

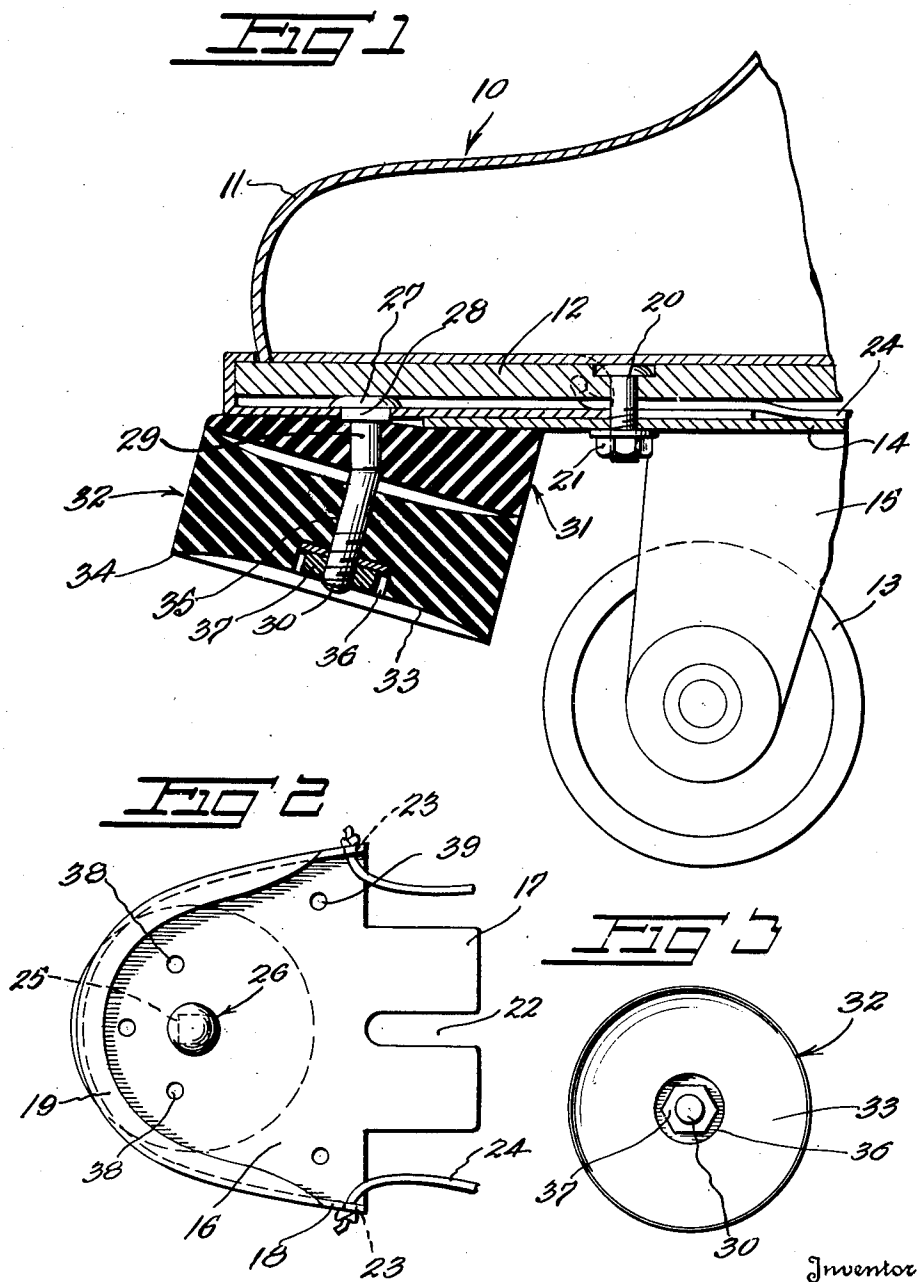
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E. J. WALL

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SHOE SKATE AND STOP ASSEMBLY

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Eugene J. Wall

By

Wilfred E. Larson

Attorney

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## SHOE SKATE AND STOP ASSEMBLY

Eugene J. Wall, Springfield, Ill.

