Nov. 23, 1926. 1,608,368

O. T. BUGG

ROLLER SKATE

Filed March 16, 1926

Fig. 1

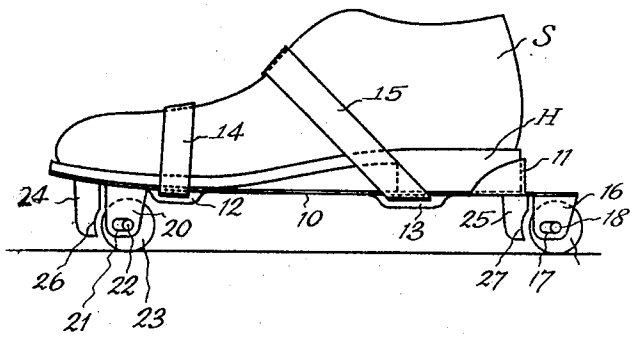
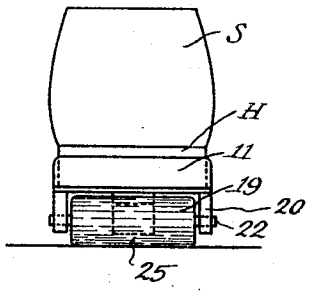


Fig. 2



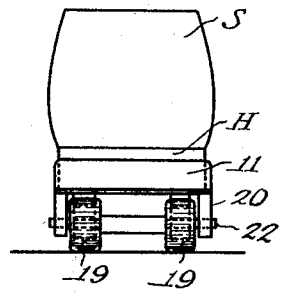


Fig. 3

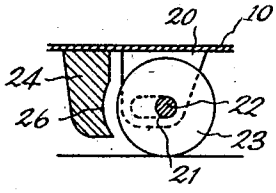


Fig. 4

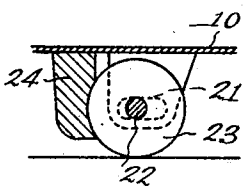


Fig. 5

WITNESSES

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UNITED STATES PATENT OFFICE.

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ROLLER SKATE.

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This invention in its broader aspects is concerned with the provision of a unique mechanism for preventing the retrograde rolling movement of a wheeled carriage while permitting free forward rolling movement thereof.

More specifically the invention involves the use of a traction wheel axle supporting a carriage and mounted for free lateral bodily shifting movement in its bearings in the carriage. The axle is normally held in one extreme position by the thrust or drag of the carriage propelling means, and when the direction of such drag or thrust is reversed, the axle shifts bodily relative to the carriage to move the traction wheel against a brake. This brake is preferably in the form of a block of material mounted on the carriage and frictionally engageable with the traction wheel to prevent retrograde rolling thereof.

The invention finds one of its preferred embodiments in a roller skate, an object of the invention being to provide a skate embodying the mechanical principle above outlined, and so constructed that it will be peculiarly suitable and safe for the use of children learning to skate.

A further object of the invention is to provide a skate so constructed that the likelihood of a child losing his or her balance while standing on the skates is minimized, and a skate which may be propelled by a direct forward walking movement as opposed to the usual forward and lateral thrust commonly employed in skating.

A further object of the invention is to provide a skate of simple, practical construction, which will be rugged and efficient in use, and one which will lend itself to comparative economical manufacture.

The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein—

Fig. 1 is a view in side elevation of a roller skate embodying the invention, showing the skate strapped to a shoe.

Fig. 2 is a view in rear elevation of Fig. 1.

Fig. 3 is a view similar to Fig. 2 and illustrating a modification.

Fig. 4 is a fragmentary sectional detail through one traction wheel axle and associated braking mechanism showing the relative positions of the axle, traction wheel and brake when there is a forward thrust on the skate.

Fig. 5 is a view similar to Fig. 4, but showing the wheel moved against the brake under the influence of a rearward thrust on the skate.

It will be understood that while I have elected to show the invention embodied in a roller skate, it may have a wide range of utility in the arts, and that the drawings are not to be interpreted in a limiting sense.

The skate of the present invention is preferably formed from a single metallic stamping including a foot plate 10, a heel plate 11 and depending stirrups or guide brackets 12, 13 for the reception of securing straps 14 and 15.

It will be noted that the heel plate 11 is mounted somewhat forwardly of the rear end of the foot plate 10. Depending from opposite sides of the rear end of the plate 10 are bearing brackets 16 formed with aligned slots 17 therein adapted to serve as bearings for a transverse axle 18 mounting one or more rear traction wheels 19. In Fig. 2 I have illustrated the use of a single traction wheel or roller, and in Fig. 3, the use of two wheels on the rear axle. Near the forward end of the plate 10 there are provided additional depending bearing brackets 20 formed with aligned slots 21 therein which serve as bearings for the front axle 22 carrying one or more traction wheels or rollers 23.

