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(54)	ROLLER SKATE WHEEL	(57)	Abstract:				
(54)	ROUE DE PATIN A ROULETTES						

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This invention relates to improvements in wheels for roller skates, furniture castors or for similar uses where a rolling contact is desired on a hard floor surface and the principal object of the invention is to reduce the transference of vibration and shocks, such as caused by encountering the edges of strip flooring and other surface inequalities, to the body of the skate or other article to which the roller is applied.

A further and important object is to devise a wheel of strong and rugged construction which may be easily and quickly assembled and which may be manufactured at extremely low cost.

The principal feature of the invention consists in the novel construction of wheel in which a resilient ring is interlocked within the inner perimeter of a rigid wheel body and resiliently supports and retains within the wheel a pair of spaced ball bearing supports for an axle.

In the accompanying drawings Figure 1 is a side elevational view of a roller skate showing the wheels in place thereon.

Figure 2 is a full sized vertical sectional view taken axially through the wheel.

Figure 3 is a cross-sectional view taken on the line 3-3 of Figure 2.

Figure 4 is a cross-sectional view taken on the line 4-4 of Figure 2.

Figure 5 is a cross-sectional view taken on the line 5-5 of Figure 2.

Roller skate and furniture castor wheels are usually made of a solid block of hard maple wood and when rolled over strip wood floors the hard surfaces create a considerable amount of shock as the roller passes over the joints and it is highly desirable that these shocks be reduced to a minimum.

In the construction herein shown the body of the wheel 1 is a hollow cylinder of hard wood defining a central orifice 2 and an annular groove 3 preferably arranged off centre of the length of the wheel, i.e., closer to one end than the other.

A cylindrical sleeve 4 preferably formed of a tough resilient oil resisting rubber is fitted snugly within the orifice 2 and is formed with an outwardly extending annular rib 5 arranged substantially centrally of its length and is of a width corresponding to the width of the annular groove 3 and fits snugly therein.

The sleeve 4 and its annular rib is compressed when being inserted into the orifice in the wheel and when the rib registers with the groove it fits snugly into same.

The inner wall of the rubber sleeve 4 is formed with an inwardly extending annular rib 6 preferably formed with annular shoulders 7 on either side.

+ Metal cups 8 preferably formed of pressed steel are formed with inturned flanges 9 and annular shoulders 10. The cups 8 are pressed into the rubber sleeve from either end so that the inturned flanges abut the centre rib 6 and the shoulders 10 fit against the shoulders 7 of the sleeve. The cups are thus resiliently mounted within the sleeve and spaced from each other by the centre rib 6.

A metal sleeve 11 formed with an outturned flange 12 at one end is inserted through the centre orifice of one of the cups and passing through the central orifice formed by the rib 6 it extends through the central orifice of the other cup and is then swaged over to form the retaining flange 13 engaging and interlocking both cups in close contact with the rubber sleeve 4 and its shouldered central rib.

Ball bearings 14 of a suitable design are fitted snugly into the bearing cups 8 and abut the outer sides of the flanges 12 and 13 of the sleeve 11.

It will be seen that by arranging the annular groove 3 offset longitudinally from the centre of the wheel the retaining sleeve and ball bearings are arranged closer to one end of the wheel than the other thus leaving a recess 15 at one end of the wheel to house the retaining nut and washer mounted on the axle 16.

The assembling of this wheel is extremely simple, the parts are of simple and inexpensive contruuction and when completed the wheel presents a rugged structure in which all vibrations and shocks of the outer body are absorbed by the cushioning sleeve 4 between the body and the axle.

WHAT I CLAIM AS MY INVENTION IS:-

1. A wheel comprising an outer rim, a resilient sleeve interlocked within said rim, bearing cups mounted in either end of said sleeve, a retaining sleeve interlocked with the inner ends of said bearing cups, and bearings mounted in said cups.

2. A wheel comprising an outer rim, a resilient sleeve interlocked within said rim and having an inwardly extending annular rib intermediate of its length, bearing cups fitted into said sleeve from either end and abutting said annular rib, a sleeve extending between said cups flanged at its ends and interlocking with said cups, and ball bearings mounted in said cups.

