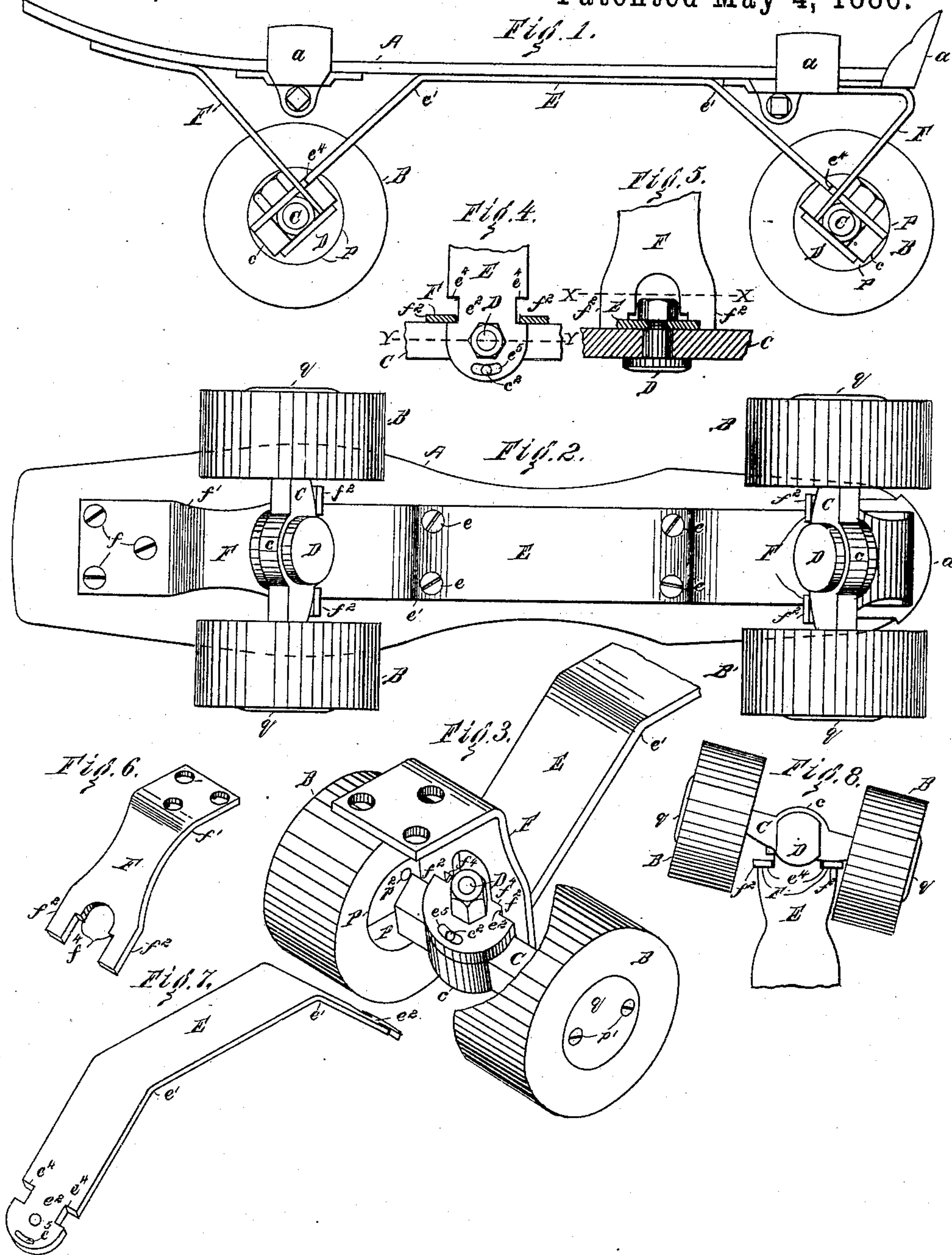


(No Model.)

S. C. SMITH.
ROLLER SKATE.

No. 341,067.

Patented May 4, 1886.



Witnesses—

Winkley Hyde,
Gertrude M. Day.

INVENTOR—
Samuel C. Smith,
By Albert M. Moore,
His Attorney.

UNITED STATES PATENT OFFICE.

SAMUEL C. SMITH, OF LOWELL, MASSACHUSETTS.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 341,067, dated May 4, 1886.

Application filed May 11, 1885. Serial No. 165,044. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. SMITH, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification.

My invention relates to roller-skates; and it consists in the improved means herein described of elastically supporting the foot-plate of the skate above its rollers, to means of limiting the motion of the plate and rollers toward each other, and to means of limiting the swiveling motion of the roller-axles.

