

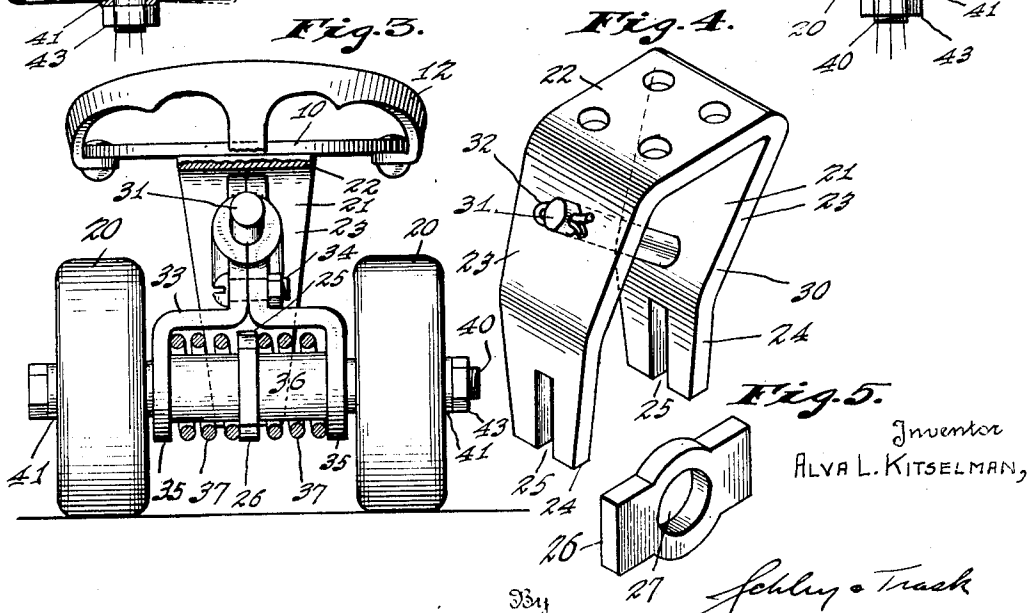
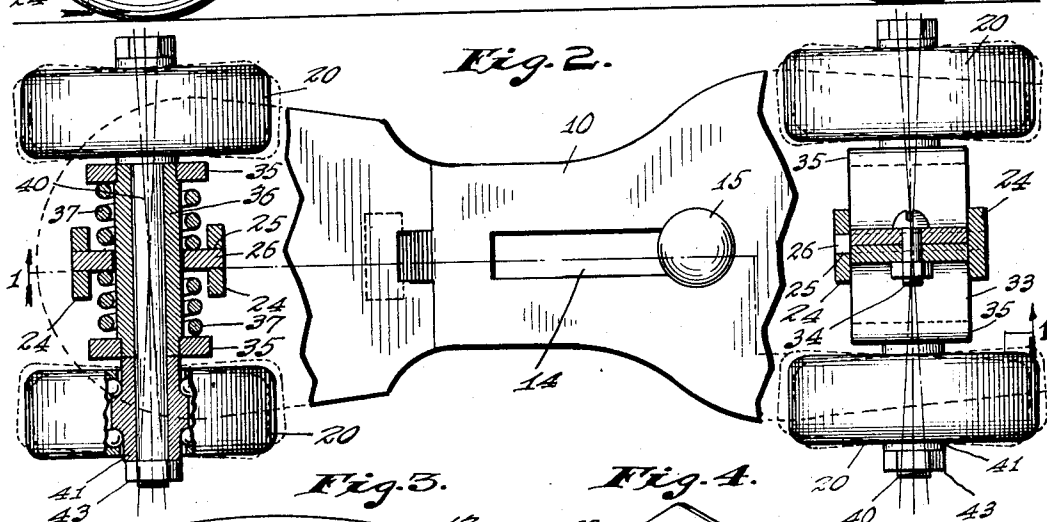
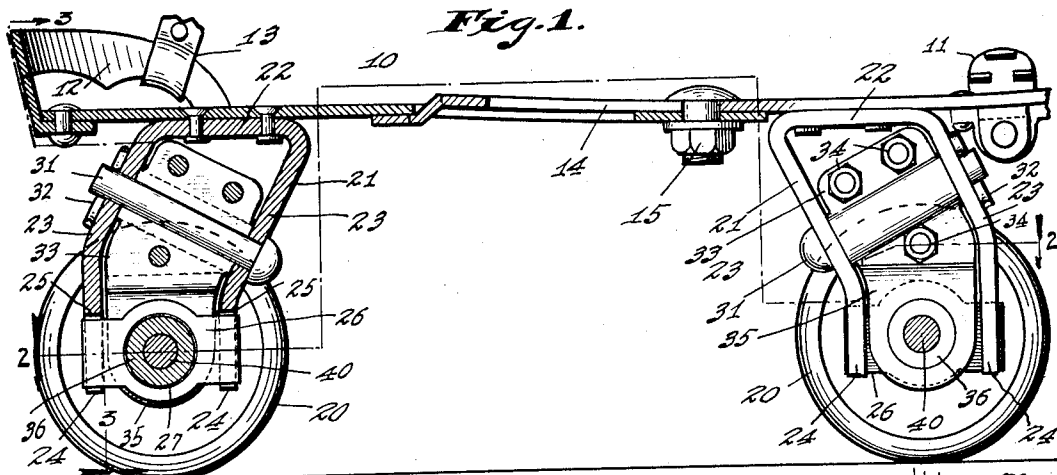
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ROLLER SKATE

