Feb. 16, 1937. W. BLOCHINGER 2,070,646

ROLLER SKATE

Filed Sept. 21, 1934

FIG. 1.

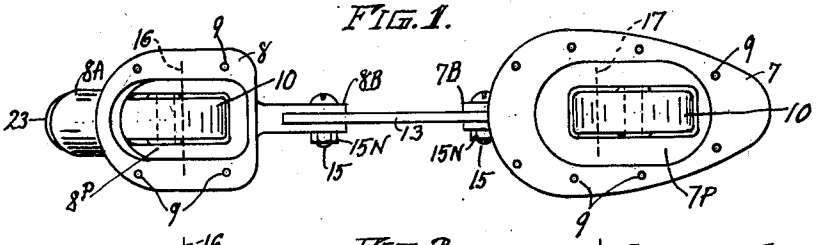


FIG. 2.

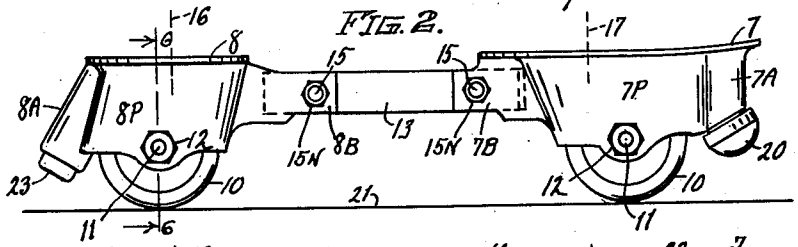
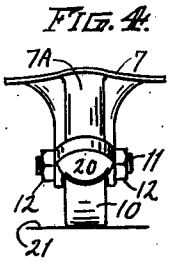


FIG. 4.



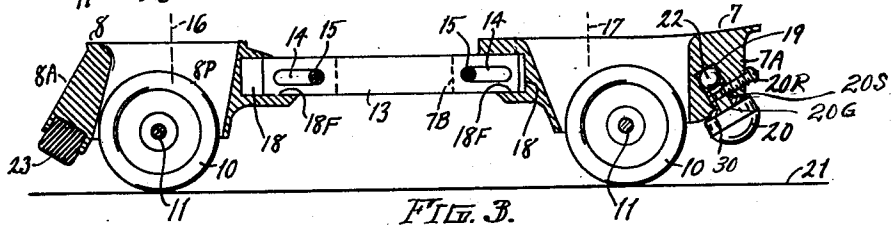


FIG. 3.

FIG. 5.

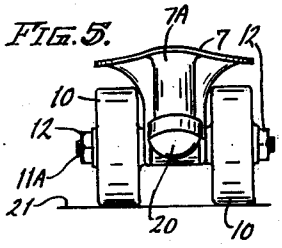
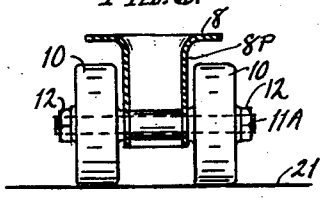


FIG. 6.



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ROLLER SKATE

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3 Claims. (Cl. 208—173)

My invention relates to improvements in roller skates and the main object is to provide a simple, highly efficient and durable skate with novel features herein described. Other objects are to provide certain convertible features providing for the use of two, three or four rollers to a skate, as desired, two rollers being used ordinarily by professional or regular skaters, three rollers on skates for persons requiring more stability and four rollers on skates for novices. Other features, including certain pivot means and stop or brake means are also involved and also certain length adjustment and other features hereinafter described and illustrated in the accompanying drawing, in which;—Fig. 1 is a top or plan view of one of my improved skates with plain sole and heel plates. Fig. 2 is a side elevation of Fig. 1 and Fig. 3 is a longitudinal sectional elevation of the skate. Fig. 4 is a front end elevation and Fig. 5 a rear end elevation modified to show two rollers. Fig. 6 is a transverse sectional detail view through the heel plate of the skate about as on line 6—6 in Fig. 2 but modified to show two rollers.

Referring to the drawing by reference numerals, 7 designates the sole plate and 8 the heel plate of a roller skate and shown as the type permanently attached to the sole and heel parts of a shoe by providing rivet or screw holes 9.

In my improved roller skate the sole plate 7 comprises the upper integral part of a longitudinal housing or metal pocket 7P opening downwardly, the lower part of said housing comprising parallel side walls between which is mounted a single roller wheel 10 (Figs. 2, 3 and 4) or exteriorly of said walls a pair of rollers 10 as in Fig. 5. In the former construction shaft 11 is removably retained in the side walls and the wheel 10 rotates freely between said walls.

In the latter form a longer shaft 11A permits a freely rotatable roller wheel 10 to be mounted at each side of the housing.

Similarly, the heel plate 8 comprises the upper integral part of a longitudinal upright housing or hollow pocket 8P opening downwardly and in which opening a single wheel 10 may be removably retained on a short shaft 11 (Figs. 1, 2 and 3) or a pair of wheels 10 rotatably mounted exteriorly of and at each side of the housing on a longer shaft 11A as in Fig. 6. The means for removably retaining the wheels are illustrated as a nut 12 exteriorly of each wheel but other equivalent or desirable means may be used.

The sole and heel sections of my improved skate are connected in adjustably spaced relation by a flat bar 13, slotted as at 14 longitudinally, near each end, the said bar extending between the sections in upright plane and its end parts slidably pocketed between and in the rearwardly extending bifurcation 7B of the sole member and the forwardly directed bifurcation 8B of the heel member, said parts 7B—8B being integral of their respective members and both being apertured transversely for a bolt 15 in each to pass through the corresponding slot 14. Each bolt is provided with a clamping nut 15N.

