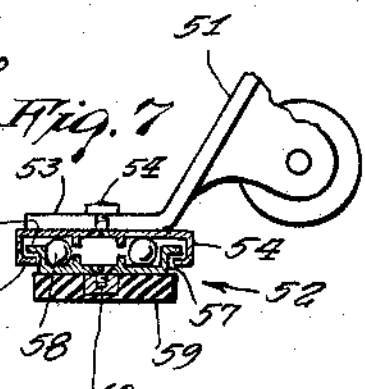


Fig. 10

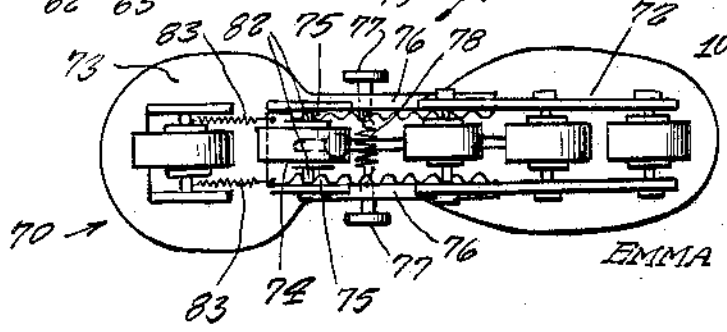
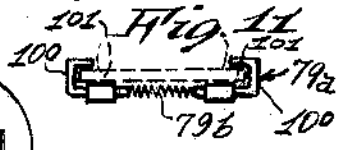


Fig. 11



INVENTOR.

