

(No Model.)

B. KINDBLADE.

## ROLLER SKATE.

No. 299,799.

Patented June 3, 1884.

Fig. 1.

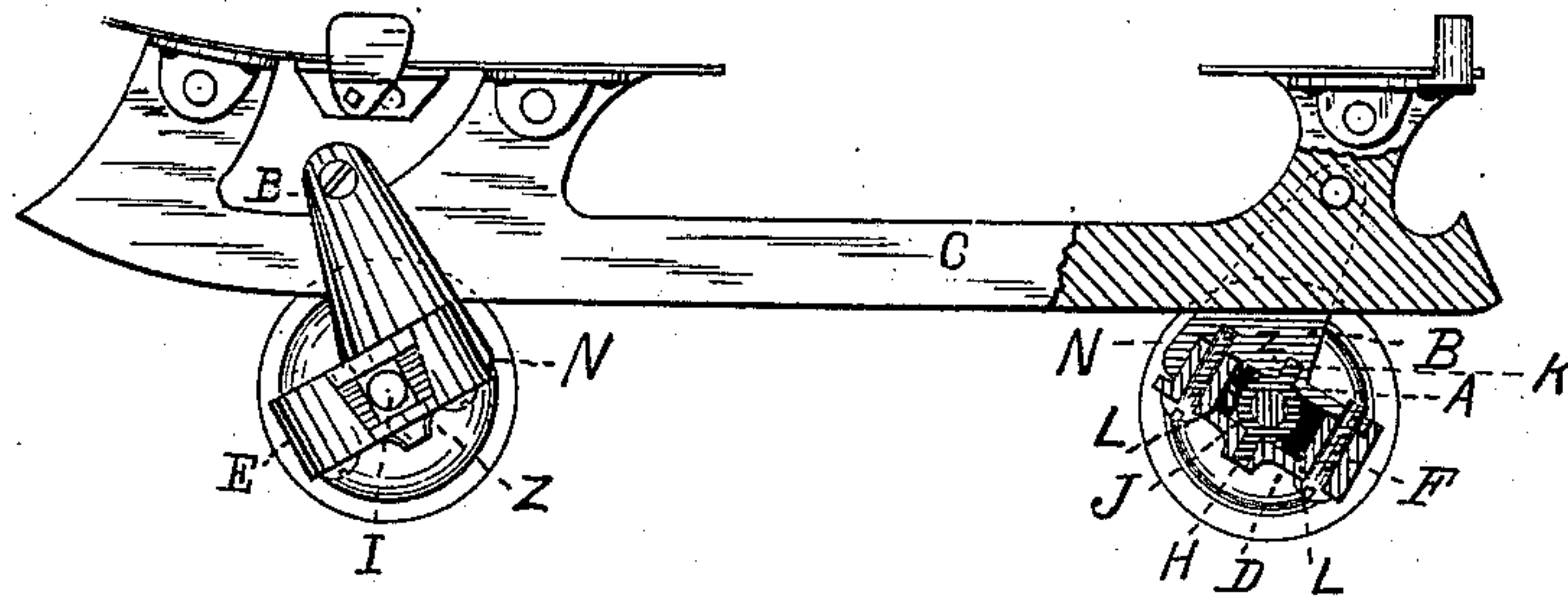


FIG. 2.