In Figs. 1, 2 and 3 it is distinctly shown that the hollow heel member is inclined rearwardly and downwardly, this for the purpose of mounting the rear roller wheel or wheels 10 at a point rearward of the center of the heel plate 8, the latter center being designated by a dotted line 16 in said figures. It is assumed that the skater's heel centers approximately on the said center of the heel plate 8 and the roller wheel 10 being rearward thereof the likelihood of a skater losing his balance is reduced or eliminated. Also, in securing a shoe to this type of roller skate, the sole plate is proportioned and roller 10 so located relative to each other that the roller 10 is forward of the ball of the skater's foot designated by line 17 in Figs. 1, 2 and 3. This eliminates overbalance forwardly.

Thus the weight of the skater is practically all rearward of the front roller and forward of the rear roller but desirably distributed on the heel and sole plates. Obviously the heel and sole plates are readily adjusted at 14 for this purpose.

The heel and sole members, in most desirable embodiment of construction, are clearly illustrated and the rigid bar (13) connection of said members with adjustment are important features providing for strength and rigidity. I am aware that roller skates have been made with length adjustment but to my knowledge no adjustment bar in vertical plane such as my member 13 connecting the two members 7 and 8, each with a hollow roller retaining pocket, has hitherto been made.

In Fig. 3 is clearly illustrated that inwardly of the bifurcation 7B—8B the bar 13 is slidable in a pocket 18, in alinement, each said pocket having a lower horizontal face 18F for solid but slidable contact of the lower edge of bar 13. The clamp bolts 15 extend through the outer parts of the bifurcations 8B—7B enabling said parts to be clamped to the bar as desired.

Another important feature of my roller skate is the provision of certain pivot and stop or brake means which will now be described. These

means may be provided at one or both ends of the skate.

In Figs. 2, 3 and 4 particularly is shown an upright boss or enlargement of housing 7P, designated 7A (below the sole plate and forward of the roller wheel 10). The lower end of this boss may have an angular face and into the boss in the central part of this face is bored a hole 19 in which is rotatably retained a stem 20S of a pivot member 20 comprising a semi-spherical shaped piece exposed forwardly and downwardly but located above the skating surface 21. The inner end of stem 20S may contact a ball 22 in the inner end of the bore 19, and the outer rounded face of member 20 is preferably of rubber or similar material. Intermediate the ends of the stem 20S it has a perimetral groove 20G engaged by the inner end of a retaining screw 20R the head of which is accessible forward of boss 7A (see Fig. 3). 30 is a flanged bushing in bore 19 its flange part between head 20 and the adjacent skate part. This construction is regarded as conventional.

For fancy or professional skaters this pivot has a useful purpose, as when the skate is tipped forward and weight is put on said pivot 20, the ball 22 then permits free rotation or swiveling of the skater thereon. The member 20 may also be used as a brake if the skater glides along on one skate and tips the other skate forward enough for tip 20 to contact the surface 21.

A correspondingly positioned brake device is also provided at the rear end of the skate and is shown as a block 23 of soft material set in a rearwardly and downwardly directed boss 8A of the rear member and back of roller 10. Obviously this can be brought into frictional contact with surface 21 only by tipping the skate upwardly and forwardly. For novices this heel brake device is very useful in breaking or preventing falls and possible injuries when the skater's foot is brought forward too far to maintain proper balance.

The preferred construction and utility of my improved roller skate has been fully disclosed in the foregoing description. It is obvious however that a number of modifications may be made within the scope of the invention as disclosed. It is obvious too that in this construction of roller skates the lowest type of skate is made possible, because the wheels or rollers 10 mounted as in Figs. 1, 2 and 3 may be centered so that their upper parts just clear the sole of a shoe secured thereto.

And of great importance is the provision of means for placement, selectively, of two, three or even four rollers on each skate for various purposes as designated in the introductory paragraph hereto.

I claim:

1. A roller skate comprising a sole plate and a heel plate in alinement and corresponding in shape to the sole and heel parts of a shoe, means for securing said plates to a shoe, a downwardly opening elongated housing extending integrally from each said plate, a transverse shaft in each said housing, and roller wheels mounted rotatably on said shaft means and exposed therebelow, said roller wheel means of the sole plate being located forward of that part of the shoe to which it is attached in which the ball of the wearer's foot is located and said rear roller wheel means being located rearward of the center of said heel plate.

2. A roller skate comprising sole and heel members adjustably spaced apart, roller wheel mounting means directly under each member, and a pivot device in the toe end of the sole member comprising a knob-like forwardly and downwardly exposed contact member located above the roller skating surface and adapted to contact said surface when the skate is tipped forward, said pivot device comprising further an integral stem of said knob projecting into an angular bore in the sole member and rotatably retained therein, and a ball in the inner end of said bore and contacted by the inner end of said stem.

3. A roller skate comprising a front roller wheel retaining member securable to the sole of a shoe, a rear roller wheel retaining member securable to the heel of a shoe, an elongated flat bar member connecting said front and rear members and positioned in upright plane, and adjustment means engaging said front and rear members and the corresponding end parts of said bar to rigidly retain said parts in predetermined spaced relation, each of said roller wheel retaining members comprising an upper plate and a hollow housing extending downwardly integrally therefrom and opening downwardly, said latter openings being in longitudinal alinement, and means for rotatably mounting a roller wheel within each said housing and exposed below it.

WILLIAM BLOCHINGER.