In the accompanying drawings, Figure 1 is a side elevation of my improved skate; Fig. 2, a plan of the bottom of the same; Fig. 3, an isometric view of a part of the bed-spring and axle, and their connections, and the leaf-spring; Fig. 4, a section on the line $x x$ in Fig. 5; Fig. 5, a view of the leaf-spring at right angles to said leaf-spring, and shows an end view of the bed-spring, also a part of the axle, bolt, and nut; Fig. 6, an isometric view of one of the forked leaf-springs; Fig. 7, an isometric view of the bed-spring; Fig. 8, a plan of the bottom of one of the axles pivoted to the bed-spring, a part of which is shown, and a pair of rollers turning on said axle, the axle being turned or cramped, as when the skate is describing a curve.

A is the foot-plate, which may be of any usual construction, and is provided with any usual clamps, a , (or other securing devices,) and provided also with a heel-plate, a' . The running-gear is substantially the same at each end of the skate, so that it is only necessary to describe one end of the skate. The rollers B turn on axle C, which is enlarged and flattened on the top and bottom, at the middle at c , and provided with a hole, through which runs a stud-bolt, D, to secure it to the bed-spring E. The bolt is secured in the bed-spring at right angles thereto by a shoulder, d , between which and the nut d' the bed-spring is pinched, the reduced end of said bolt passing through a hole in said bed-spring, and the bolt from said shoulder to its head being smooth and cylindrical for a distance slightly longer than the thickness of the axle, to allow the axle to turn freely on said bolt.

The bed-spring E is secured to the foot-plate along the middle thereof and below the same by screws e , and is turned down near each end at e' , at about an angle of forty-five degrees, so that when the axle turns on the stud-bolt the end of the axle which turns toward the middle of the skate will be brought nearer to the middle of the foot-plate, and the other end of the axle will be carried downward away from the foot-plate; hence when in use the weight of the skater is pressed upon one side of the skate, the rollers on that side will be brought nearer together, and the axles will be moved out of parallelism with each other, and the path of the skate will curve, in the usual manner, toward the side which is more depressed. A leaf-spring, F, is secured to the foot-plate by screws f , and is bent at f' at about right angles to the inclined part of the bed-spring E at each end of the skate. Each leaf-spring is forked at f^2 , to straddle the neck e^2 of the bed-spring just above the stud-bolt D. The forked ends of the leaf-spring F press upon the inner face of the axle on each side of the stud-bolt D, and normally keep the axles parallel with each other and at right angles to the longitudinal axis of the skate, and resist, but do not prevent, the swiveling of the axle. Each tine f^2 of the fork is provided at its inner edge with a shoulder, f^4 , which limits the compression of the bed-spring under the weight of the skater. The bed-spring is also provided with shoulders or stops e^4 , which positively limit the bending of the leaf-spring, and consequently the swiveling of the axle. The end of the bed-spring may have an arc-shaped slot, e^5 , into or through which projects a stud, e^2 , rigidly secured in the axle C, and this slot and stud will also limit the swiveling motion of the axle on the stud-bolt D, and thus prevent the skate from describing too sharp a curve.

The inner side of the axle is curved, as shown in Figs. 2 and 8, to allow the tines of the forked leaf-spring to move freely upon it in skating on curves. Skate-rollers of any approved construction may be used, provided the ends of the axle are properly shaped for them.

I claim as my invention—

1. The combination of the foot-plate, the bed-spring secured thereto and inclined down-

ward at its ends, the axles swiveled to said bed-spring near its ends, and the leaf-springs arranged to press against the inner sides of said axles on opposite sides of their swiveling-points, as and for the purpose specified. 5

2. The combination of the foot-plate, the bed-spring secured to the bottom thereof and having downwardly-inclining ends, the axles swiveled to the ends of said bed-spring, 10 and the leaf-springs secured to the bottom of said foot-plate, and having their ends bent downward at about right angles to the inclined ends of said bed-spring, the forked ends of said leaf-springs pressing against the inner 15 sides of said axles on opposite sides of the swiveling-points of said axles, and rollers turning on the ends of said axles, as and for the purpose specified.

3. The combination of the foot-plate, the 20 bed-spring secured to the under side thereof, and having downwardly-inclined ends, and provided with necks near its ends, the axles swiveled to said bed-spring below said necks, the leaf-springs secured to said foot-plate, and 25 having their ends bent downward at about

right angles to said bed-spring, and provided with forks, the tines of which straddle the necks of said bed-spring and bear against the inner sides of said axles on opposite sides of the swiveling-points of said axles, as and for 30 the purpose specified.

4. The combination of the foot-plate, the bed-spring secured to the under side thereof, and having downwardly-inclined ends provided with necks, axles swiveled to the ends 35 of said bed-spring below said necks, leaf-springs secured to said foot-plate, and provided with forks, which straddle said necks and press against the inner side of said axles on opposite sides of the swiveling-points of said 40 axles, said tines being provided with shoulders to limit the amount of the compression of said bed-spring, and rollers journaled on the outer ends of said axles, as and for the purpose specified.

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Witnesses:

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