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ROLLER SKATE

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It is the object of my invention to improve and simplify roller-skate constructions, and more especially to improve and simplify the mounting and centering mechanism of the rollers.

In carrying out my invention, I mount the axle of each pair of rollers of the skate in the prongs of a rockable fork, rockably mounted on an axis lying in the medial longitudinal vertical plane of the skate but oblique to the horizontal with the slant upward toward the end of the skate; and provide on each such axle a pair of centering springs which act between the respective prongs of the rockable supporting fork and a medial plate which is held against sidewise movement in the part on which the fork rocks. The fork is formed in two separable parts, each having one of the prongs. In this way, I get a simple and sturdy construction, easy to assemble, disassemble, and repair.

The accompanying drawing illustrates my invention: Fig. 1 is a longitudinal vertical section, with some parts in section, of a skate embodying my invention, the section being taken substantially on the line 1—1 of Fig. 2; Fig. 2 is a horizontal section substantially on the line 2—2 of Fig. 1; Fig. 3 is a rear elevation with some parts in section substantially on the line 3—3 of Fig. 1; Fig. 4 is an isometric view of one of the supporting members in which a rockable fork is mounted; and Fig. 5 is an isometric view of the abutment member against which the inner ends of the opposed springs bear and which is located in the slots at the lower end of the supporting member shown in Fig. 4.

The roller skate has the usual foot-plate 10; which may be adjustable in length in any known manner to accommodate shoes of different sizes, and is provided with any suitable means for attaching it to the shoe and foot, such as toe-grips 11, a heel-plate 12, and straps 13. In the skate shown, the adjustment of the length of the foot-plate 10 is by making such plate in two parts which are slidable on each other along a slot 14 and clampable in adjusted position by a clamping bolt 15. All this is standard, and may be varied as desired.

The skate is provided with two pairs of carrying rollers 20, one pair for each of the two parts of the foot-plate 10. The mountings of the two pairs of rollers on their respective foot-plate parts are the same, so that it will be sufficient to describe only one such mounting in detail.

Riveted to the under side of each part of the foot-plate 10, and fixed with relation thereto, is a supporting bracket 21. The bracket 21, shown in

detail in Fig. 4, has a base 22; two parallel supporting arms 23, which lie in planes transverse to the longitudinal axis of the skate and project from the base 22 obliquely downward and toward the skate-end (obliquely downward and forward in the case of the front bracket, and obliquely downward and backward in the case of the rear bracket); and two substantially vertical downward extensions 24 from the lower ends of the respective arms 23. The two projections 24 have aligned vertical slots 25 extending upward from their lower ends and lying substantially in the central longitudinal vertical plane of the skate. An abutment plate 26, having a central hole 27 through it, slidably fits in the slots 25, and is capable of a slight vertical sliding movement therein.

A pivot-pin 31 extends between and perpendicular to the two parallel supporting arms 23, and lies in the longitudinal vertical medial plane of the skate. Thus the axis of the pivot-pin 31 is oblique to the horizontal, slanting upward at the end toward the end of the skate. It is the axis of the pivot-pin 31 on which the corresponding pair of rollers 20 is rockable. The pivot-pin 31 is suitably held in place, as by a cotter-pin 32.

The pivot-pin 31 furnishes a pivotal support for a rockable fork 33. This fork is composed of two separable mating plates; which lie on opposite sides of the pivot-pin 31 and are shaped to fit thereupon, and are clamped together by clamping bolts 34. The two plates forming the rockable fork 33 are separated from each other, and their spaced lower ends form fingers or fork-prongs 35 which extend downward parallel to each other on the two sides of the abutment plate 26 but are spaced therefrom. A shouldered sleeve 36 is mounted in these fingers or fork-prongs 35, and extends loosely through the hole 27 in the abutment plate 26. Two opposed compression springs 37 surround the sleeve 36, and lie on opposite sides of the abutment plate 26 and between it and the respective fingers 35. These compression springs 37 are under compression, and tend to hold such fingers 35 equidistant from the abutment plate 26 and thus tend to center the fork 23.

