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[54] **ROLLER SKATE BRAKE FOR BEGINNERS**

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[52] **U.S. Cl.** **188/83,** 188/74, 188/167, 280/11.2

[51] **Int. Cl.**.....**F16d 63/00**

[58] **Field of Search**.....188/166, 167, 83, 188/74; 280/11.2

[56] **References Cited**

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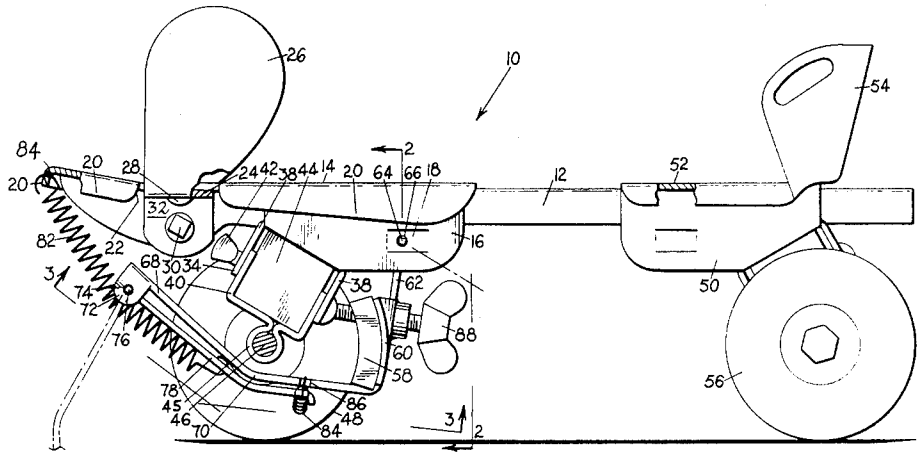
[57] **ABSTRACT**

A roller skate brake controlling the free running speed of the skates to assist beginners in obtaining balance and agility on the skates. For this purpose, friction brake pads are secured on a body member pivotally attached at one of its ends to the roller skate wheel supporting frame. The body member has a releasable lever connected to one end of a tension spring. The other end of the spring is connected to the skate frame, and such spring is arranged to urge the friction brake pads toward a braking engagement with the wheels. An adjusting screw is mounted in the body member and has engagement at one end with a skate portion for varying the extent of application of the brakes. The extent of braking to be applied to the wheels is pre-set by the beginner for the purpose of controlling the free running speed as desired. A plurality of spring connecting holes are provided in the lever to adjust the operating strength of the spring. In a modified form of the invention, the spring having the adjustment is connected directly to the body member.

