(No Model.)

J. H. DAVIS.

ROLLER SKATE.

No. 328,198. Patented Oct. 13, 1885.

FIG. 1.

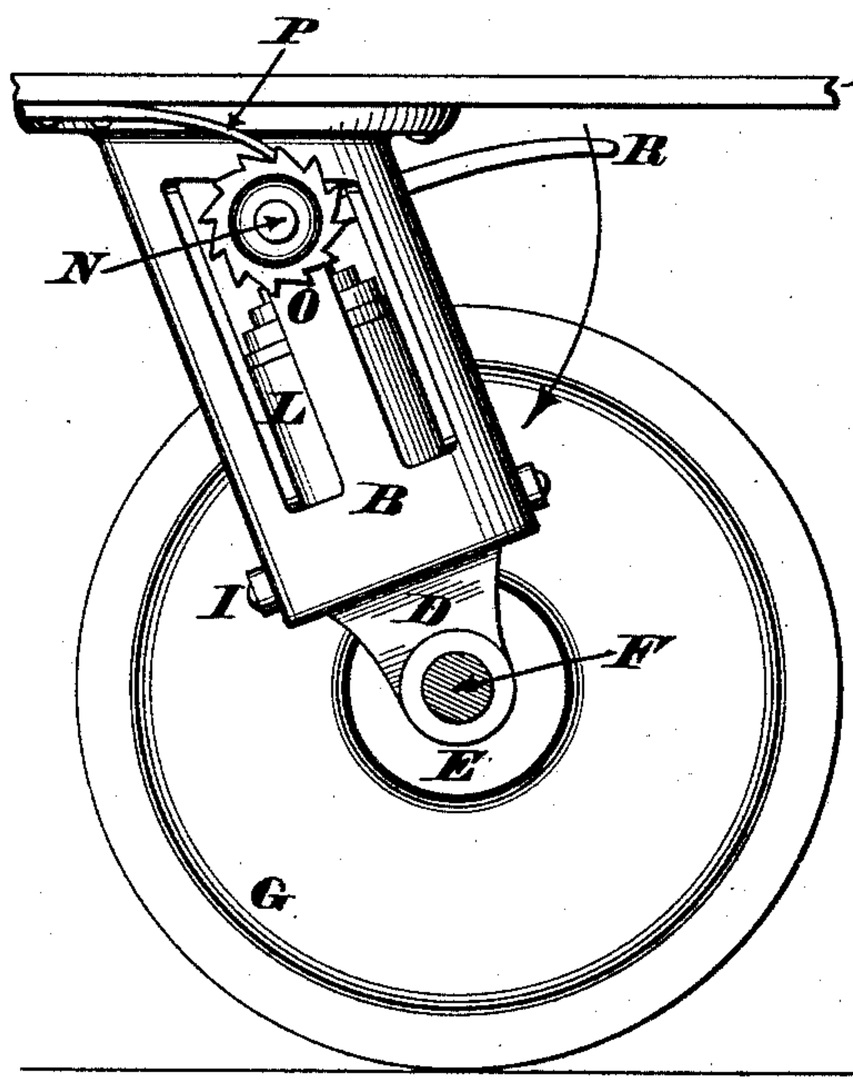


FIG. 2.