EMMA DE SARRO

June 11, 1968 E. DE SARRO 3,387,852

DETACHABLE AND REMOVABLE ROLLER SKATES

Filed July 25, 1966 3 Sheets-Sheet 3

Fig. 12

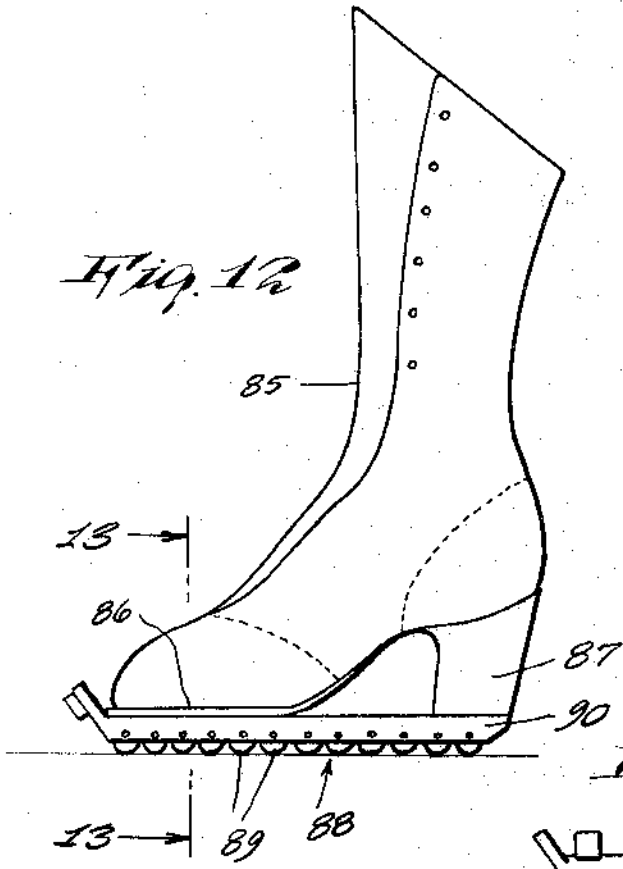


Fig. 13

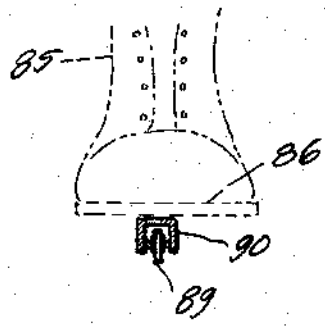


Fig. 14

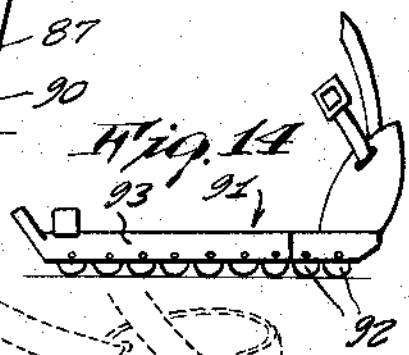
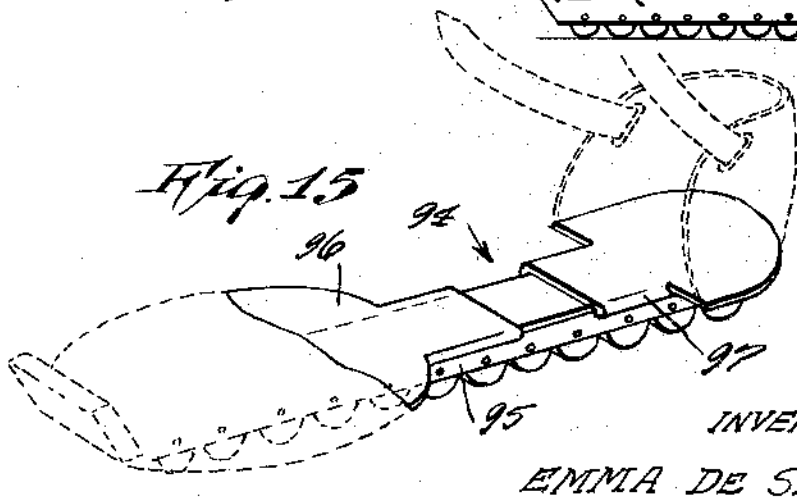


Fig. 15



INVENTOR

EMMA DE SARRO

Fig. 16

United States Patent Office 3,387,852
Patented June 11, 1968

3,387,852

DETACHABLE AND REMOVABLE ROLLER SKATES

Emma De Sarro, 620 Palmetto St.,
West Palm Beach, Fla. 33405

Filed July 25, 1966, Ser. No. 567,664
5 Claims. (Cl. 280—11.2)

ABSTRACT OF THE DISCLOSURE

Roller skates which have a single longitudinal line of wheels mounted on special frames permitting convenient removal of the wheels from the shoe and adjustment of the frames to fit shoes of different dimensions.

This invention relates generally to roller skates. More specifically, it relates to combination shoes and skates.

A principal object of the present invention is to provide an improved skate design which gives a new swift free feeling of performance.

Another object is to provide a skate wherein the wheels are arranged upon the frame for improved speed.

Yet another object is to provide a roller skate wherein the wheels are arranged in a singular longitudinal central row, thereby eliminating the awkward and bulky feel of hinderous heavy broadness laterally, such as is present in ordinary conventional skates wherein wheels are arranged in pairs along a plurality of lateral axis.

Yet another object is to provide a roller skate of strapless type which is detachable from the shoe of a wearer.

Yet another object is to provide a roller skate of detachable strapless type which is adjustable longitudinally for being fitted to various sizes of shoes.

Other objects are to provide a roller skate which is simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation.

These and other objects will be readily apparent upon a study of the following specification and the accompanying drawings wherein:

FIGURE 1 is a front elevation view of a roller skate incorporating the present invention;

FIGURE 2 is a side elevation view thereof;

FIGURE 3 is an exploded perspective view of the skate structure;

FIGURE 4 is an enlarged cross-sectional view taken on line 4—4 of FIGURE 2;

FIGURE 5 is a side elevation view of a modified form of the present invention;

FIGURE 6 is an exploded perspective view of a part of the mechanism illustrated in FIGURE 5;

FIGURE 7 is an enlarged cross-sectional view of the pivoting mechanism shown assembled;

FIGURE 8 is a side elevation view of a roller skate of modified design;

FIGURE 9 is a side elevation view of a detachable type of roller skate, and

FIGURE 10 is a bottom plan view showing an expandable roller skate.