1 Claim, 4 Drawing Figures



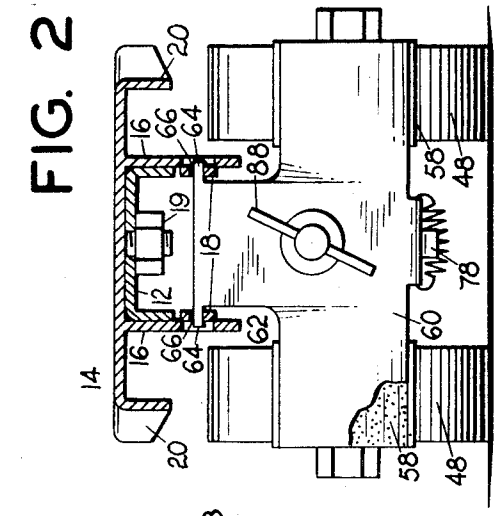


FIG. 2

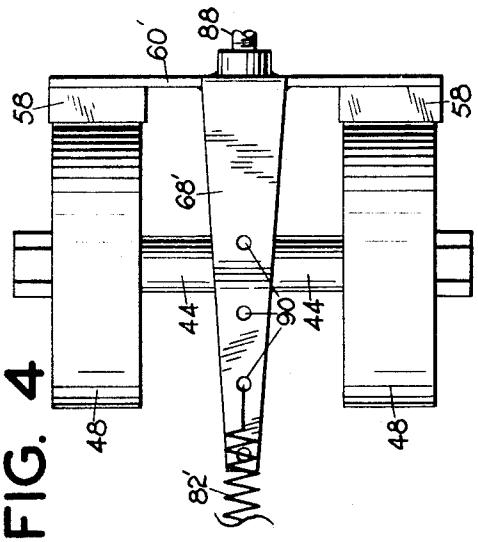


FIG. 4

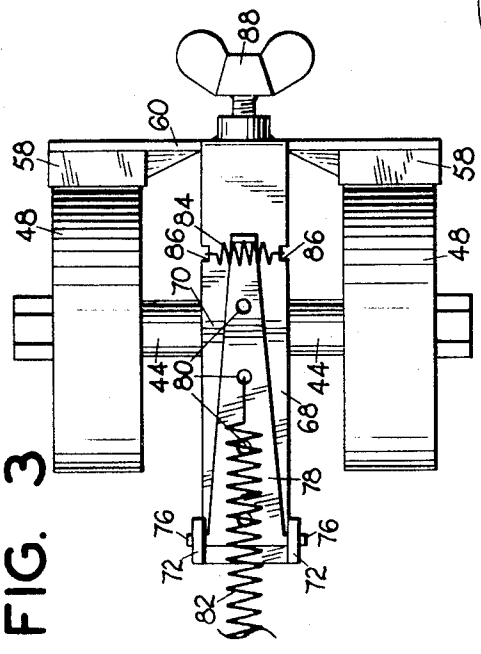


FIG. 3

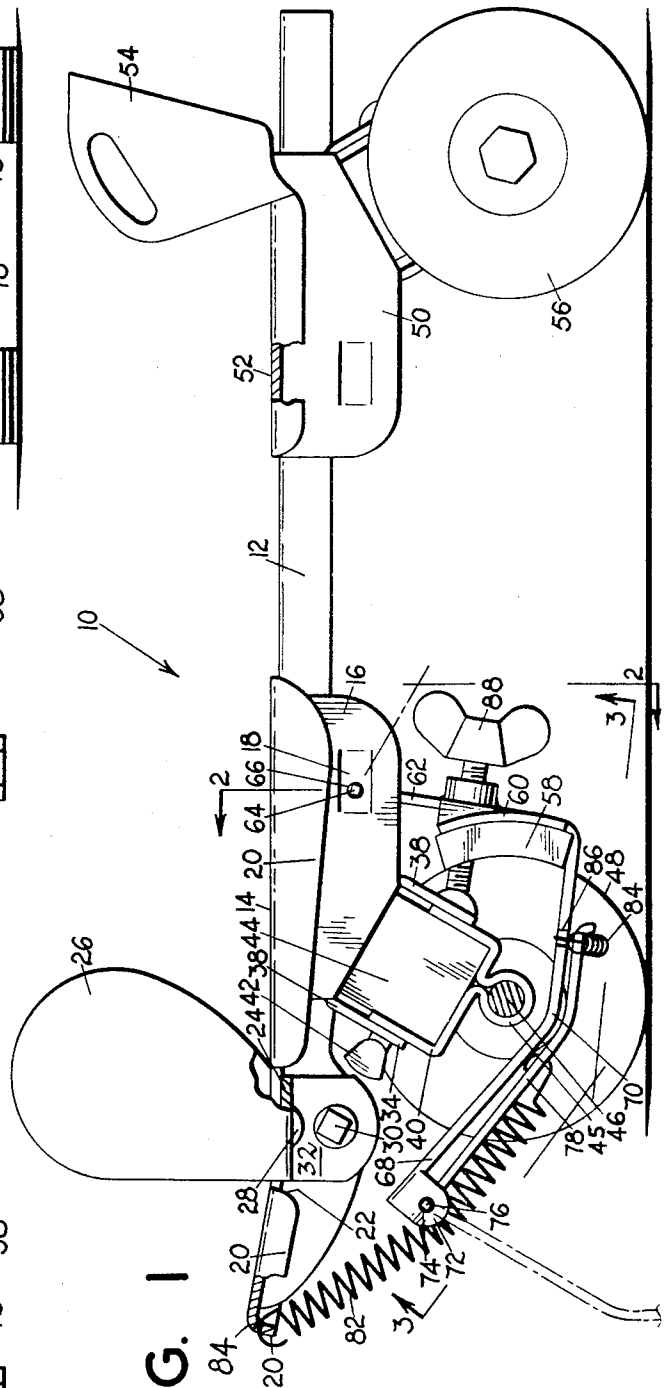


FIG. 1

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ROLLER SKATE BRAKE FOR BEGINNERS

BACKGROUND OF THE INVENTION

This invention relates to new and useful improvements in roller skate brakes and particularly pertains to braking means therefor.