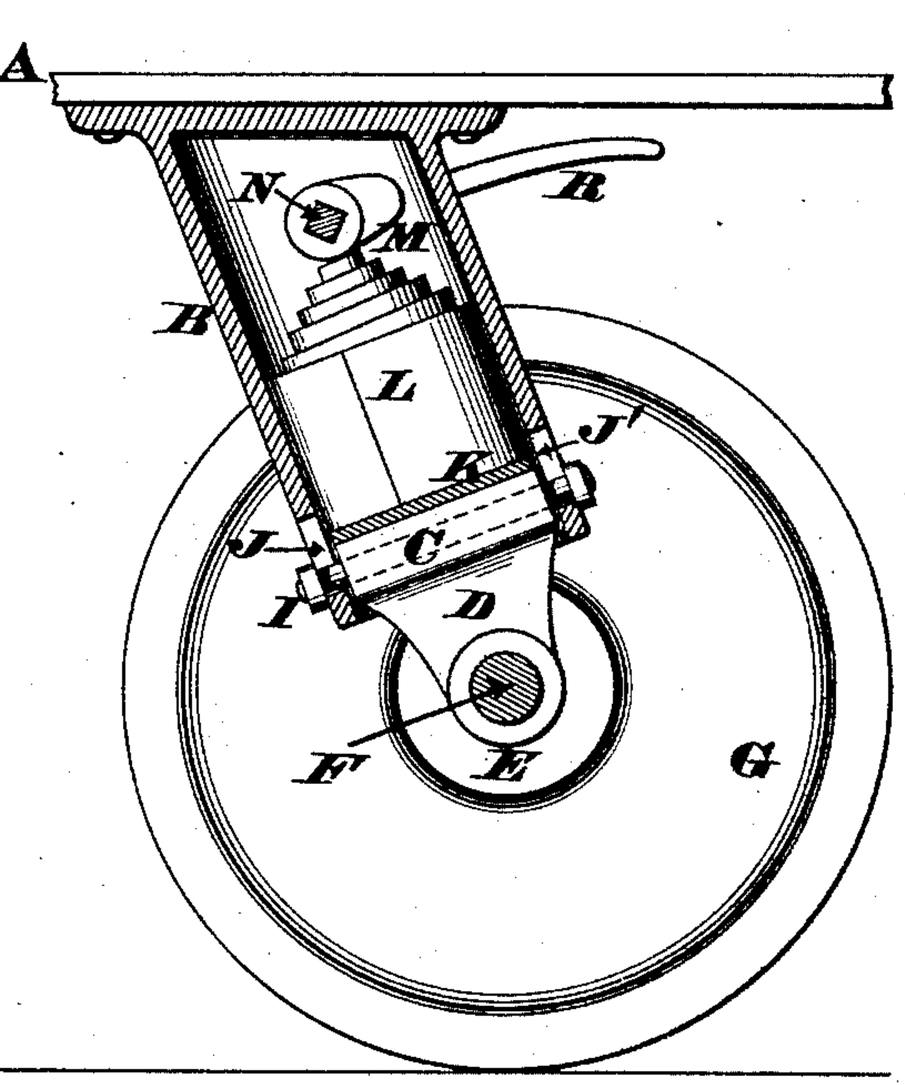


FIG. 3.

