Nov. 11, 1952 H. A. LEE 2,617,688

SKATE ROLLER ASSEMBLY

Filed March 22, 1948

Fig. 1.

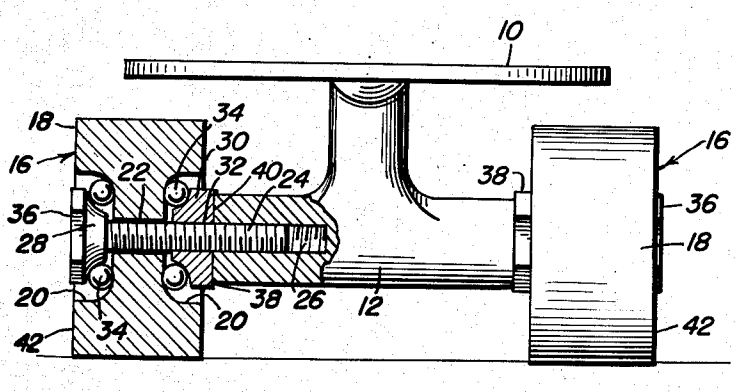


Fig. 2.

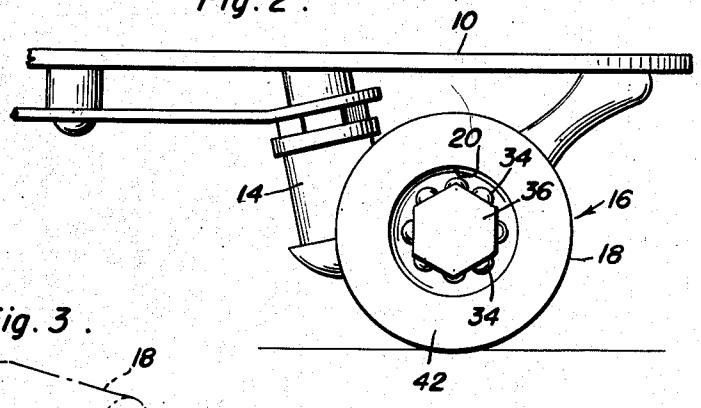
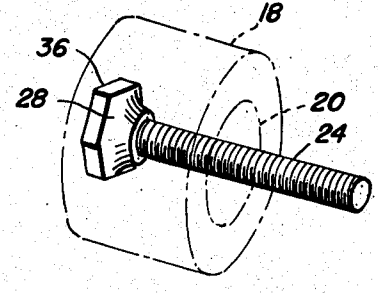


Fig. 3.



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Patented Nov. 11, 1952

2,617,688

UNITED STATES PATENT OFFICE

2,617,688

SKATE ROLLER ASSEMBLY

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Application March 22, 1948, Serial No. 16,380

1 Claim. (Cl. 301—5.7)

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This invention relates to new and useful improvements and structural refinements in roller assemblies for roller skates, and the principal object of the invention is to eliminate lateral protuberances on the outside of the roller assembly, which protuberances, conventionally present, detract from the appearance from the skate as a whole, and constitute a potential hazard when one skate is moved past another, that is to say, such protuberances frequently strike one another or become otherwise entangled.

The primary object of eliminating the protuberances is achieved in the instant invention by providing a skate roller assembly wherein one of the inner ball races is rigidly secured to or formed integrally with the axle on which the roller assembly rotates, this inner ball race also functioning for retaining the roller in position and being disposed within a recess with which said roller is formed, so that it does not protrude laterally to any great extent beyond the side surface of the roller.

An important feature of the invention resides in the provision of convenient means for adjusting the roller assembly on the truck of the skate.

An additional feature of the invention resides in the provision of a skate roller assembly which is simple in construction, which will not easily become damaged and which will readily lend itself to economical manufacture.

With the above more important objects and features in view, and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a front elevational view of a roller skate wherein the invention is embodied, the axle and roller assembly on one side of the skate being illustrated in cross section, so as to reveal the construction of the invention;

Figure 2 is a side elevational view of the subject shown in Figure 1, with the skate partially broken away, and

Figure 3 is a perspective view of a screw threaded axle and one of the inner ball race members used in the invention, together with the rollers shown in phantom lines.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the reference character **10** designates a conventional roller skate provided on the under-

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surface thereof with a pair of non-rotatable resiliently mounted trucks, one of which is illustrated at **12**.

The resilient mounting of these trucks is of a conventional character, including a rubber bushing **14**, but since it is irrelevant to the instant invention, further description thereof at this point is deemed unnecessary.

The essence of novelty in the invention resides in the formation of roller assemblies designated generally by the reference character **16**, these being mounted at the ends of the trucks **12**, but since their construction is substantially similar, a description of one will suffice for all.

Each of the roller assemblies **16** consists of a roller **18** formed in its opposite sides with circular recesses constituting what may be referred to as outer ball races **20**, the roller **18** also being equipped with a central or axial bore **22**, as will be clearly apparent.

A screw-threaded axle **24** extends freely through the bore **22** of the roller **18**, one end portion of this axle being threaded into a complementarily screw-threaded bore **26** formed in the end of the aforementioned truck **12**.

What may be referred to as an inner ball race member **28** is rigidly secured to or formed integrally with the remaining end portion of the axle **24**, while a further, inner ball race member **30**, formed with a screw-threaded bore **32**, is adjustably positioned on an intermediate portion of the axle **24**.

It is to be noted that the inner ball race members **28**, **30** are disposed within the recesses of the roller **18** constituting the outer ball races **20**, and sets of suitable anti-friction elements, such as for example, balls **34** are interposed between the inner and outer races **28**, **30** and **20** respectively, as will be clearly understood.

The inner ball race members **28**, **30** may, if desired, be formed integrally with polygonal portions **36**, **38** respectively, so as to facilitate threading of the axle **24** in the bore **26** and also, adjustment of the race member **30** on the axle **24**.

The portion **38** of the race member **30** may be "locked" against the adjacent end surface **40** of the truck **12**, whereby the entire roller assembly is mounted upon the truck, but it should be noted that the race member **30** may be adjusted upon the axle shaft **24**, so as to vary the "clearance" or "play" within the roller assembly and thereby assure its proper rotation.

It is to be noted that by virtue of the construction above described, the ball race member **28**, being disposed within the recess **20** of the roller

18 does not project to any great extent beyond the side surface 42 of the roller, so as to cause undue protuberances such as are present in conventional roller assemblies wherein the axle 24 extends outwardly past the inner ball race member 28 and carries a lock washer and a nut for the purpose of adjusting and retaining the conventional roller assembly in position on the truck.

Needless to say, the recesses forming the outer ball races 20 in the roller 18 may be of sufficient depth as to fully accommodate the race members 28, 30 including their portions 36, 38 respectively, in which instance, the portion 36 of the member 28 would be flush with the side surface 42 of the roller.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention what is claimed as new is:

In a roller skate, the combination of a roller truck including a transverse member provided in its outer end portion with an axial screw-threaded bore, a screw-threaded axle having its inner end adjustably secured in said bore and projecting outwardly therefrom, a tool engaging head on the outer end of said axle, said head being multi-sided for engagement with an adjusting tool, a polygonal nut threaded on the axle and locked against the outer end of the transverse member, a roller rotatable on the axle between the head and the nut, bearing races on the opposite sides of the roller and on the adjacent sides of the head and the nut said polygonal nut extending axially from the side of the roller, whereby the same may be easily engaged with an adjusting tool inserted between the roller and the transverse member, and sets of anti-friction elements positioned in said races.

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