

Oct. 17, 1950

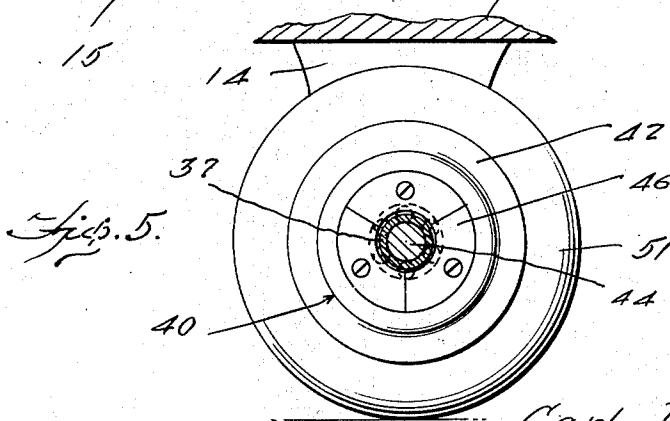
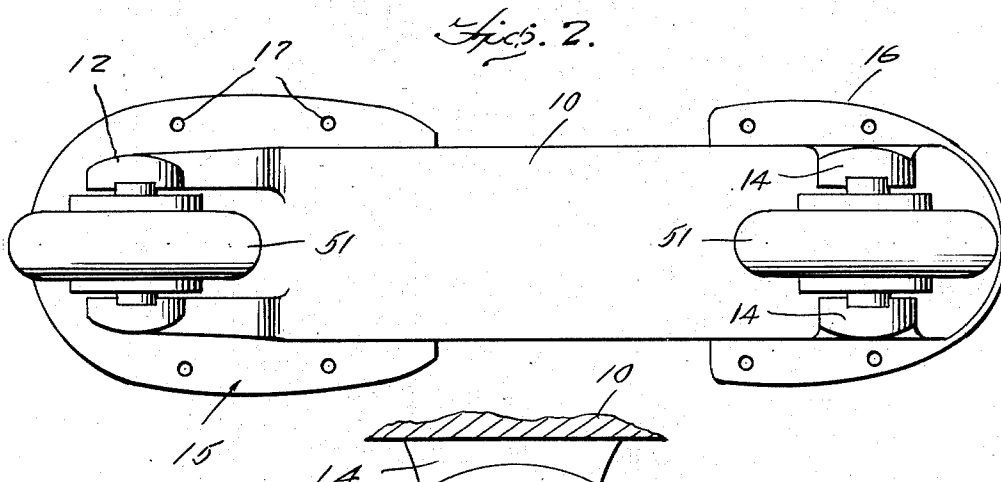
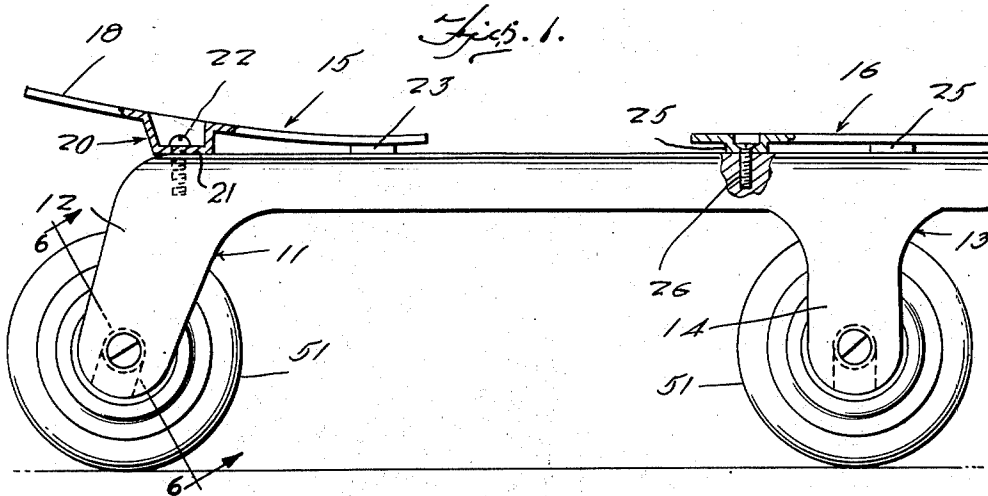
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ROLLER SKATE