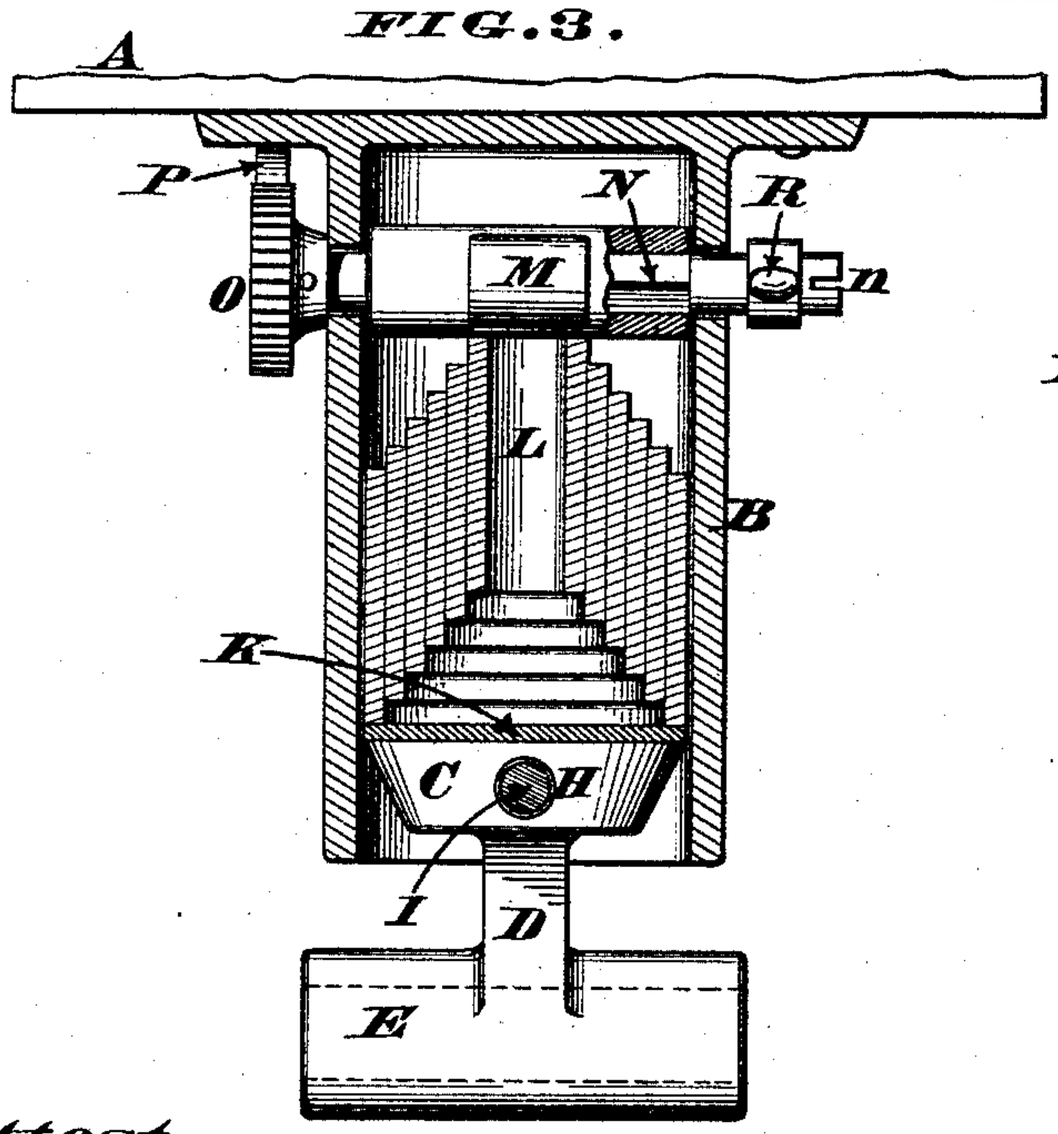
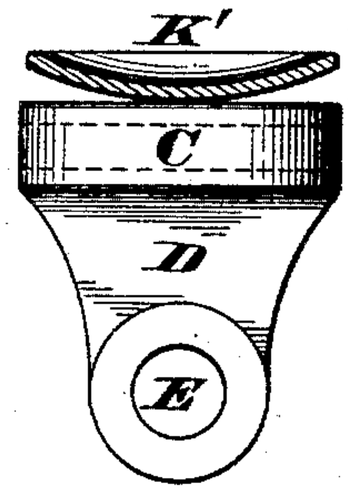


FIG. 4.



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ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 328,198, dated October 13, 1885.

Application filed July 13, 1885. Serial No. 171,486. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. DAVIS, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification, reference being had therein to the accompanying drawings.

The first part of my invention consists in fitting a peculiarly-constructed coiled spring within a tubular housing constituting part of a roller-skate truck, said spring being so arranged as to bear exclusively upon the margin of a head at the upper end of a swivel within which the axle or shaft is journaled. By this expedient a very regular and easy action of the spring is effected, the tension thereof being regulated by means of a cam, eccentric, or other adjusting device fitted within the upper end of the tubular housing and adapted to bear on the apex of said spring. When a cam is employed, it is operated by an external lever or other convenient device, and is held to any specific adjustment by a spring-pawl and ratchet, the latter being on the outside of the tubular housing, as hereinafter more fully described.