FIGURE 11 is a front view of a keyless clamp used in the construction shown in FIGURE 9;

FIGURE 12 is a side elevation view of a further modified form of the invention;

FIGURE 13 is a cross sectional view taken on the line 13—13 of FIGURE 12;

FIGURE 14 is a side elevation view of a detachable skate employing the elements of the invention illustrated in FIGURE 12,

FIGURE 15 is a perspective view of a detachable monofile wheeled roller skate employing the invention, and

FIGURE 16 is a perspective view of one of the wheels.

Referring now to the drawings in detail and more specifically to FIGURES 1 through 4, the numeral 20 represents a roller skate according to the present invention, wherein there is a shoe 21 having a sole 22 and heel 23 which are secured to a skate structure 24.

The skate structure 24 is comprised of a plurality of longitudinally extending frames which form a framework 25 supported upon a plurality of wheels 26.

The framework 25 is comprised of a pair of side frames 27 and 28 and a central frame 29 therebetween. Each side frame has a horizontal panel 30 and a vertical panel 31. Openings 32 in the panel 30 are provided to receive rivets 33 therethrough for securing the frame to the underside of the shoe sole and heel. The central frame is of U-shaped configuration having a pair of vertical, parallel spaced apart panels 34 and a connecting horizontal panel 35 intermediate the panels 34. The horizontal panel 35 is also provided with openings 32 for receiving rivets 33 for securement to the shoe sole 22 and heel 23.

The vertical panels 31 and 34 are of scalloped configuration; each scallop of which has an opening 36 therethrough for receiving a bolt 37 therethrough which forms a shaft for each wheel 26. It shall be noted that the openings 36 on the side frames and central frame are in alignment so that the bolt 37 is supported in all of the frames. A washer 38 is mounted on the bolt adjacent each side of the wheel and the bolt is then secured to the framework by a nut 39 on the bolt end.

A toe guard or stopper 40 made of resilient rubber has a slot 41 for receiving therein an upstanding lug 42 integrally formed on the front end of the central frame, thereby providing a bumper guard for the roller skate.

In the modified skate 50 shown in FIGURES 5, 6 and 7, the framework 51 includes a turntable assembly 52 at the forward end for purpose of allowing the skates to pirouette on his toes in doing acrobatics, dancing or other display, while on skates. The turntable assembly 52 comprises an angularily upward turned lug 53 integrally formed on the framework. An upper race 54 is secured to the lower side of the lug by a screw 54; the race having an inwardly turned flange 55 for retaining an outwardly turned flange 56 of a lower race 57. A plurality of spherical balls 58 are located between the races to provide a relatively functionless bearing. A rubber pad 59 is secured by a screw 60 on the underside of the lower race so as to give traction upon any surface where pivoting is desired by the skater.

In FIGURE 8, the vertical panels 61 of the framework 62 are not scalloped but have a straight lower edge 63.

In FIGURES 9 and 10, a detachable, expandable, strapless, roller skate 70 is shown which includes a framework 71 comprised of a longitudinally adjustable heel portion 72 and toe portion 73. The toe portion has a rearward extending tongue 74, the side edges of which are notched as shown at 75. The rear portion has flanges 76 between which the tongue extends. Slide bolts 77 mounted in each flange 76 are normally drawn toward each other and into the notches 75 by a spring 78.

A toe keyless clamp 79*a* with spring 79*b* and heel clip 80 are formed on the upper side of the skate 70 between which a shoe may be inserted. If preferred, a strap 81 may be additionally provided on the heel clip to further secure the shoe to the skate. The third wheel from heel eliminated for finger space to tightened winged nut under skate, as shown in FIGURE 9.

In operative use when adjusting the skate 70 on a shoe, the slide bolts 77 are pulled laterally outward to clear the teeth 82 between notches 75. A pair of springs 83 then normally draw the toe and heel portions together, thus adjusting the skate to the shoe. The slide bolts are then

released and become locked in the notches 75 nearest thereto. The roller skate is now ready for use.

