E. F. MEES.

ROLLER SKATE.

APPLICATION FILED MAY 18, 1910.

1,018,512. Patented Feb. 27, 1912.

FIG. 1.

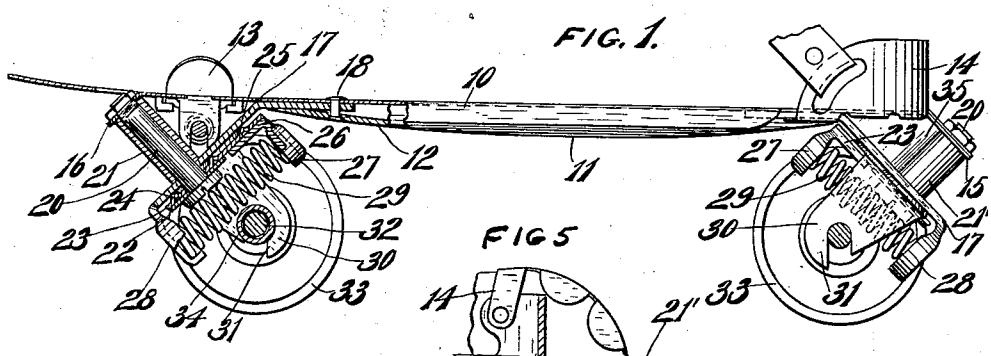


FIG 5

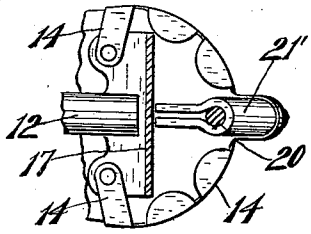


FIG. 2.

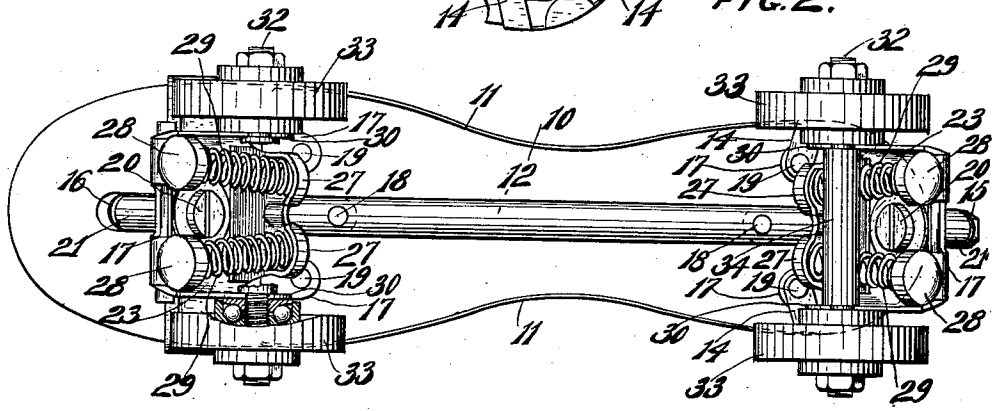


FIG. 3.

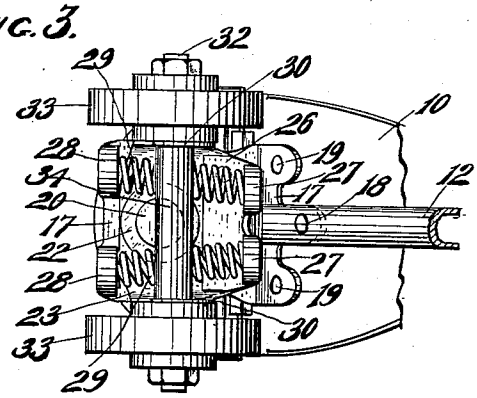
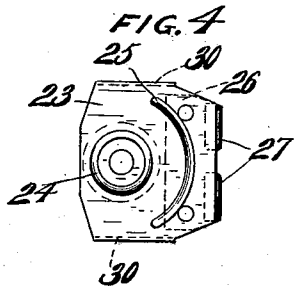


FIG. 4



WITNESSES.

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ROLLER-SKATE.

1,018,512. Specification of Letters Patent. Patented Feb. 27, 1912.

Application filed May 18, 1910. Serial No. 561,950.

To all whom it may concern:

Be it known that I, EBERHARD F. MEES, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Roller-Skates, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to roller skates in which the wheel trucks are held in their normal central position by means of coil springs.

The invention further has for its object to perfect details of construction of such roller skates.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in the different views: Figure 1 is a side elevation partly in section of a roller skate constructed in accordance with this invention; Fig. 2 is a plan view of a skate inverted, the front axle being broken away; Fig. 3 is a view looking at one of the trucks on the line of its pivotal axis; Fig. 4 is a detail view of the bearing plate; and Fig. 5 is a detail view of the heel end of the skate body.