Filed May 14, 1948

2 Sheets-Sheet 1



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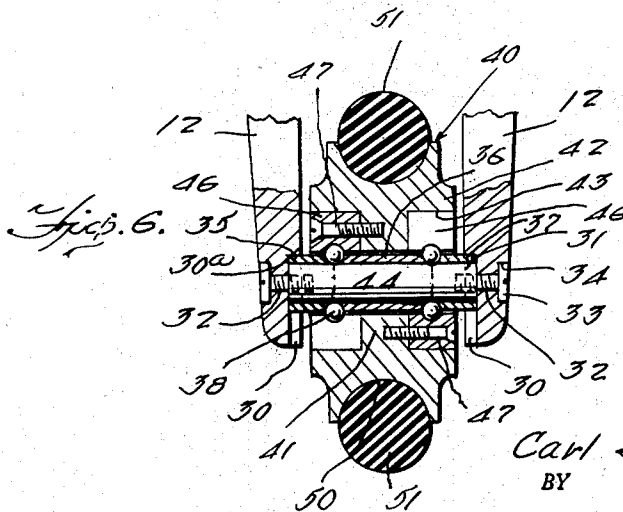
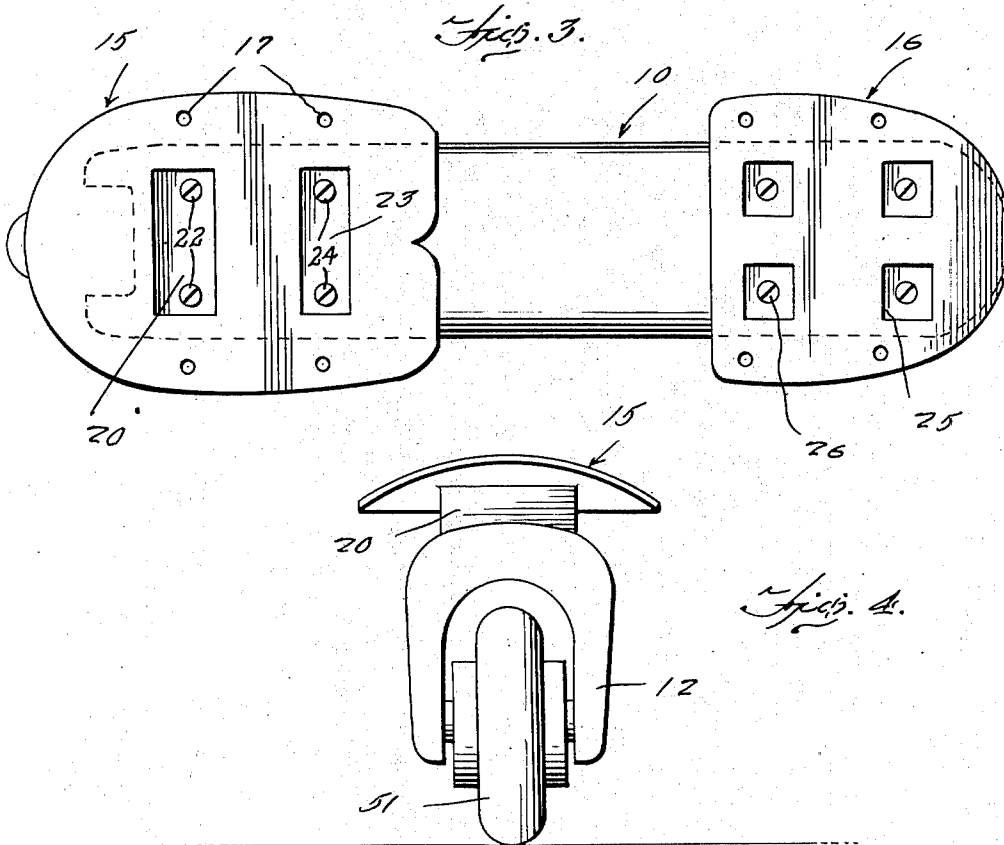
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UNITED STATES PATENT OFFICE

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ROLLER SKATE

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2 Claims. (Cl. 280—11.23)

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This invention relates to roller skates.

An object of the invention is the provision of a durable and speedy roller skate which is streamlined with few parts, the simplicity of construction being such that worn elements may be readily replaced by the owner without requiring the assistance of a mechanism, two wheels, preferably rubber-tired, being employed to cushion shocks and prevent noise and skidding. The body including the wheel-supporting yokes is formed of a single piece of metal with the free ends of the arms of the yokes provided with tracks to receive the free ends of an axle for the rubber-tired wheels.

A further object of the invention is the provision of a streamlined roller skate in which a pair of rubber-tired wheels supports a body of a one-piece construction, each wheel formed of a single piece of metal and having a grooved rim to receive a tire, said wheel being supported on an axle by means of ball bearings, the hub portion of the wheel rotating freely about said axle and out of contact therewith, the ends of the axle being held securely in grooves at the inner faces of the arms of the yokes depending from and formed integrally with the streamlined body.

This invention is best understood from a consideration of the following detailed description in connection with the accompanying drawings, nevertheless, it is to be understood that the invention is not confined to the disclosure but is susceptible of such changes and modifications as shall define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings—

Figure 1 is a side view in elevation of my improved roller skate,

Figure 2 is a bottom plan view of the same,

Figure 3 is a top plan view of the improved skate,

Figure 4 is a front end view in elevation of the skate,

Figure 5 is an enlarged fragmentary longitudinal section through the rear supporting yoke showing a side view of a wheel, and

Figure 6 is an enlarged transverse vertical section taken along the line 6—6 of Figure 1.