In FIGURE 12 a modified form of the present invention is shown wherein the shoe 85 includes a sole 86 with heel 87 secured to a skate 88. In this form of the invention a monofile shoe skate is formed wherein a row of narrow, small wheels 89 are supported centrally under the shoe within a U-shaped support frame 90. As shown in FIGURE 13, the wheels 89 are relatively thin so that in combination along a linear plane the wheels imitate the service of a blade on a pair of ice skates. Thus the present form of the invention comprises a combination roller and ice skate which requires no adjustment or manual conversion to change the use of the skate from roller skating to ice skating or vise versa.

In FIGURE 14 the same inventive principle is applied to a detachable monofile skate 91 wherein like then wheels 92 are secured in a single row to a frame 93.

In FIGURE 15 a further modified form of the invention is shown wherein the detachable monofile skate 94 has a frame 95 and forward plate 96 of which is slidably adjustable longitudinally relative to a rear plate 97 thereof. While the wheels thereof may be of thin design, as above described, they may otherwise be, as illustrated in FIGURE 16 wherein the wheel 98 has a width of ½ inch and a diameter of the same ½ inch dimension. The wheel is thus of barrel configuration. In the skate shown in FIGURE 15, a spring 99 is provided for return toward each other of the plates 96 and 97.

It should be noted that in the keyless clamp 79*a*, illustrated in FIGURE 11, that the spring 79*b* will likewise draw the clamps 100 toward each other so that the clamps will clasp the sole edges 101 of the shoe.

The novel features and the operation of this device will be apparent from the foregoing description. While the device has been shown and the structure described in detail, it is obvious that this is not to be considered limited to the exact form disclosed, and that changes may be made therein within the scope and the spirit of the invention.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. In a roller skate, the combination of a framework, means for securing said framework to the underside of a sole and heel of a shoe, a plurality of wheels mounted on said framework and said wheels being arranged longitudinally in a central singular row, wherein said framework comprises a pair of side frames of angle cross-section and a central frame of U-shaped cross-section, each of said side frames having a horizontal panel, said U-shaped central frame having a rectangular horizontal wall and a vertical panel adjacent and coextensive of each of said vertical panels of said side frame, aligned openings in adjacent vertical panels of the said frames, bolts extending through said openings for supporting said wheels and means for attaching the shoe sole to the framework through and under the shoe sole thereby obscuring the connection from external view.

2. The combination as set forth in claim 1, wherein said framework has an upstanding lug at the forward end thereof, and a rubber bumper fitted over said lug, and wherein the horizontal panels and walls are coplanar conforming generally to the shape of the shoe sole.

3. The combination as set forth in claim 1, wherein said framework has a diagonally upward extending lug at the forward end and a turntable secured under said lug, said turntable comprising a pair of spacers with balls therebetween to allow pivoting of a skater on his toes.

4. In a roller skate, the combination of a framework, means for securing said framework to the underside of a sole and heel of a shoe, a plurality of wheels mounted on said framework and said wheels being arranged in a longitudinal singular row, wherein said framework has a toe portion and a heel portion adjustable relative to each other, a rearward tongue on said toe portion, a plurality of teeth and intermittent notches along each side edge of said tongue, a pair of flanges on said heel portion, said tongue being slidable between said flanges, a slide bolt in each said flange normally drawn together by a spring for engaging said slide bolts in said notches, and a pair of second springs secured at opposite ends to said toe and heel portions to normally draw said portions together when said slide bolts are disengaged from said notches.

5. In a roller skate as set forth in claim 4, wherein said wheels are of relatively thin configuration, small diameter and close together whereby said wheels simulate an ice skating blade.

References Cited

UNITED STATES PATENTS

1,835,446	12/1931	Tracey	280—11.22
2,048,916	7/1936	Bentzlin	280—11.22
2,168,820	8/1939	Edstrom	280—11.23
2,551,122	5/1951	Hayner	280—11.2
3,202,435	8/1965	Goodman.	

FOREIGN PATENTS

1,125,607	7/1956	France.
400,436	10/1933	Great Britain.

BENJAMIN HERSH, *Primary Examiner.*

MILTON L. SMITH, *Examiner.*