

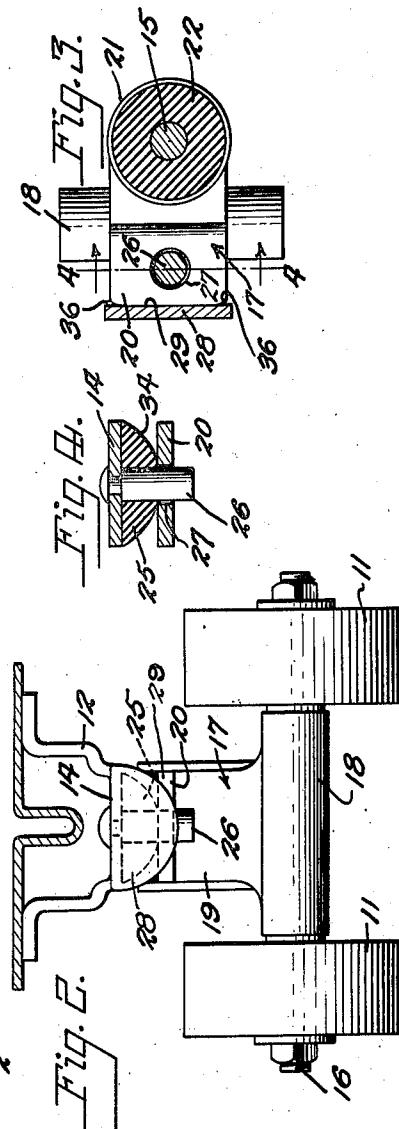
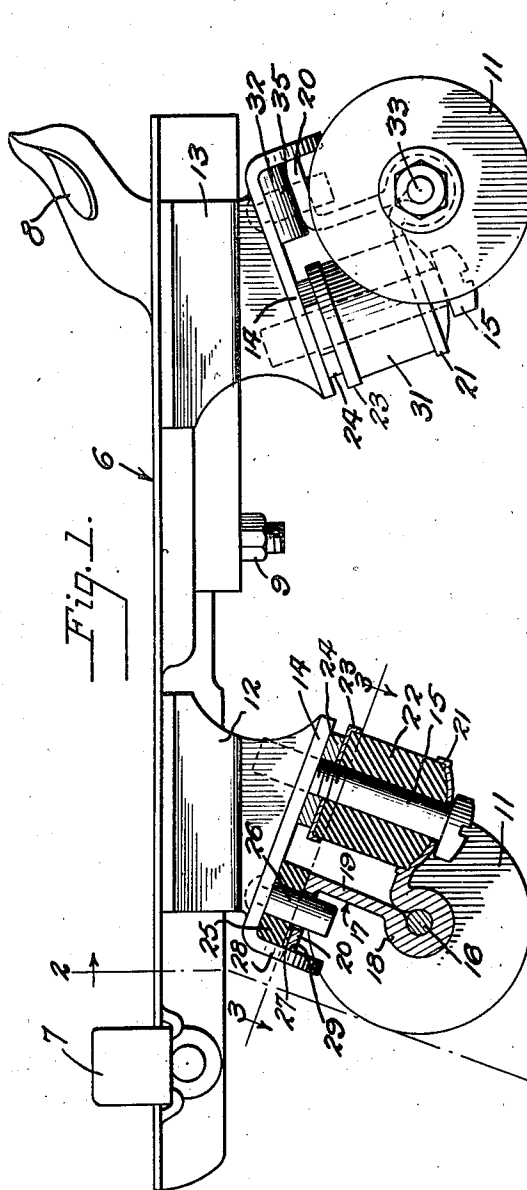
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SKATE

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SKATE

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6 Claims. (Cl. 280—11.28)

The invention pertains to skates and especially to roller skates, and is directed to the mounting which supports the rollers.

An object of the invention is to provide a truck mounting for roller skate rollers in which buffers of resilient material are interposed between the foot rest and the truck to absorb shock. Whereas in roller mountings of roller skates of the prior art the thrust forces from the rollers to the foot rest are transmitted through a metal interconnection, the mounting of the present invention is characterized by the interposition of resilient material in the interconnections between the rollers and the foot rest, so that all thrust forces from the roller to the foot rest are transmitted through the resilient material which absorbs the shock.

Other advantages are also present and these will be obvious from the structure of the preferred embodiment shown in the accompanying drawing of which:

Figure 1 shows a side elevation of a skate embodying the present invention, with portions thereof shown in cross section;

Figure 2 is a cross sectional view taken on line 2—2 of Figure 1;

Figure 3 is a cross sectional view taken on line 3—3 of Figure 1; and

Figure 4 is a cross sectional view taken on line 4—4 of Figure 3.