3. A wheel comprising a hard hollow cylindrical body having an annular groove in its inner wall intermediate of its length, a cylindrical rubber sleeve having an integral annular rib on its perimeter intermediate of its length fitting into the annular groove in said body and having an inwardly extending annular rib intermediate of its length, metal cups flanged at the inner ends fitted within said sleeve and having the flanges abutting the inner annular rib, a retaining sleeve locking said cups within said sleeve, and ball bearings mounted in said cups.

4. A wheel comprising a hard hollow cylindrical body having an annular groove in its inner wall intermediate of its length, a rubber sleeve compressed into said body and having an annular rib interlocking with the groove therein, bearing cups compressed into said sleeve at either end and spaced apart, means for securing said cups within said sleeve, and bearings mounted in said cups.

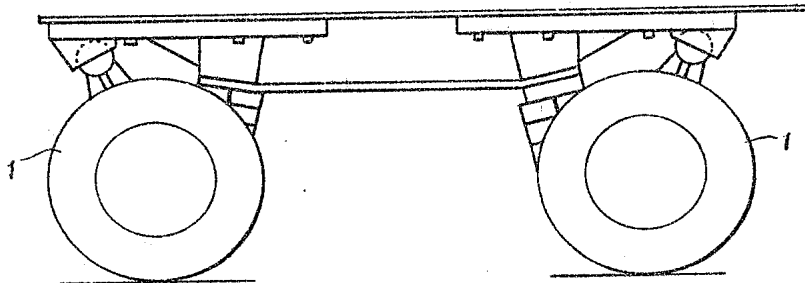


Fig. 1.

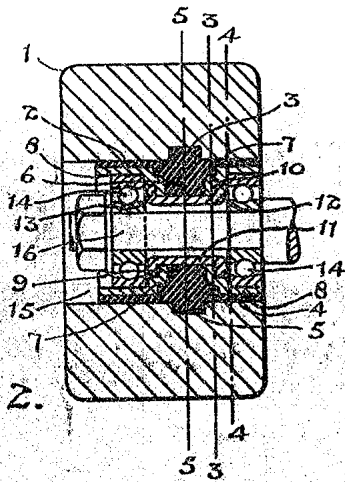


Fig. 2.

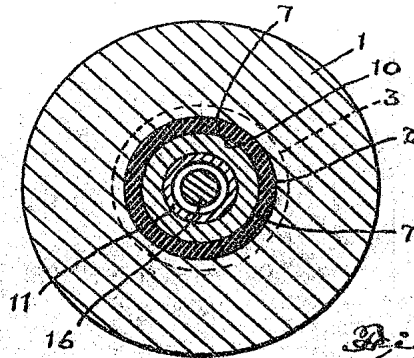


Fig. 3.

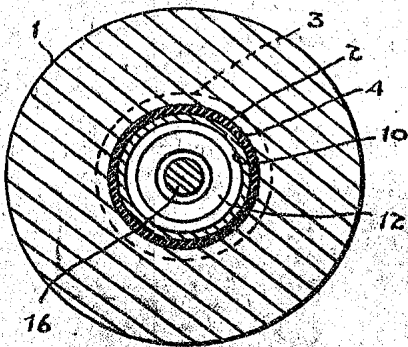


Fig. 4.

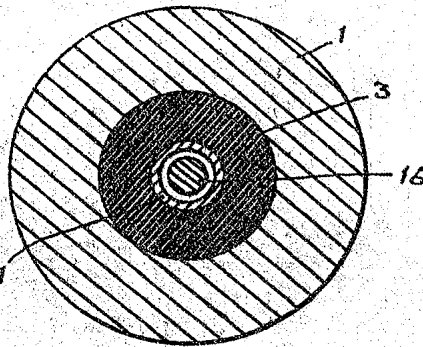


Fig. 5.

Certified to be the drawings referred to
in the specification hereunto annexed.

Toronto, Sept. 12th 1946.

INVENTOR

Wallace Freeborn

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