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5 Claims. (Cl. 280-11.2)

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This invention relates to roller skates and it is directed particularly to improvements in toe stops and bumpers, the present application constituting a continuation in part of my application Serial No. 704,043, filed October 18, 1946.

A particular object of the present invention is to provide a toe stop in the form of a circular body having a concave or "saucer shaped" bottom face, the block being mounted on a single central pivot support whereby when the block becomes worn on one side it is only necessary to loosen the holding means and partially rotate the block to bring a new and unworn section into position for use.

Another object of the present invention is to provide a novel mounting for the block whereby the same is positioned with its axis at an inclination to the vertical whereby a portion of the block is extended forwardly or beyond the toe of the skater's shoe to facilitate use of the stop for jumping.

Another object of the invention is to provide a novel stop or bumper with a wedge element and an angled bolt whereby the wedge is held firmly against the under side of a mounting plate and the stop is maintained in a forwardly projecting inclined position.

Another object of the invention is to provide a stop of the character described having recessed or cupped faces whereby the stop when secured in position will maintain firm contact around the edge of one face with the wedge block interposed between the stop and the supporting plate and also whereby the stop may be rotated when necessary for the use of different parts of the edge of the other face.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of the specification, with the understanding, however, that the invention is not to be limited to the exact details of construction shown and described since obvious modifications will occur to a person skilled in the art.

In the drawing:

Figure 1 is a vertical longitudinal section through the toe portion of a skate shoe and through the structure of the present invention.

Figure 2 is a view in plan of the toe plate to which the stop is secured.

Figure 3 is a view of the under face of the stop.

Referring now more particularly to the drawing the numeral 10 generally designates the toe portion of a diagrammatically illustrated skater's

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shoe. The toe or box of the shoe is designated 11 and the sole is designated 12. One of the front rollers of the skate is indicated at 13 and is connected in the usual manner with the under side of the sole plate 14 of the skate by the usual truck structure which is generally designated 15.

In accordance with the present invention there is provided the plate 16 which is designed to position against the forward end or toe portion of the shoe sole 12 and to generally conform in outline to such toe portion. The back edge of this plate has extending therefrom the spaced parallel tongues 17 which are designed to be inserted between the forward end of the sole plate 14 and the bottom of the shoe sole.

The side and forward margin of the plate 16 is defined by the upstanding flange 18 and this flange is bordered by the intumed lip 19. As will be readily apparent the edge or periphery of the sole 12 positions against the inner side of the flange 18 and the lip 19 engages over the top of the sole.

The shoe sole has fixed therein a bolt 20 by means of which it is secured to the sole plate 14 as shown in Figure 1, the bolt passing downwardly through the sole plate and receiving on its lower end the nut 21 whereby the shoe sole and sole plate may be drawn together. When the plate 16 is inserted between the shoe sole 12 and the skate sole plate 14 the bolt 20 is engaged in the recess or slot 22 between the tongues 17.

At the rear ends of the flange 18 openings are provided through the flange as indicated at 23 in which to secure the ends of leather thongs or strings 24 by means of which the plate may be secured in position when used with shoes and skates which do not have connecting bolts between them such as the bolt 20. When so used the thongs are carried rearwardly around the truck 15 and tied together so as to prevent the plate 16 from creeping forwardly.

The plate 16 has formed therein adjacent to the forward end, the aperture 25 which is of polygonal outline. Extending through this aperture is a bolt which is generally designated 26 and which has upon the under side of the head portion 27 the squared boss 28 which fits in the opening 25. The shank of this bolt is bent intermediate its ends as shown to produce the straight upper end portion 29 and the longer, obliquely extending lower portion 30 which is screw threaded adjacent to its free end as shown.

The angled bolt 26 secures to the under side of the plate 16 the rubber wedge member 31 and the circular bumper 32, which is also formed of

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rubber or a suitable composition having the characteristics of rubber.

