

No. 618,890.

Patented Feb. 7, 1899.

W. MEEKER.
SKATE WHEEL.

(Application filed Jan. 12, 1898.)

(No Model.)

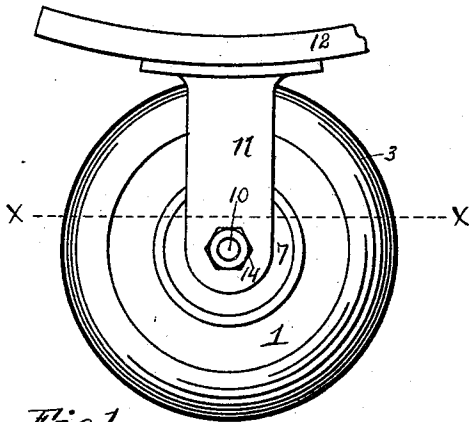


Fig 1.

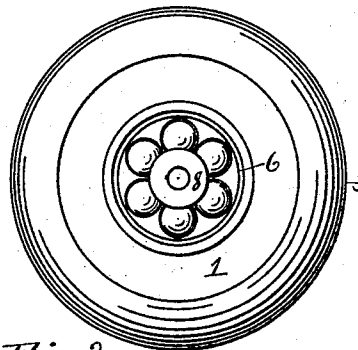


Fig 2.

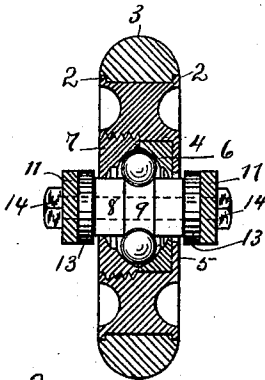


Fig 3.

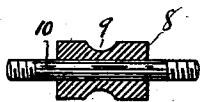


Fig 5.

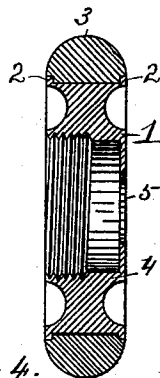


Fig 4.

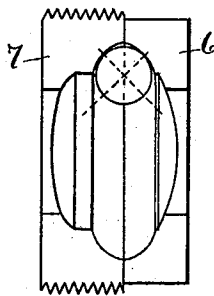


Fig 6.

WITNESSES:

H. B. Nevins
Wm. Voss.

Wm Meeker,
INVENTOR:
By R. J. Mastey,
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM MEEKER, OF DAYTON, OHIO, ASSIGNOR TO THE MEEKER
MANUFACTURING COMPANY, OF SAME PLACE.

SKATE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 618,890, dated February 7, 1899.

Application filed January 12, 1898. Serial No. 666,412. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MEEKER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Rollers for Roller-Skates; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in rollers for roller-skates.

The object of said invention is to provide a roller for skates that is entirely free from any sidewise or lateral motion when rolling, whereby the wear thereon is reduced to a minimum and the life of the roller very much prolonged; and also a roller that is free from any sidewise movement is found to run much freer and does not bind in making turns.

To the foregoing ends the invention has reference to the structural features hereinafter fully described in the specification and shown in the accompanying drawings, of which—

Figure 1 is a side elevation of one of my improved rollers attached to a skate. A portion of the latter is broken away. Fig. 2 is a side elevation with one of the ball-cones removed. Fig. 3 is a section on the line $x x$ of Fig. 1. Fig. 4 is a section of the roller proper with the ball-cones removed. Fig. 5 is a sectional view of the sleeve, the shaft appearing in full therein. Fig. 6 is a diagrammatic view showing more clearly the essential points of contact of the balls with the cones.

The metallic roller 1 has two annular side flanges 2 2 and a vulcanized-rubber rim or tire 3, which is molded thereon, so that it is one inseparable part of the roller. The hub 4 has an integral flange 5 at one side in a plane with the side of the rim, and which provides a cone-retaining wall and reduces the diameter of the opening in that side of the hub. The ball-cone 6 is placed in the hub against this flange, which forms the outer retaining-wall for said cone. A portion of the

opening in the hub is provided with screw-threads that engage with the other ball-cone 7. The latter cone is screwed into the hub of the roller in contact with cone 6, and when the said cones are so placed there is a ball-race formed around the center of the interior of the hub. The openings in the cones are necessarily of the same diameter as the opening in the flange's side of the hub, so that when the said cones are placed therein there is a uniform opening through the said hub. In order to maintain the balls in this central position at all times, it is essential that the cones be so ground that the outer portions only of the balls on each side will come in contact therewith, and that the outer centers of the said balls will be at all times free from any contact with the cones. The bearing is thus equalized on two opposite points of the balls, which has the effect of keeping said balls in the center. This is clearly illustrated in the diagram Fig. 6, where it will be seen that the contact is the same on both sides of the ball, and that there is a space between the outer centers of the balls and the cones. This enables the employment of a single row of balls in the center of the roller. The dotted lines crossing each other from the points of contact of the balls with the cones represent the lines of force meeting in the center of the balls.

8 designates a sleeve which has a central ball-groove 9 in which the balls run. The ends of this sleeve lie flush with the sides of the hub, one of said ends being exposed through the opening in the flange 5. The opening in the sleeve 8 extends entirely through it and receives a spindle 10.

As before stated, owing to the above-specified construction the balls are always maintained in the central position shown in Fig. 3. The spindle 10 upon which the sleeve is mounted has its ends projected out beyond the sides of the roller to receive the hangers 11 11. These hangers are secured to the skate 12, and their lower ends inclose the side of the rollers. The lower ends of said hangers have a boss 13, which are tightened against the ends of the sleeve 8 by nuts 14 14, and thereby the said sleeve is held in a fixed position with no liability of its moving.

Having described my invention, I claim—

1. In a roller-bearing for roller-skates, the combination with a hub having a vulcanized-rubber tire, and a flange 5 flush with one side
5 of said hub and reducing the opening in that side of the said hub, of the ball-cones 6 and 7 having openings similar in diameter to the said reduced opening in the flanged side of
10 the hub, the former of said cones being held in position by the flange 5, and the latter of said cones having a screw-threaded engagement with said hub and abutting with the
15 cone 6, balls held in a central position in said cones, a sleeve passing entirely through the openings in said cones and hub with its ends projected out beyond the sides thereof, the
20 said sleeve having an annular groove around its center for the balls, substantially as described.
2. In a roller for roller-skates, the combination with a metallic hub having a vulcanized-rubber tire fixed thereto, and a flange 5 on one end partly closing the opening therein, of
ball-cones 6 and 7, and balls therein, the for-

mer of said cones being held in position by 25
said flange, and the latter having a screw-threaded engagement with said hub, the interior of said cones being so ground that a
portion only, of the outer sides of the balls is 30
permitted to come in contact with said cones, and the intervening portion of said balls will
be free from any contact, a sleeve having a central annular ball-groove forming the inner
bearing for the balls, the ends of said sleeve 35
being projected beyond both sides of the hub, a spindle passing entirely through said sleeve,
and hangers mounted on said spindle and adapted to be tightened against the ends of
the sleeve to hold it against any rotary or lateral movement, substantially as described. 40

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

WILLIAM MEEKER.

Witnesses:

JOHN W. KALBFUS,
R. J. McCARTY.