E. F. MEES.

ROLLER SKATE.

APPLICATION FILED AUG. 6, 1908.

918,575. Patented Apr. 20, 1909.

FIG. 1.

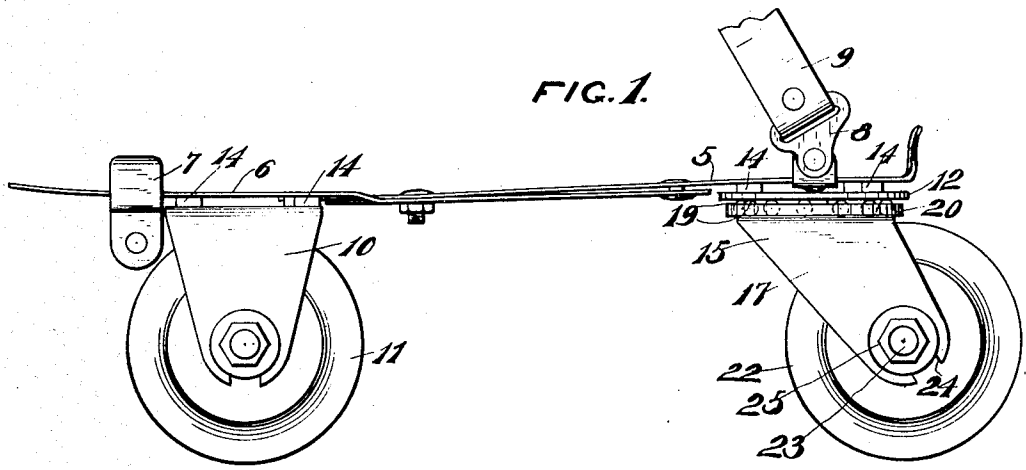


FIG. 2.

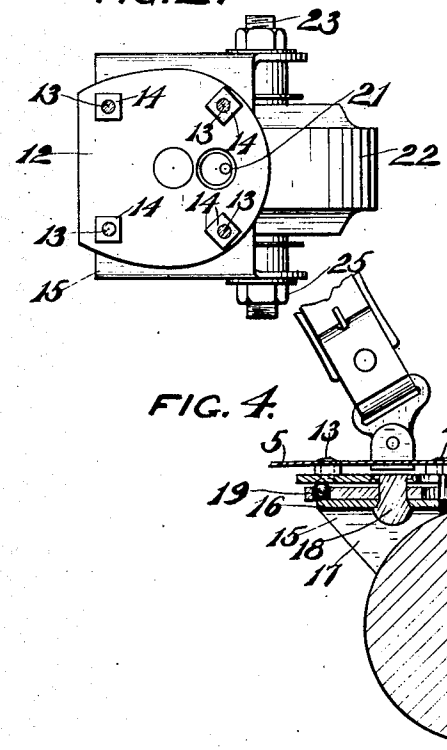


FIG. 3.

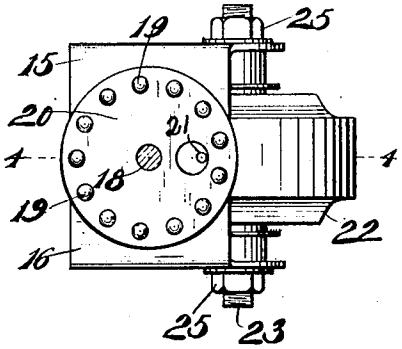


FIG. 4.

WITNESSES.

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ROLLER-SKATE.

No. 918,575. Specification of Letters Patent. Patented April 20, 1909.

Application filed August 6, 1908. Serial No. 447,269.

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.

My invention relates to improvements in roller skates, the invention being directed to the production of skates by which an especially nicely balanced support and ease of movement are secured, the ease of movement including a minimum of friction, few and narrow points or lines of support, and adaptability for easy but successful shifting, turning or guiding of the skate or skates, whereby also an especially easy and graceful movement of the user of the skates may be accomplished.

The invention consists of the skate, its parts and combination of parts as herein described and claimed, or the equivalents thereof.

In the drawings, Figure 1 is a side elevation of the complete skate; Fig. 2 is a plan, looking down on the bearing plate, the rear truck and wheel; Fig. 3 is a similar plan, looking down on the ball bearing, the bearing plate of Fig. 2 being omitted; and Fig. 4 is a longitudinal section of the rear portion of the skate on line 4—4 of Fig. 3.

Referring to the drawings, 5 indicates the heel plate, and 6 the toe plate, the two plates, secured to each other medially adjustably, forming the foot plate of the skate. Secured to the toe plate there is a boot clamping device 7, and to the heel plate are secured lugs 8 to which an instep strap 9 is attached.

Near the front end of the skate a wheel truck 10 is secured rigidly to the toe plate, the truck being advisably constructed of sheet steel, two ends of which are turned down and form bearings for the axle of the front single wheel 11, the wheel being substantially like the rear wheel, which is shown in detail on the drawings and is hereinafter described.