The skate of the invention comprises the foot rest 6 which may be of conventional construction and may include attaching means, 7 and 8, of any suitable construction, for attaching the skate to the foot of the wearer. The specific attaching means employed is not material to the present invention. The foot rest may include adjusting means of any suitable type, such as 9, for adjusting the length of the skate as desired. Such adjusting means forms no part of the present invention.

The skate includes rollers 11, in the embodiment shown being provided in pairs at the front and rear of the skate. The front pair of rollers are suspended from the foot rest 6 by means of the bracket 12 fixed to the foot rest and projecting downwardly therefrom. A similar bracket 13 at the rear of the skate supports the rear rollers. The mountings of the front and rear rollers of the skate are similar and the description of one will suffice to enable an understanding of both.

The support bracket 12 extends downwardly and provides a thrust plate 14 at its lower end. The rollers 11 are attached to the thrust plate

14 by means of the pin 15. The wheels 11 are mounted to rotate on the axle 16, either directly or on bearings of any suitable construction. The truck 17 includes the housing 18, which grips and holds the axle 16 against rotation.

In the preferred practice of the invention the housing 18 consists of a rigid piece of sheet metal bent to fit the axle, the metal providing arms extending away from the housing 18 in opposite directions providing two surfaces for thrust engagement with the thrust plate 14. The arm in one direction formed by the metal of the truck 17 provides a plate 19, terminating with a thrust plate 20 disposed at an angle thereto. The thrust plate describes a plane generally parallel to the plane of the opposed thrust plate 14, the two plates being juxtaposed in face to face relationship. The arm of the truck 17 disposed in the other direction provides the supporting attachment for the truck and its rollers 11 to the bracket 12.

For attachment of the truck 17 to the bracket 12, the arm of the truck opposite the plate 19 extends to a cup-shaped member 21 which provides a seat for the resilient buffer element 22, the buffer element in the embodiment shown comprising a block of resilient rubber or similar material. The pin 15 passes through the member 21, which fits it loosely for movement longitudinally of the pin. The pin 15 passes through the buffer element 22, which holds the member 21 positioned yieldingly spaced away from the thrust plate 14. The pin 15 also passes through the abutment plate 23 which is preferably cup-shaped to engage the end of the buffer element 22 opposed to the member 21.

The pin 15 is screw-threaded for engagement with the buffer plate 14, the screw-threaded engagement permitting adjustment of the shock absorbing qualities of the buffer element 22. Interposed between the abutment plate 23 and the buffer plate 14 is the nut 24 screw-threaded to the pin 15. The nut 24 facilitates the adjustment of buffer element 22, and in cooperation with the plate 14 provides a lock nut action to hold the pin 21 in adjustment.

The construction of the truck 17, as described, provides two surfaces of thrust engagement with the plate 14 of the bracket 12, these being the abutment plate 23 and the thrust plate 20, disposed on opposite sides of the center line of the axle 16. The main buffer element 22 absorbs shock applied to the rollers 11 and transmitted through the cup-shaped member 21, which is movable longitudinally of the pin 15 against the

yielding resistance of buffer element 22. The other thrust engagement through the thrust plate 20 is also shock absorbing by means of the resilient auxiliary buffer element 25 interposed between the thrust plates 20 and 14. The buffer element 25, in the preferred embodiment shown, also consists of a block of resilient rubber or similar material.

The positioning pin 26 is provided, preferably riveted to the thrust plate 14, as shown, and it projects downwardly through the auxiliary buffer element 24 and through the aperture 27 in the thrust plate 20 to hold the buffer element 24 in position. The positioning pin 26 fits in the aperture 27 loosely enough to permit the pin to slide freely therein, the aperture thus comprising a guideway for the pin. Projecting downwardly from the thrust plate 14 is the guide plate 23. The forward edge 29 of the thrust plate 20 is positioned to engage the inside surface of the forward guide plate 23 and slide up and down along it.

Thus as weight is applied to the top of the skate, as for example when the skate is being used, the buffer element 22 slides longitudinally of the attaching pin 15 upon the compression of the buffer element 22. At the same time the auxiliary buffer element 25 yields under the load of the wearer and the aperture 27 slides along the positioning pin 26 while the forward edge 29 of the thrust plate 20 slides along the inside surface of the guide plate 23. The edge 29 of the buffer plate 20 maintains contact with the surface of the plate 23 to steady the roller mounting, to prevent the wobbling of the wheels, commonly termed shimmying.

The rear rollers 11 are similarly mounted with the main and auxiliary elements 31 and 32 absorbing all the shock applied to the rear rollers of the skate. The skate is constructed to automatically throw the front and rear axles, 16 and 33, respectively, out of parallel relation for turning, to bring the axle ends directed towards the inside of the turning curve closer to each other, and the outside axle ends farther apart. This is automatically accomplished when the skater throws his weight to one or the other side of the longitudinal center of the skate, depending upon the intended direction of turning.