The wearer dons the skate by abutting the heel "H" of his shoe "S" against the heel plate 11, and securing the foot encircling straps 14 and 15 by buckles or other equivalent securing devices (not shown).

It will be noted that the bearing slots 17 and 21 extend longitudinally or fore and aft of the skate; thus permitting bodily forward or rearward shifting movement of the axles 22 and 18 in their bearing brackets as a forward or rearward thrust is imparted to the carriage or plate 10. Depending from the plate 10 are suitable brakes 24 and 25 in the nature of blocks of material formed with arcuate recesses 26, 27 therein adapted to frictionally contact with the front and rear rollers of the skate respectively when the front and rear axles shift toward the forward ends of their bearing slots. It is desirable that the rollers and brakes be made of some material which will insure a strong

frictional engagement as the rollers are moved against the brakes. I find that relatively hard rubber may be conveniently used in the formation of the brake blocks 24, 25, and if desired, the rollers 19 and 23 may be made of the same material.

Operation of the device is substantially as follows, and may be best seen from Figs. 4 and 5. When a forward thrust is imparted to the plate 10, axle 22 will seek the rear of its bearing slots 21, and the roller 23 will be out of engagement with the brake 24. Thus forward rolling movement of a skater is free and unrestricted. Any attempted retrograde movement however, will cause traction wheel 23 to instantly lock against its brake 24 as seen in Fig. 5. Here, a rearward thrust on the plate 10 has caused shifting movement of the axle 22 in its bearing slot 21, bringing the roller 23 into frictional engagement with the brake and locking the roller against movement. It will be noted that I have shown a brake associated with each roller or wheel. In the case of the use of four traction wheels as shown in Fig. 3, four brakes will be used, so that I may obtain a four-wheel braking effect to prevent any tendency of the skate to skid or twist when the rollers engage the brake.

The construction which involves mounting the rear rollers or wheels 19 well behind the heel plate 11 minimizes the danger of a beginner falling over backwards on the skates, inasmuch as the center of gravity is shifted to a point well intermediate the front and rear traction wheels.

The construction which I have just described renders the skate relatively easy to use, since skating may be accomplished by a direct forward walking action as opposed to the usual forward and lateral lunge commonly employed. This feature not only renders the skate peculiarly suitable for the use of beginners, but renders it well suited for hiking purposes, since skating may be accomplished by a simple walking action.

Various changes and alterations might be made in the general form and arrangement of parts described without departing from the invention. Hence I do not wish to limit myself to the details set forth, but shall consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. A carriage supported upon traction wheels, traction wheel axles mounted for lateral bodily shifting movement in bearings in the carriage and normally held in one extreme position by the thrust or drag of the carriage propelling means, and means for locking the traction wheels against movement as the axle is bodily shifted relatively to the carriage under the impetus of a reverse thrust or drag on the carriage.

2. A carriage supported upon traction wheels, traction wheel axles mounted for lateral bodily shifting movement in bearings in the carriage and normally held in one extreme position by the thrust or drag of the carriage propelling means, and means for locking the traction wheels against movement as the axle is bodily shifted relatively to the carriage under the impetus of a reverse thrust or drag on the carriage, said means including brakes mounted on the carriage engageable with the surfaces of the traction wheels.

3. A device of the class described in claim 1, and wherein the bearing brackets on the carriage are slotted to receive the axles and provide for bodily movement thereof.

4. A carriage mounted on traction wheels, freely movable on its wheels in one direction and automatically locked against movement on its wheels in the other direction.

5. A carriage mounted on traction wheels and carrying friction brakes automatically engaged with the wheels as the carriage is moved on the traction wheels in one direction.

6. A roller skate including rollers freely rolling in one direction and locked against rolling movement in the opposite direction, shiftable axles carrying the rollers, and brakes engageable with the rollers as the axles are shifted in one direction.

7. A roller skate including a foot plate attachable to the shoe of a wearer, a heel plate on the foot plate engageable with the heel of a shoe, front and rear traction rollers, the rear rollers being disposed rearwardly of the heel plate.

8. A roller skate including a foot plate, pairs of ears depending therefrom having aligned slots therein extending longitudinally of the carriage, axles borne in the slots, traction rollers on the axles, and means for braking the rollers as the axles shift forwardly in their bearing slots.

9. A roller skate including a foot plate, pairs of ears depending therefrom having aligned slots therein extending longitudinally of the carriage, axles borne in the slots, traction rollers on the axles, and means for braking the rollers as the axles shift forwardly in their bearing slots, said means including brakes depending from the foot plate and engageable with the traction rollers.

10. A device of the class described in claim 9, and wherein both rollers and brakes are formed of rubber.

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