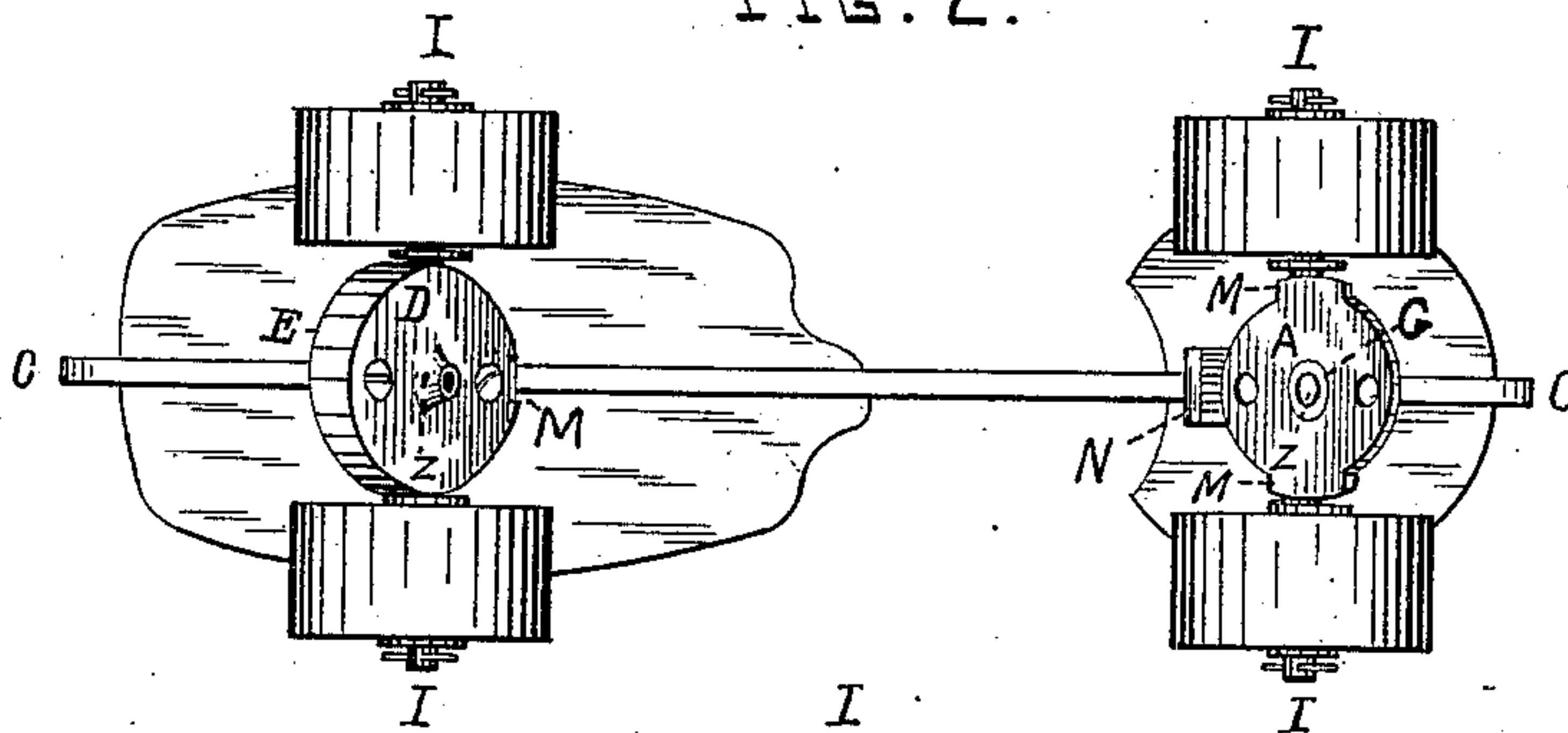


FIG. 3.