An axle bolt 40 extends axially through the shouldered sleeve 36, and at each end removably carries a roller-sleeve 41 on which the corresponding roller 20 is suitably rotatable, by any suitable bearing. A nut 43 on the axle-bolt 40 clamps the two roller-sleeves 41 of the pair of rollers firmly against the shouldered ends of the sleeve 36 where such ends project through the fingers or fork-prongs 35.

In operation, the opposed springs 37 tend to hold

the foot-plate 10 transversely horizontal when the rollers 20 are in engagement with the rink-floor or other skating surface. When the skater's foot pushes down on either side of the foot-plate 10, however, and such foot-plate is thereby transversely tilted from the horizontal plane, one or the other spring of each pair of springs 37 is compressed between its finger or fork-prong 35 and the central abutment-plate 26, as such fork rocks on the axis of the pivot-pin 31 as a result of such foot pressure. The obliqueness of the pivot pin 31 causes such rocking of the fork 33 to have not only a lateral component which compresses one of the springs 37, but also a component about a vertical axis. This latter component causes the two rollers 20 which are at that side of the foot-plate 10 which is pushed downward to move toward each other, and the other two rollers to move away from each other, as is indicated by the two sets of dotted lines in Fig. 2. This permits the skate, and the skater, to move in a curve over the floor—a curve which the skater controls by the pressure of his feet on one side or the other of the foot-plate 10 of his skates. When the pressure on the depressed side of his foot-plate 10 is removed, the compressed springs 37 bring the foot-plate back to parallelism with the axes of the rollers 20, and bring such two axes again into parallelism with each other.

In the construction shown, assembly, disassembly, and repair is relatively easy. If one of the springs 37 breaks, for instance, the nut 43 is removed from the bolt 40; one of the rollers 20 with its roller-sleeve 41 is slipped from the bolt 40 as a unit, and the bolt slipped entirely out of place if desired, which gives ready access to the clamping bolts 34 so that they may be taken apart to permit separation of the plates forming the rockable fork 33; whereupon, by such separation, access is obtained immediately to the broken spring 37 so that it may be removed and a good spring substituted for it. Then the removed parts may easily be put back in place, by a reverse procedure.

I claim as my invention:

1. In a roller skate, the combination of a supporting member on which the foot-plate rests, a fork pivoted on said supporting member on an axis oblique to the horizontal and having two prongs in which the axle for a pair of rollers is mounted, an abutment plate associated with said supporting member, and a pair of compression springs surrounding said roller-axle and bearing against said abutment plate on opposite sides thereof and located between it and the respective prongs of said fork.

2. In a roller skate, the combination of a supporting member on which the foot-plate rests, a fork pivoted on said supporting member and hav-

ing two prongs on which the axle for a pair of rollers is mounted, an abutment plate associated with said supporting member, and a pair of compression springs surrounding said roller-axle and bearing against said abutment plate on opposite sides thereof and located between it and the respective prongs of said fork.

3. In a roller skate, the combination of a supporting member having two parallel but oblique arms which have slotted downward extensions, an abutment plate mounted in said slots, a rockable fork pivotally mounted between said parallel arms and having prongs which lie on the two sides of said abutment plate, a sleeve mounted in said two fork-prongs and extending through said abutment plate, a pair of compression springs surrounding said sleeve and located between said abutment plate and the respective fork-prongs, an axle extending through said sleeve, and a pair of rollers mounted on the opposite ends of said axle.

4. In a roller skate, the combination of a supporting member having two parallel but oblique arms which have slotted downward extensions, an abutment plate mounted in said slots, a rockable fork pivotally mounted between said parallel arms and having prongs which lie on the two sides of said abutment plate, a sleeve mounted in said two fork-prongs and extending through said abutment plate, a pair of compression springs surrounding said sleeve and located between said abutment plate and the respective fork-prongs, an axle extending through said sleeve, and a pair of rollers mounted on the opposite ends of said axle, said fork being made of two plates separably bolted together and each having one of the fork-prongs.

5. In a roller skate, the combination of a support on which the foot-plate rests, a rockable fork mounted in said support on an oblique axis, a pair of rollers associated with said fork, and a pair of centering springs surrounding the roller axis and acting on the prongs of said fork.

6. In a roller skate, the combination of a support on which the foot-plate rests, a rockable fork mounted in said support, a pair of rollers associated with said fork, and a pair of centering springs surrounding the roller axis and acting on the prongs of said fork.

7. In a roller skate, the combination of a fork, an axle on which the prongs of said fork are mounted and which is associated with a pair of rollers, a supporting member attached to the skate foot-plate and on which the fork is rockable, and a pair of centering springs surrounding such axle and acting between the respective fork-prongs and a part associated with said support.

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