The second part of my invention consists in providing this tubular housing with a pair of diametrically-opposite slots that receive the pivot wherewith the swivel-head is coupled to said housing, the object of these slots being to permit a limited vertical play of said swivel, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of a portion of a roller-skate embodying my improvements, the near roller being omitted and the axle being sectioned. Fig. 2 is a vertical section of the tubular housing, the coiled spring and swivel-head being shown in elevation. Fig. 3 is an enlarged section of said housing, taken in the plane of the cam-shaft. Fig. 4 shows a modification of the invention.

A represents a portion of the sole-plate or foot-board of a roller-skate of any approved construction, said plate having secured to it at a proper angle the tubular housing B previously alluded to. This housing may be made in the shape of a cage, as seen in Fig. 1, or it may be a cylinder with closed sides, as represented in Figs. 2 and 3, but, whichever construction is adopted, the lower end of said housing must be open to admit the disk or head C of the swivel-bearing D, the latter being provided with an elongated bearing, E, to receive the shaft or axle F of a pair of ordinary rollers, of which one is seen at G. Head C is pierced at H to admit a pivot, I, disposed longitudinally of the skate, the opposite ends of said pivot being arranged to play vertically within the slots J J′ of the housing or tube B. These slots are diametrically opposite each other, and are located near the lower end of said tube or cylinder.

Resting either directly upon the head H or upon a washer, K, applied thereto, is a coiled spring, L, that plays with the tube B. Reference to Fig. 3 shows that the various coils of said spring fit very snugly one within the other, the coils being arranged in an ascending series. As a result of this peculiar construction, the under side of the spring is dished or concaved, while the upper side thereof gradually ascends in the shape of a cone, whose apex preferably bears against a cam or eccentric, M, fitted within the housing B. This cam rides upon the square portion of a shaft, N, journaled in the housing B, one of the outer ends of said shaft having applied to it a ratchet-wheel, O, with which is engaged the free end of a spring-pawl or detent, P, the fixed end of the latter being secured either to said housing or to the under side of the sole-plate A. The opposite end of shaft N has a lever, R, wherewith said shaft can be turned as occasion may require. Reference to Fig. 3 shows that the lower coil only of the spring L bears upon the swivel-head C, and near the outer margin thereof, thereby obviating the friction incidental to the use of a spring extending across the entire surface of said head. This bearing of the spring on the margin of the head, while the apex of the former rests against the cam M, renders the spring unusually sensitive, and permits the sole-plate A to turn readily on the pivot I that couples the swivel to the tubular housing; but if the sole-plate should yield too readily the free end of lever R is swung down, as indicated by the arrow in Fig. 1, which act compresses the spring to any desired extent that will adapt the skate to the

weight of the wearer, the ratchet O and pawl P preserving this tension as long as may be necessary.

The object of the slots J J′ is to permit a slight vertical play of the swivel within the housing B whenever the rollers come in contact with any obstruction, thereby diminishing the dangers incidental to roller skating, as this play of said swivel deadens the concussion and prevents the skater being thrown down.

If desired, the shaft N can have a nick, *n*, in one end thereof to receive a screw-driver, thereby dispensing with the lever R; or said shaft may have a square end to receive a socket-wrench, as it is immaterial how the shaft N is turned, provided it is accomplished by some external device that can be used without removing the skate.

Finally, the washer, instead of being flat, as seen at K in Figs. 2 and 3, may be concave, as represented at K′ in Fig. 4.

I claim as my invention—

1. The combination, in a roller-skate truck, of tubular housing B, pivot I, swivel-head C D H, and coiled spring L, the latter being dished on its under side and bearing wholly on the margin of said head C, and the apex of said spring being in contact with an adjusting device fitted within the upper end of said housing, for the purpose described.

2. The combination, in a roller-skate truck, of tubular housing B, vertical slots J J′, pivot I, swivel-head C D H, and coiled spring L, the latter being arranged to operate as herein described.

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

JOHN H. DAVIS.

Witnesses:
JAMES H. LAYMAN,
WILLIAM WINKLESS.