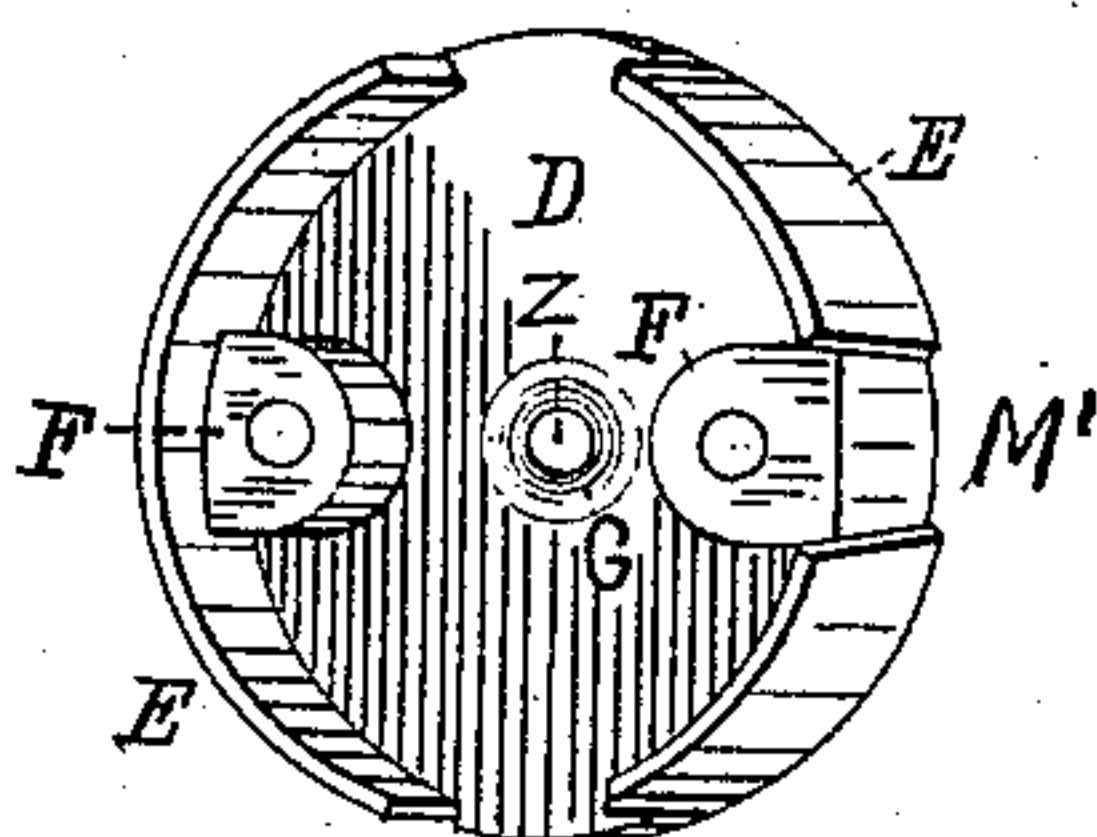
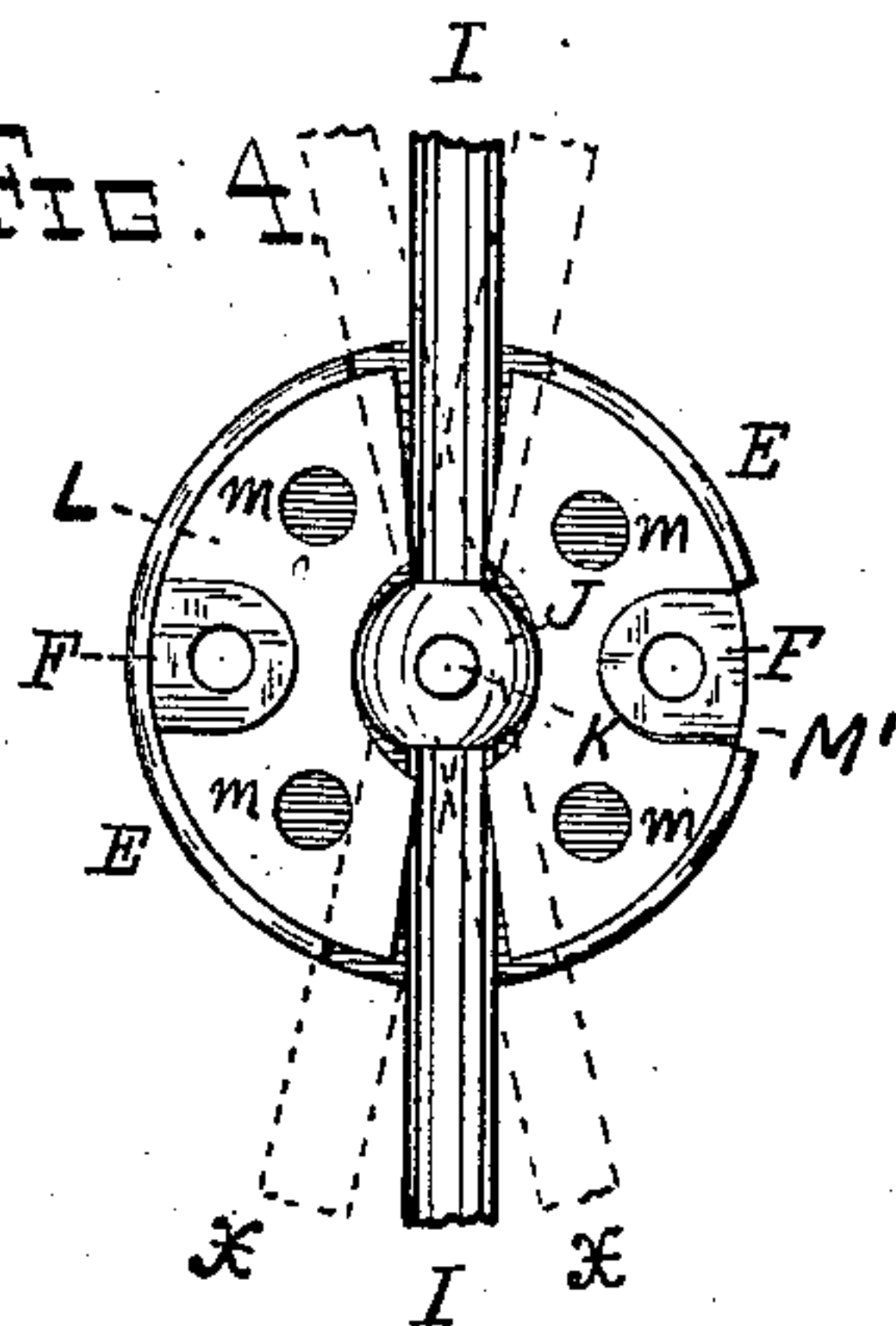


FIG. 4



**WITNESSES:**

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BENNETT KINDBLADE, OF BATAVIA, ILLINOIS.

## ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 299,799, dated June 3, 1884.

Application filed March 11, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, BENNETT KINDBLADE, of Batavia, in the county of Kane and State of Illinois, have invented new and useful Improvements in Roller-Skates, of which the following is a specification, reference being had to the accompanying drawings, in which like parts in the different figures are marked with like letters of reference.

10 The present invention relates to an improvement in that class of skates which run on pairs of rollers in contradistinction to ice-skates which run on runners.

15 The especial invention consists in novel means for giving to the rollers oblique movements, both with reference to horizontal and vertical planes of the foot-plate. These movements are essential to the proper movement of the skate, and they are attained in various 20 ways and on different principles, among the most practical of which are the caster-rollers, whose diverging movements are attained by the connections which hold the caster-frames to the foot-plate, and in many styles of skates 25 the axle-trees of the wheels are provided with hole-bearings, which receive king-bolts projecting diagonally down from the foot-plate. I therefore disclaim to have any invention in skates where the king-bolts or pivots pass 30 through the axle-trees, or whose caster-frames are pivoted to the foot and support the rollers.

35 Figure 1 is an elevation of an ice-skate with my improved roller device attached; Fig. 2, an inverted view of a foot-plate with the improved devices attached thereto; Fig. 3 a perspective representation of the box-plate removed from the upper stationary plate; Fig. 4, a plan view of the box-plate with the rubber cushions therein, and the axle-tree in position and detached from the upper plate. 40

The upper plate, A, to the axle-case is substantially circular in form, and is a part of the casting which forms the shank B, and the shank is slotted out vertically to engage the runner 45 C, where the device is to be attached to an ice-skate.

50 The box-plate to the axle-box consists of a disk, D, two segment-flanges, E, screw-lugs F, and a bearing, *z*. The axle consists of arms I I, and a ball-center, J, which is formed with pivots H K on its opposite sides, to enter, re-

spectively, suitable bearings in the plates A D. To give to box-plate D a proper bearing on the plate A and shank B, a lug, N, extends down from the shank, and engages a groove, 55 M', in one of the segment-flanges E and the upper plate, A, and the upper plate, A, has formed on its opposite edges segment projections M, which fit in between the flanges E, leaving a depth between the plates A D for the axle- 60 arms freely to swing. A rubber spring, L, is placed on both sides of the axle-arms I and ball J, and inside the flanges E, and made nicely to fill the parts and come as high as or higher than the upper sides of the lugs F, so that when the 65 upper plate, A, is in position on the box-plate, the rubber will be somewhat compressed laterally, the better to act on the arms I I.

In practice the upper and lower parts of the ball J are to be recessed into the plates A D far 70 enough to bring them to the arms I I, and thus hold them in position to swing to the positions shown by dotted lines *x*, Fig. 4—that is, to swing between the flanges E, which govern the oblique movement of the axle. Where an 75 easier movement of the axle is desired holes *m m* may be made through the rubber, as shown at Fig. 4. By this means of construction the axle can be readily removed simply by detaching the plate D. 80

Coil-springs may be used instead of the rubber to operate the arms I I; but I prefer rubber for the reason that they fill the spaces between the flanges E and axle.

85 The advantage of this device is that the movement is all within the case A D E, where the parts are so cushioned that there is no liability of lost motion or rattling of parts; and as the ball J is supported both by the pivots H K, and the seats G, which the ball has in the 90 plates A D, there is no liability of the axle being displaced by any movement it may have.

Where the cases A D are to be attached to a foot-plate instead of an ice-skate, the shank B may terminate in any form at its upper end 95 convenient for receiving rivets to secure them in place.

I claim and desire to secure by Letters Patent—

1. An axle-pivot for roller-skates, consisting of the ball J, rigidly attached to the arms 100 I I, and provided with pivots H K, which

have bearings  $z z$ , respectively, in the plates A D, and the ball J, having concave seats G in said plates, as and for the purpose specified.

2. In an improvement in roller-skates, the case consisting of the plates A D, the plate D, provided with the segment-flanges E E, screw-lugs F F, concave bearings  $z$ , in combination with the ball-axle J I I, and rubber L, as specified.

10 3. In roller-skates, the two-plated case A D, with the lugs F, countersunk to the thickness of the plate A below the upper margins of the flanges E, to allow plate A to come down

to the arms I I, and the lug N, projecting down from the plate A and engaging the 15 groove M' in one of the flanges E, to assist in preventing the plate D from rotating, as specified.

4. In roller-skates, the case A D, combined with the shank B, to form an attachment to a 20 skate-runner or the foot-plate of a skate, as specified.

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Witnesses:

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