Beginners on roller skates find it difficult to keep their footing due to the lack of friction between the skates and the supporting surface. In other words, the difficult part of learning is to stand up or move without the skates flying out from under the skater. Learning would be much easier if the skates had brake means to control rotation of the wheels since the beginner could stand up and move about to obtain confidence. Roller skates heretofore employed have utilized braking means so that the forward or backward movement of the skater can be controlled but in order to apply such brakes, the skates have to be manipulated in a manner to engage a friction portion thereof with the skating surface. For this purpose, some skate structures employ friction pads or the like at the front. These structures, however, are not intended to assist beginners but rather require experience and good balance to operate.

SUMMARY OF THE INVENTION

According to the present invention and forming a primary objective thereof, braking means are employed which operate on the wheels of the skates and apply constant braking to check free running speed and thus assist the beginner skater in keeping his balance.

Another object is to provide a roller skate brake of the type described which is adjustable whereby to apply a selective braking effect to the skates as determined by the progressed ability of the skater.

Another object is to provide brake mechanism which can be attached to existing skates without appreciable alteration of such skates and which by their structure are capable of attachment to substantially all skates.

The invention will be better understood and additional objects and advantages will become apparent from the following description taken in connection with the accompanying drawings which illustrate preferred forms of the device.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of a roller skate showing the present brake means applied thereto, a portion of the skate being broken away for clarity;

FIG. 2 is a vertical sectional view taken on the line 2—2 of FIG. 1, portions of the skate in this view also being omitted;

FIG. 3 is a fragmentary bottom plan view taken on the line 3—3 of FIG. 1, this view also having portions of the skate removed; and

FIG. 4 is a fragmentary bottom plan view similar to FIG. 3 but showing a somewhat modified form.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Reference is now made in detail to the drawings. In such drawings, the numeral **10** designates a conventional roller skate having a longitudinal inverted U-shaped frame **12** on which is supported front and rear wheel assemblies. The front wheel assembly has a top supporting plate **14**, best seen in FIG. **2**, on which the front portion of a skater's foot is supported, and such top plate has depending flanges **16** which extend along

the outside surfaces of the U-shaped frame **12** in slidable engagement and held in assembled engagement by inwardly pressed tab portions **18**. The top plate **14** is adjustably positioned longitudinally of the frame **12** by a releasable locking assembly **19** in a well known manner. The top plate **14** has side flanges **20** extending downwardly on the sides and front, and these flanges are cut away at **22** for receiving outwardly extending arms **24** having shoe engaging wings or clamp members **26**. One of such arms **24** is provided on each side of the skate and these arms have laterally movable support on headed pins **28** and adjustment by an adjusting screw **30** threadedly engaged in flanges **32** depending integrally from arms **24** in a well known manner.

Secured to the depending flanges **16** is a front undercarriage **34** of conventional construction. Such undercarriage comprises extensions **38** on the flanges **16** to which is secured by a longitudinally extending bolt **42** a U-shaped member **40** housing a filler **44** of resilient material such as rubber. Filler **44** provides a shockproof connection between the skate frame and the wheels in a well known manner. Member **40** has a cylindrical portion **45** for receiving the axle **46** for front wheels **48**.

The rear wheel assembly also has an undercarriage **50** employing a top plate **52** for supporting the rearward portion of the skater's foot. Top plate **52** has a rear contoured heel abutment flange **54** and suitable connection to rear wheels **56**.

