ROLLING SKATE HAVING LAMINATED WHEELS

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ABSTRACT OF THE DISCLOSURE

An improvement in a roller skate comprising rollers mounted in pairs with the annular surfaces thereof curving outward from the outer ends of their common axis, each roller consisting of a plurality of laminations extending transversely with respect to said axis, the hardness of said laminations increasing from the larger end to the smaller end of each roller.

The present invention relates to a roller skate. An object of the invention is to provide a speedy roller skate with a minimum area of contact between the rollers and the ground. Another object of this invention is to provide a roller skate so designed as to be able to negotiate curves easily, with the outer edges of the rollers being rounded. Still another object of this invention is to provide a roller skate in which the roller material has a steadily decreasing hardness from the inside toward the outside, so that any slipping when negotiating curves may be prevented.

The details of the invention will be described with reference to the attached drawings, in which:

FIG. 1 is a side elevation of a roller skate according to this invention;
FIG. 2 is an end elevation of the skate shown in FIG. 1; FIG. 3 shows another embodiment of this invention as seen from the same direction as in FIG. 2.
FIG. 4 is a detail view showing one roller; and
FIG. 5 shows a conventional roller skate.

The roller 1 fitted to a roller skate according this invention is made of an appropriate composition of rubber and other materials, and comprises a plurality of layers having different hardnesses from inside to outside, the outer surface of each half of said roller being curved inward from the outer ends of its axis of rotation so that is approximately hemispherical in shape.

The rollers comprise a plurality of parallel plates bonded together with the hardness of the layers decreasing from the innermost layer toward the outermost layer 2'. In FIG. 1, 3 is a bearing in the roller 1 and 4 is a shaft which carries the roller.

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A pair of these rollers 1 are rotatably mounted on the projecting arms 5' of the mounting plate 5 to form the front wheel and rear wheel. The mounting plate 5, with rollers attached thereto, to the shoes 6.

As illustrated in FIG. 3, it is possible to mount a pair of rollers 1 on the shoes 6 in close proximity to each other. Also it is possible to mount a pair of rollers 1 with their inside surfaces in contact with each other.

The area of contact between roller and ground in both the front wheel and the rear wheel is exceedingly narrow. Moreover, the distance x between the two rollers can be decreased. Thus, the friction between the ground surface 8 and a rotating roller is reduced and accordingly the speed of the new roller skate can be higher than that of a conventional skate. Moreover, in negotiating a curve the semi-spherical surface of the roller can be exploited. The chain line 8' of FIG. 2 shows the sliding course followed by the roller in negotiating a curve. Thereby, any slipping in the direction normal to direction of travel can be prevented and as the result the curve can be taken smoothly, because the roller 1 has its hardness gradually diminishing toward the outer layer 2'.

In the case of the conventional rubber skate, as shown in FIG. 5, the roller 10 is cylindrical with a wide area of contact with the ground and a large distance y between two rollers; it may have good stability, but it is inconvenient for developing a high speed or taking a curve smoothly.

I claim:

1. In a roller skate, a pair of annular rollers axially spaced along a common axis, each roller being symmetrical about said axis and having a part spherical annular surface curving gradually inward from a larger end toward a smaller end, the larger ends of said rollers being positioned facing each other, and each roller being formed from at least three individual laminations extending transversely with respect to said axis, the hardness of said laminations increasing successively from the smaller end to the larger end of each roller.

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