In these drawings 10 indicates a skate body preferably stamped from sheet metal with its central narrowest portion reinforced by downwardly turned edges 11 and a strengthening rib 12 running medially therebeneath and bent to a U-shape in cross section as shown in Fig. 3. The usual toe clamps 13 and heel strap plate 14 are provided. The heel end of the body plate is provided with a rearwardly extending lug 15 which is bent downwardly at an incline and the toe portion of the body plate is likewise provided with a lug 16 cut from the intermediate portion thereof and also bent downwardly at an incline, these two lugs being in different slanting positions as shown in Fig. 1. For the front truck, an angularly bent bracket plate 17 is secured to the body plate by a rivet 18 which connects the strengthening rib 12 thereto and also by other rivets 19, so that it is rigidly fixed to the bottom of the body plate and stands in an inclined plane parallel with the plane of the lug 16. A pivot bolt 20 passes through registering openings in the bracket plate 17 and the lug 16 with its head downward and is surrounded by a tubular spacing sleeve 21 bearing at its ends against the bracket plate 17 and the lug 16 respectively. A washer 22 fits on the bolt 20 against the head thereof, and between said washer and the under side of the bracket plate 17 is a bearing plate 23 pivotally mounted on the bolt 20 and having a concentric circular rib 24 and a concentric arc shaped rib 25 pressed therefrom to bear against the bracket plate and reduce the friction of the truck turning on its pivot. Either formed by the bearing plate 23 or constituting a separate member 26 riveted thereto, as shown, are a pair of cup shaped spring seats 27 bent up from the sheet metal, as shown in Fig. 1, and the lower end of the bracket 17 is similarly provided with opposing cup shaped spring seats 28 bent up therefrom and coil springs 29 are mounted in these spring seats 27 and 28. These springs hold the bearing plate 26 with spring pressure in an intermediate normal position, while permitting it to swing on its pivotal bolt 20 in either direction when sufficient pressure is brought thereon to overcome the pressure of one of the springs, such spring serving to restore the bearing plate to its normal position as soon as relieved. The bearing plate 23 has arms 30 bent downwardly at its opposite ends so that said plate is of a U-shape in cross section. The arms 30 have approximately vertical slots 31 cut therein to receive the axle 32 of a pair of ball bearing rollers or wheels 33, there being a spacing sleeve 34 surrounding the axle and bearing at its ends against the inner faces of the arms 30 so that the usual cone members of the ball bearings of the wheels, which are threaded on the axle, may clamp said arms between them and the ends of the spacing sleeve 34.

The rear truck is of the same construction as the front truck with the exception that the spacing sleeve 21′ thereof is made of sheet metal bent to a cylindrical form and having its ends 35 continued side by side to fit against the heel portion of the body plate to give strength and rigidity to the truck frame.

In operation the skate of this invention is adapted to have its trucks swung in opposite directions for turning upon a pressure being brought to bear on one side or the other of the body plate, but the means for returning the trucks to their normal position when the pressure is relieved is not of rubber, as

heretofore, but is of metal which will be unaffected by lubricating oils as with the rubber cushions. Furthermore the metal spring does not lose its resiliency with age, as is true of the rubber cushion. The inclined pivotal axis of the trucks is formed in such a manner as to assure the strength and rigidity of the bearing supports, and all parts being stamped from sheet metal are strong and durable while being inexpensive to construct.

What I claim as new and desire to secure by Letters Patent is—

1. A roller skate, comprising a sheet metal body plate, inclined lugs bent therefrom, bracket plates secured to the body plate and standing in planes parallel with the lugs, pivot bolts connecting the bracket plates with the lugs, spacing sleeves surrounding the pivot bolts and bearing against the bracket plates and the lugs, bearing plates pivotally mounted on the pivot bolts and bearing against the bracket plates, wheels mounted on the bearing plates, cup shaped spring seats formed on the bracket plates and the bearing plates at opposite sides of the pivot bolts, and coil springs with their ends mounted in the cup shaped spring seats for holding the bearing plates in a normal position.

2. A roller skate, comprising a body plate, lugs projecting therefrom, inclined bracket plates secured to the body plate, pivot bolts connecting the bracket plates with the lugs, spacing sleeves surrounding the pivot bolts and bearing against the bracket plates and the lugs, bearing plates pivotally mounted on the pivot bolts and bearing against the bracket plates, wheels mounted on the bearing plates, spring seats on the bracket plates and the bearing plates at opposite sides of the pivot bolts, and coil springs with their ends mounted in the spring seats for holding the bearing plates in a normal position.

In testimony whereof, I affix my signature, in presence of two witnesses.

EBERHARD F. MEES.

Witnesses:
R. S. C. CALDWELL,
ALMA A. KLUG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."