J. H. BOWEN.
Roller-Skates.

No. 208,508. Patented Oct. 1, 1878.

Fig. 1.

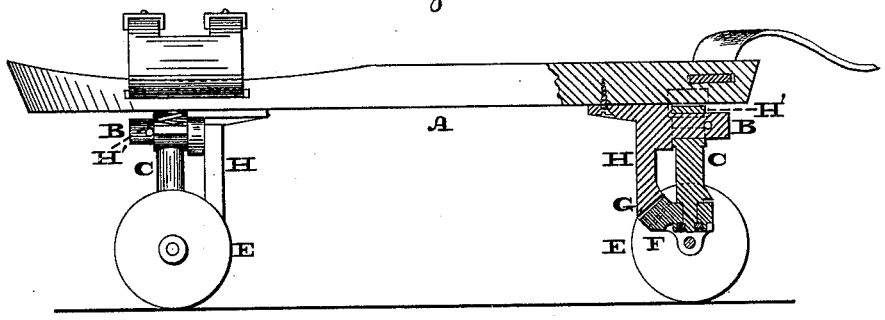


Fig. 2.

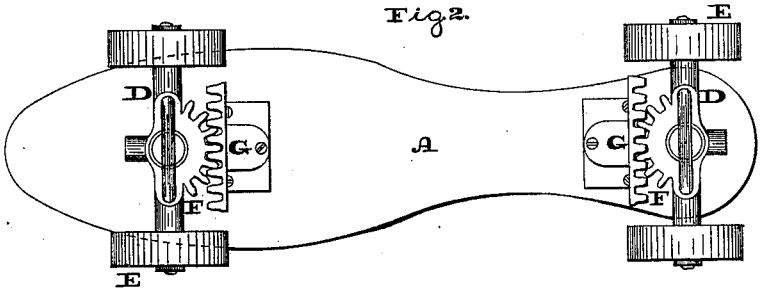
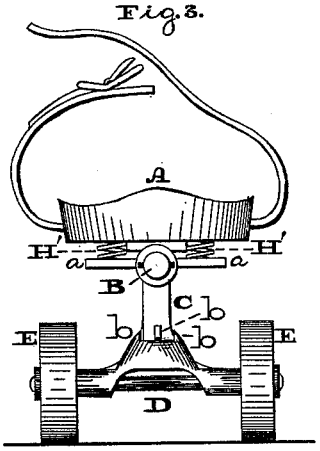


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES H. BOWEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ROLLER-SKATES.

Specification forming part of Letters Patent No. **208,508**, dated October 1, 1878; application filed June 4, 1878.

To all whom it may concern:

Be it known that I, JAMES H. BOWEN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Roller-Skates, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation, partly sectional, of the skate embodying my invention. Fig. 2 is a bottom view thereof. Fig. 3 is a front view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to a roller-skate whose rollers or wheels are mounted on axles, which may be readily turned laterally by the weight of the body thrown to the side, so as to change direction of skating.

I employ horizontally-arranged spindles, which rotate on vertical posts, to whose lower ends are journaled the axles of the rollers, the hubs whereof are formed with toothed segments, which engage with toothed segments suspended from the foot-rest, whereby, as the foot-rest is inclined, motion is imparted to the suspended segments, which, gearing with the toothed segments of the axles, cause the latter to turn from their right-angular positions, and thus change the direction of the skate laterally, as desired, the construction and operation of parts being hereinafter more fully set forth.

Referring to the drawings, A represents the tread or foot-rest of the skate, which is provided with straps or other suitable fastenings. B represents spindles, which are secured to the under side of the rest, and project horizontally in opposite directions. C represents vertical posts, whose upper ends are mounted on the spindles B, and to their lower ends there are journaled the axles D of the rollers E.

A portion of the hub of each axle D has formed with or secured to it a toothed segment, F, which meshes with a toothed segment, G, on a vertical arm, H, suspended from the foot-rest.

It will be noticed that the segments F project horizontally in opposite directions. On the upper ends of the posts C there are laterally-projecting wings *a*, between which and the foot-rest there are interposed coiled rubber or other springs H′, which are secured in position in any proper manner.

When the skating is straightforward, the front and rear axles are parallel or at right angles to the length of the foot-rest. When, however, it is desired to change direction laterally or describe a curve, the body of the skater is thrown to the relative side. This inclines the foot-rest, and consequently the arms H; the segments G whereof, meshing with the segments F of the axles, turn the latter from their right-angular position, the effect of which is to cause the two axles to assume different angles, so that the rollers on one side approach each other, and those on the opposite side recede from each other, whereby, while the rollers remain on the ground or floor, their paths of motion are changed to the right or left relatively to the incline imparted to the body in the direction desired to proceed.

When the body is again brought upright, the rollers assume their normal positions, the springs H′ assisting the operation, and the skating will be due ahead or forward. The springs H′ also provide a cushion between the foot-rest and rollers, and intermediate parts for preventing strain thereon and easing the operation of skating.

In order to limit the swing of the axles, stops *b b b* are formed on proper parts of the hubs of the axles and the posts C, which are so disposed that the axles may move to the requisite extent without, however, swinging or turning dangerously.

If desired, each axle may have a single wheel arranged centrally on it, in lieu of two wheels on the ends of the same; but the operation will be the same in either case.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The foot-rest having horizontal spindles B and vertical arms H, with toothed segments G, in combination with vertical posts C, mount-

ed on the spindles, the springs H′, and axles D, journaled to said posts, and having toothed segments F, which engage with the segments of said arms, constructed and arranged substantially as and for the purpose set forth.

2. The arms and spindles H B, vertical posts C, swinging axles D, and segmental gearing F G, in combination with the stops *b b*, arranged to operate substantially as and for the purpose set forth.

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