As is illustrated in Figure 1 when the device is in applied position the short upper end portion 29 of the bolt shank is substantially vertical while the lower angled portion 30 extends slightly forwardly. The wedge block 31 has the upper portion 29 of the bolt shank extending through its center and the sharp edge of the wedge is disposed directly below the toe of the shoe and of the plate 16. The under face of the wedge 31 is flat and is inclined upwardly and forwardly and it has bearing against it one side of the circular bumper 32. The diameter of the wedge and of the bumper is the same and accordingly when they are secured together upon the bolts they form, in effect, a single downwardly and forwardly projecting elastic body for use in the customary manner as a stop and also to assist the skater in leaping.

The two sides of the circular body 32 are slightly dished or concave as indicated at 33. By this means the side which is in opposed relation with the under face of the wedge 31 can be drawn up toward the wedge so that the periphery of the body will make tight contact with the opposing face of the wedge around the perimeter of the latter. Also by the provision of this cut out or dished under face, the side which is directed downwardly presents a relatively sharp edge or border 34 for contact with the surface of the rink. The body 32 has a suitable bore 35 formed axially therethrough to receive the lower end portion of the bolt and at one end of this bore there is formed a recess 36 for the reception of a nut 37 which is threaded on the bolt. Thus the nut which holds the bumper and wedge in place, is counter sunk in the downwardly facing surface of the bumper and all danger of the nut at the end of the bolt coming into contact with the surface of the rink is avoided.

The plate 16 is provided with apertures 38 which are positioned forwardly of the vertical transverse plane of the aperture 25. When the rubber block 31 is drawn up tightly against the under side of the plate some of the material of the block will be forced through the apertures and this will tend to prevent any tendency of the block to turn around the shank of the bolt.

Rearwardly of the block and wedge the plate 16 has the apertures 39 therein which may be used for screws or other securing elements if it should be desired to fasten the plate directly to the sole 12 of the shoe instead of tying it in position by means of the thongs 24.

I claim:

1. A bumper and toe stop for roller skates having a sole plate against which the sole of a skater's shoe bears, comprising a plate member adapted to position between the shoe sole and the skate sole plate, means for securing the plate member in said position, a wedge shaped member disposed against the under side of the plate member adjacent to the forward end thereof, a resilient stop body disposed against the under side of the

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wedge shaped member, means passing through the resilient stop and the wedge shaped member and coupling the same to the plate member, said wedge shaped member being positioned with the thin edge thereof directed forwardly whereby the resilient body is extended forwardly and downwardly with respect to the under side of the plate member.

2. A bumper and toe stop for roller skates as set forth in claim 1 wherein said wedge member is of resilient material.

3. A bumper and toe stop for roller skates as set forth in claim 1, wherein the wedge member is of resilient material and the said means securing the wedge member and the resilient body to the plate member comprises a bolt having a shank formed with two angularly related portions, one of the portions of the shank being positioned to extend straight downwardly through the wedge member and the other portion of the shank extending forwardly and downwardly through the center of the resilient member.

4. A bumper and toe stop for roller skates comprising a wedge shaped member of circular outline, a circular bumper of substantially the same diameter as the wedge shaped member and positioned against a side of the latter, means for supporting the wedge shaped member and the bumper at the toe end of a skate comprising a carrier body and a bolt coupled at one end with the carrier body, the bolt comprising a shank having two angularly related portions, one of the portions passing downwardly through the wedge member and the other portion extending forwardly and downwardly through the bumper, the wedge member being positioned with its thickest diameter directly rearwardly of the bolt whereby the bumper is disposed at a forward and downward inclination, and means for securing the carrier in position at the forward end of the skate.

5. A bumper and toe stop of the character stated in claim 4 wherein said wedge member has a plane under face, the said bumper having opposite faces of dished form, the periphery of one of the dished faces of the bumper engaging against the plane face of the wedge member at the perimeter of the latter.

EUGENE J. WALL.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

| Number    | Name       | Date          |
|-----------|------------|---------------|
| 894,501   | Hohenadel  | July 28, 1908 |
| 2,285,373 | Wall       | June 2, 1942  |
| 2,343,007 | Goldenberg | Feb. 29, 1944 |
| 2,356,736 | Blaes      | Aug. 29, 1944 |

#### FOREIGN PATENTS

| Number  | Country       | Date          |
|---------|---------------|---------------|
| 403,250 | Great Britain | Dec. 21, 1933 |