According to the present invention, brake means are provided which are arranged to apply constant braking to the front wheels. These brake means comprise friction brake pads **58** engageable with the front wheels **48**. Pads **58** are secured on a laterally extending body member **60** having a central upwardly projecting extension **62**, FIG. **2**, with oppositely extending shaft portions **64** which project freely through apertures **66** in the depending flanges **16**. For attachment of the present brake to existing skates, the apertures **66** are bored in the flanges, and as shown, such apertures may be provided through the inwardly pressed tab portions **18**. For installing the brake on existing skates, the flanges **16** may be bent outwardly a slight amount for inserting the shaft portions **64** in the apertures **66**. Such flanges are then bent back to their original position.

A tongue **68** extends forwardly from body portion **60** and is slightly angled intermediate its ends at **70** in order that the free end thereof in a set position of the body member will be directed substantially at the front edge of the skate. The free end of the tongue has downwardly extending ears **72**, also seen in FIG. **3**, having apertures **74** for receiving shaft portions **76** on a lever **78** which extends rearwardly along the tongue **68**. The lever **78** has a plurality of longitudinally spaced apertures **80** arranged to receive one end of a tension spring **82** connected at its other end in an aperture **84** in the flange portion **20** at the front of the skate. The free end of the lever **78** is adapted to be held releasably in close proximity to the tongue **68** by a transverse latch spring **84** connected at its ends in notches **86** in the side edges of the tongue **68**.

With the lever **78** held in close proximity to tongue **68**, the spring **82** urges the body member **60** forwardly so that the friction pads **58** apply a braking force to the front wheels. The capability of the braking force is accomplished by connecting the inner end of spring **82** in a selected one of apertures **80**. The connection of the

spring in one of the apertures is readily accomplished by first releasing the end of lever **78** from the latch spring **84** and then pivoting the lever to its phantom line position of FIG. **1**. In such position, the spring is under little or no tension for easy engagement in a suitable aperture **80**. After the spring has been connected, the lever **78** is rotated back against the tongue and latched in place.

An adjusting screw **88** has threaded engagement in the body member **60** and is adapted for abutment against flange portion **38**, or as shown, against the head of bolt **42**. By threadedly backing off screw **88**, the pressure of the friction pad **58** on the wheel is increased under the action of spring **82**. A beginner thus can adjust the screw **88** to apply a specific braking effect until such time that he becomes proficient enough to release the brakes completely. When he first starts practice the brake may be used to lock the front wheels entirely or provide only restricted rotation of the wheels. In such case the skates would provide the sensation of merely walking. As the beginner advances, however, in balance and agility, he can release the brakes slightly to allow some rolling movement of the wheels by adjusting screw **88** inwardly. By progressively threading the screw inwardly as he advances, he will be able subsequently to completely release the brakes.

FIG. **4** illustrates a somewhat modified form of the invention. In this embodiment, body member **60'** has a tongue **68'** provided with a plurality of apertures **90** to which the spring **82** is directly connected. The operation is identical as the first described embodiment, the only difference being that the lever **78** is omitted.

It is to be understood that the forms of my invention herein shown and described are to be taken as preferred examples of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims. For example, the brake means could be applied to the rear wheels instead of to the front wheels or on both with equally good results. Also, the pivotal support of the body member **60** can be by suitable means other than by the pivotal shaft connection with flanges **16**, such as by a clamp connection or the like on the flanges or on other parts of the wheel carriage.

Having thus described my invention, I claim:

1. Brake structure for roller skates of the type having a frame with forward and rearward portions and also having pairs of front and rear wheels, said brake structure comprising

a. a body member having an upward extension arranged for pivotal attachment to the frame of the roller skates,

b. friction brake means on said body member arranged for engagement with the front wheels of the skate,

c. a forward extension on said body member having a free end,

d. lever means pivotally connected at one of its ends to said free end of the extension,

e. a tension spring connected at one of its ends to said lever intermediate the ends of the latter and arranged to be connected at its other end to a forward portion of the skate for urging said body member to a position of engagement of the skate wheel by said friction brake means,

f. said lever in one position extending rearwardly in close proximity to said extension and in another position being pivoted forward for easy connection of said spring between said lever and the skate,

g. adjustable connecting means for said spring means on said lever to vary the available force thereon on said friction brake means,

h. and adjustment means on said body member controlling the braking force of said friction brake means under the action of said spring means.

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