Referring more particularly to the drawings, 10 designates a streamlined body which is formed of highly polished aluminum, the thickness of which being such that it will withstand the strains incident to skating. The body may also be pressed into shape from a blank formed of a piece of sixteen (16) gage stainless steel. A yoke 11 having spaced arms 12 depending from

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the front portion of the body in integral formation and a rear yoke 13 including spaced arms 14 integral with said body complete the streamlined effect of the body.

A sole supporting plate 15 is manufactured from a thin sheet of stainless steel as is the heel plate 16. The plate 15 is curved slightly to conform to the curvature of a shoe sole which is secured to the plate by screws inserted through openings 17 in the plate. The front part of the plate slants upwardly and projects forwardly of the front end of the body 10 as shown at 18. A portion of said plate is cut and stamped to provide a U-shaped attaching member 20 for not only raising that portion of the plate above the top face of the body but to form a depressed bridging member 21 which has perforations to receive bolts 22 threaded into passages in the forward end of said body. It will be noted that the front leg of the U-shaped member is longer than the rear leg. A second U-shaped member 23 is punched through the rear portion of the plate 15 and the bight portion thereof is provided with openings to receive bolts 24 threaded into passages in the body 10. The legs of the U-shaped member 23 are shorter than the legs of the U-shaped member 20 to provide the inclination for the plate 15.

The heel supporting plate 16 has a pair of punched U-shaped members 25, the bight portions of which having perforations for the reception of bolts 26 threaded into vertical passages formed in the heel section of the body 10. It will be noted that both members 25 have the same depth which is such that the heads of the bolts may lie flush with the upper surface of the plate 16. The heads, however, may be tapered so that they will seat in the counter-sunk portions of the perforations in the bight portions.

The arms 14 of the yoke 13 are substantially vertical while the arms 12 of the yoke 11 are inclined at an approximate angle of eighty-seven (87) degrees to a horizontal plane passing through the bottom surface of the body 10. Each arm of the yokes is provided at the inner face thereof with a vertical slot 30 to receive an end of an axle 31 (Figure 6) which rests against a shoulder 30a. A bolt 32 threaded into an axial passage in each end of the axle is received by an aligned transverse passage in an adjacent arm near the top of each slot 30. A head 33 on the bolt 32 is seated in a pocket 34 in the associated arm so that the outer faces of the heads will lie flush with the outer transversely curved surfaces of the arms.

Three sleeves 35, 36 and 37 are fitted on the

axle 31. The abutting ends of said sleeves are sheared off along an arc of a circle to form races for ball-bearings 38. Thus the sleeves 35 and 37 may be withdrawn from the axle 31 for the removal of a wheel 49.

The wheel has a special construction and includes a narrow hub 41 and a broad rim 42 thereby providing cylindrical pockets 43 at each side of said hub. Sections 46 of a ring are fitted neatly into the pockets and support the wheel on the sleeves and axle. The sections are held in position by bolts 47 and include a race which cooperates with the races formed by the sleeves to retain the bearings 38 in place. The periphery of the rim 42 has an annular groove 59 in which is mounted a tire 51.

The wheel is readily removable from its yoke by the release of the bolts 32 whence the ends of the axle 31 may be withdrawn outwardly from the vertical slots 30 in the arms of the forks or yokes 11 and 13. The bolts 47 may be unscrewed from the hub 41 for the removal of any or all of the sections 46 of the holding ring after the sleeves 35 and 37 have been withdrawn. The heads of the bolts 47 are seated in countersunk portions of the passages in which said bolts are threaded.

The skate thus constructed will provide greater speed and more durability. The diameter of the tire 51 is such that the skater may incline the skates when rounding curves while maintaining contact between the tires and the skating surface without danger of skidding. Furthermore, under severe strains, the shoulders 39a of the grooves 39 will carry the weight on the axles and thus relieve the bolts 32.

What is claimed is:

1. A roller skate comprising an elongated body, a yoke depending from each end of the body and consisting of a pair of parallel arms, an axle for each pair of arms, means mounting each end of the axle in an arm, a wheel mounted on each axle, a sole supporting metal plate, a pair of spaced U-shaped members punched from the

plate, means for securing the bight portions of the U-shaped members to the top of the body, the foremost leg of the U-shaped member nearest the front end of the body being longer than the other leg of said member in order to tilt the forward end of the plate upwardly, and a heel supporting plate secured to the rear portion of the body.

2. A roller skate comprising an elongated narrow body, a yoke depending from each end of said body, each arm of the yoke having on its inner face a vertical groove, there being a shoulder at the upper end of each groove, an axle positioned intermediate the arms of each yoke, the ends of each axle being received in the grooves of said arms and seated against the shoulders of said grooves, bolt means extending through each of said arms and engaging the adjacent ends of said axles for securing the latter in position in said grooves, a wheel mounted on each of said axles having a relatively thin hub portion and a broad rim to form an annular pocket adjacent each side of said hub portion, ball bearing means carried by said axles adjacent each of said annular pockets, and a sectional ring positioned within each of said pockets and secured to the adjacent hub portion for enclosing said bearing means.

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