Under these circumstances, when the skater leans to one or the other side of the longitudinal center of the skate, the roller trucks pivot on the pin 15, the pivoting of the front and rear trucks being in opposite directions. There is sufficient play between the positioning pin 26 and the aperture 27 to permit such pivoting. There is also sufficient play between the member 21 and the pin 15 to permit slight movement caused by the steadying engagement between the edge 29 and the plate 23. The respective front and rear truck auxiliary buffer elements 25 and 32, are rounded at 34 and 35, respectively, to facilitate the skate foot rest 6 to rock out of its horizontal position for turning. The contact between the front edge 29 of the buffer plate 20 and the guide plate 23 is maintained throughout the turning action to completely avoid the hereinbefore referred to shimmying. To further facilitate pivoting on the pin 15 when the skater makes turns, the ends of the edge 29 at the free corners of the thrust plate 20 are chamfered, as illustrated at 36.

It will be clear to those skilled in the art that the skate disclosed in the drawing and described herein is susceptible of a number of modifications without departing from the scope of the invention

which is determined by the accompanying claims.

What I claim is:

1. A roller mounting for roller skates and the like comprising, a downwardly directed support bracket, a thrust plate attached to the bracket, an axle horizontally disposed, one or more rollers mounted on the axle, a truck fixed to the axle, and providing a plurality of arms having substantially parallel thrust faces for thrust engagement with the bracket, interconnections between the respective arms and the bracket for supporting the rollers, the interconnection of one arm comprising an upright pin attached to the bracket, a loose connection between the pin and the arm for movement of the arm longitudinally of the pin, a resilient buffer member between the bracket thrust plate and the loose connection positioning the loose connection yieldingly spaced from the bracket, the interconnection of a second arm of the truck comprising a thrust plate juxtaposed to the bracket thrust plate, a resilient buffer member interposed between the opposed truck and bracket thrust plates.

2. A roller mounting for roller skates and the like comprising, a downwardly directed support bracket, a thrust plate attached to the bracket, an axle horizontally disposed, one or more rollers mounted on the axle, a truck fixed to the axle, and providing a plurality of arms for thrust engagement with the bracket, interconnections between the respective arms and the bracket for supporting the rollers, the interconnection of one arm comprising an upright pin attached to the bracket, a loose connection between the pin and the arm for movement of the arm longitudinally of the pin, a resilient buffer member between the bracket thrust plate and the loose connection positioning the loose connection yieldingly spaced from the bracket, the interconnection of a second arm of the truck comprising a thrust plate juxtaposed to the bracket thrust plate, a resilient buffer member interposed between the opposed truck and bracket thrust plates, the interconnection of the second arm of the truck including surfaces of the bracket and the truck interengaging in a plane disposed in the direction of thrust.

3. A roller mounting for roller skates and the like comprising, a foot rest having a bracket depending therefrom, a truck to carry an axle and rollers and means to attach the truck to the bracket comprising, resilient means between the truck and bracket, pivot and guide pins passing loosely through openings in the truck, and a flange against which one end of the truck abuts, the said pivot pin, guide pin and flange being carried by the bracket and being arranged parallel to one another and at a small angle to the vertical.

4. A roller mounting for roller skates and the like comprising, a foot rest, a bracket secured to the under side of the foot rest, a truck to carry an axle and rollers, and means to attach the truck to the bracket comprising a pivot pin and a guide pin carried by the bracket and passing loosely through openings in the truck, resilient buffers surrounding said pins and interposed between said bracket and said truck, and a flange extending downwardly from said bracket against which one end of the truck abuts, the said pins and flange being arranged parallel to one another and at a small angle to the vertical.

5. A roller mounting for roller skates and the like comprising, a foot rest, a bracket secured to the under side of the foot rest, a truck to

carry an axle and rollers, and means to attach the truck to the bracket comprising, a pivot pin and a guide pin carried by the bracket and passing loosely through openings in the truck, resilient buffers surrounding said pins and interposed between said bracket and said truck to provide the sole medium of force transmission between the truck and the bracket, and a flange extending downwardly from said bracket against which one end of the truck abuts, the said pins and flange being arranged parallel to one another and at a small angle to the vertical.

6. A roller mounting for roller skates and the like comprising, a foot rest, a bracket secured to the under side of the foot rest having a flange depending therefrom, a truck to carry an axle

and rollers, and means to attach the truck to the bracket comprising pivot and guide pins carried by the bracket and passing loosely through openings in the truck, and resilient buffers surrounding the said pins interposed between the truck and the bracket, the said flange and pins being arranged parallel to one another and at a small angle to the vertical, the said truck having a squared end to abut the flange and steady the truck, whereby angular movement of the axle in a horizontal plane causes a camming of the squared end of the truck upon the flange against the torsional twist of the buffer surrounding the pivot pin when the foot rest is tilted.

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