A bearing plate 12, located under the rear portion of the heel plate, advisably of steel, is secured thereto at a little distance therefrom by rivets or pins 13 fixed in the bearing plate and passing through blocks or struts 14 interposed between the bearing plate and the heel plate, and through and headed down in the heel plate.

A rear truck 15, constructed advisably of sheet steel, so cut out and shaped as to form a medial flat bed 16 and two legs 17 at the lateral edges of the bed extending downwardly and in an oblique direction rearwardly from the bed, is swiveled to and under the plate 12 by a stud pivot or arbor 18, fixed centrally in the bed and projecting up into and rotatable centrally in the plate. Steel balls 19, serving as bearings, are interposed between the plate 12 and the bed 16, which balls are held in place by a ball-holding metal disk 20, the disk being provided with cylindrical holes through it that receive the balls loosely therein, the series of ball holes being arranged annularly in the disk. The pivot 18 passes through the disk centrally, and this ball-holder 20 is oscillatable about the pivot, the extent of the oscillation being limited, as well as the oscillation or swiveling movement of the rear wheel truck, by an upright stud pin 21 fixed in the bed 16 and projecting up through an aperture in the disk 20 and into an aperture in the plate 12. These apertures in the disk 20 and the plate 12 are of a size to permit of such swing of the pin 21 therein as the truck and the ball-holder respectively should have.

The single wheel 22 in this rear truck 15, is mounted centrally and revolubly between the legs 17 on the axle 23. The axle has its seat in the legs against the walls of recesses 24, and is held in place by nuts 25 turning on the extremities thereof against the exterior sides of the legs. The tread of the wheel is preferably straight or flat transversely of the wheel.

In use, the operation and function of steering of the rear wheel 22, are of especial and essential value, and these qualities are secured by the pivoting of the truck bed 16 to the relatively rigid bearing plate 12 by the arbor 18 at a right angle respectively to the bed and plate, and by the inclination of the legs 17 of the truck rearwardly whereby the wheel 22 has its axis of rotation and support at the rear of the axis of the arbor 18. Because of this construction, when the skate is secured to the foot of a person and is in use, on pushing the foot laterally while going forward, and as the heel is slightly raised in a manner usual in this movement in skating, the rear trailing wheel will be swung laterally to an angle to the forward line of travel of the

foot, thereby giving the foot a proper support in such movement and at the same time asserting such steering impetus as is at that moment desired and as is then valuable. This construction and mounting of the truck are most valuable in combination with a single wheel in each truck, as in such a skate there is no need for a pivot or fulcrum above the truck permitting a lateral swing of the person or skate trucks relative one to the other, since the single wheels, like the thin edge of the elongated runner of an ice skate, form the fulcrum for lateral swing along the line of contact with the surface on which the skate is running.

What I claim as my invention is:

1. In a roller skate, a heel plate, a bearing plate parallel with and secured rigidly to the heel plate, a wheel truck pivoted by a pivot at a right angle with the heel plate and swiveling thereby on the bearing plate and having a pair of downwardly and rearwardly projecting legs, and a single wheel axled in the two legs of the truck and rearwardly of the axis of the truck pivot.

2. In a roller skate, a heel plate, a bearing plate, blocks interposed between the heel plate and the bearing plate, means securing the bearing plate and the blocks rigidly to the heel plate, an integral metal wheel truck pivoted by an upright pivot to and swiveling on the bearing plate, and a single wheel axled in legs of the truck at the rear of the axis of the truck pivot.

3. In a roller skate, a heel plate, a bearing plate secured rigidly to the heel plate, a truck having a medial bed and legs depending therefrom, a pin whose axis is at a right angle to the heel plate pivoting the truck oscillatably to the bearing plate, ball bearings and a ball-holding disk interposed between the bearing plate and the bed of the truck, and a single wheel mounted revolubly in the legs of the truck and at the rear of the truck pivot.

4. In a roller skate, a heel plate, a bearing plate rigid to and parallel with and below the heel plate, a wheel truck, having a medial bed parallel with the bearing plate and legs depending therefrom, means pivoting the bed of the truck to the bearing plate, a pin fixed in the bed of the truck and projecting into a hole larger than itself in the bearing plate limiting the extent of the swiveling of the truck on the heel plate, and a wheel axled in the legs of the truck at the rear of the truck pivot.

5. In a roller skate, a heel plate, a bearing plate rigid to and under the heel plate, a wheel truck having a medial bed and legs depending therefrom, a stud pivoting the bed of the truck to and parallel with the bearing plate, a loosely interposed bearing balls-holder disk pivoted on said stud, balls in said disk, a pin fixed in the bed of the truck and projecting through an aperture somewhat larger than itself in the bearing balls-holder disk and into a hole somewhat larger than itself in the bearing plate limiting the extent of the swiveling of the bearing balls-holder disk and of the truck on the heel plate, and a wheel axled in the legs of the truck.

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

EBERHARD F. MEES.

Witnesses:

ANNA F. SCHMIDTBAUER,

A. L. MORSELL.