

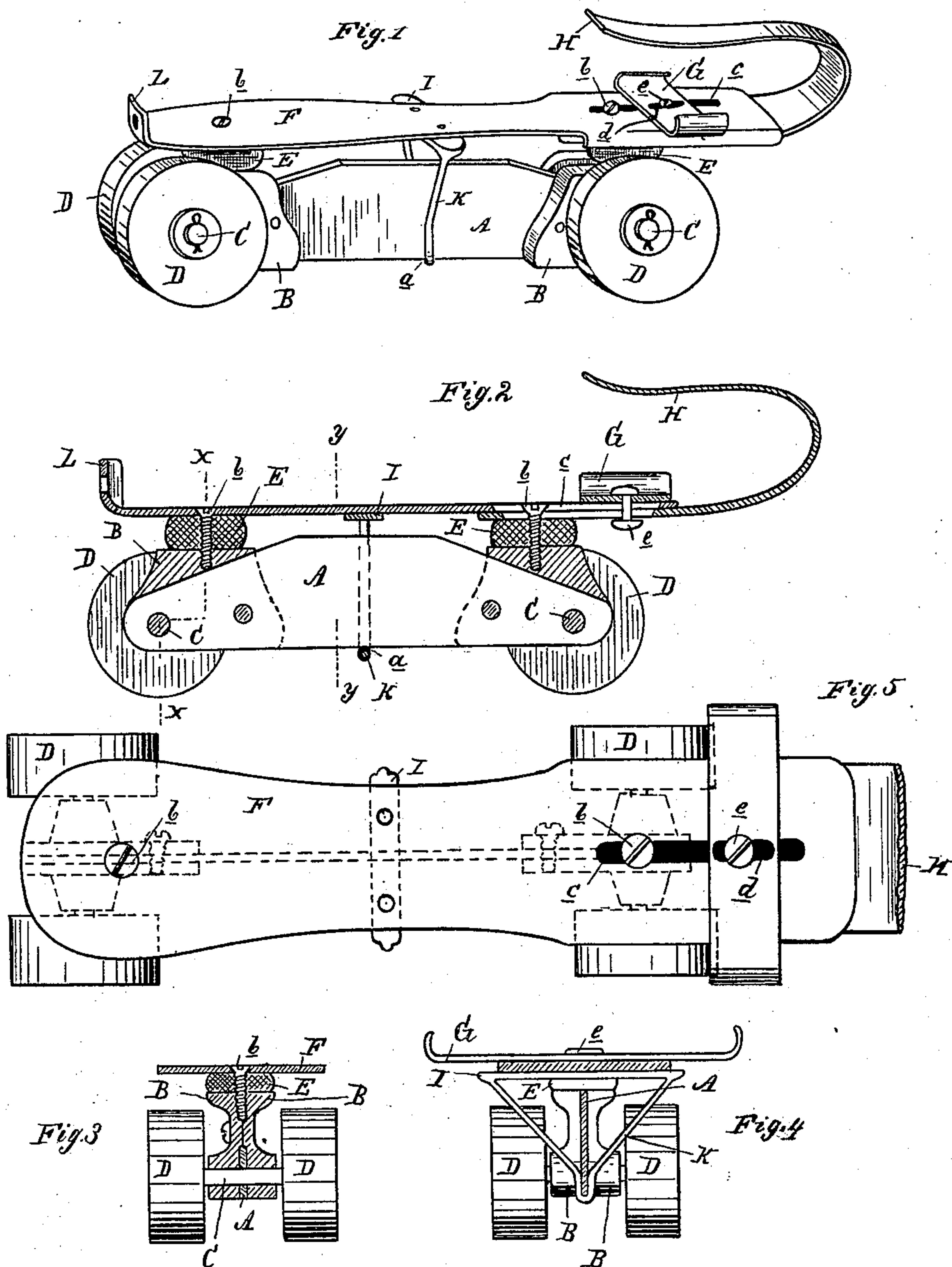
(No Model.)

O. J. PUNCHES.

ROLLER SKATE.

No. 334,281.

Patented Jan. 12, 1886.



Attest:
John Schuman.
[Signature]

Inventor:
Oscar J. Punches.
by his Atty
Thos. L. Sprague

UNITED STATES PATENT OFFICE.

OSCAR J. PUNCHES, OF PLYMOUTH, MICHIGAN.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 334,281, dated January 12, 1886.

Application filed October 8, 1885. Serial No. 179,300. (No model.)

To all whom it may concern:

Be it known that I, OSCAR J. PUNCHES, of Plymouth, in the county of Wayne and State of Michigan, having invented new and useful
5 Improvements in Roller-Skates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in the construction of roller-skates.

To produce a skate which will give readily to the various motions of the foot of the wearer, and possess the necessary strength, combined with the elasticity of the parts, and which will enable the operator to use the skate with great
15 comfort to himself, is a desideratum sought by most manufacturers, but which has been but
20 partially obtained.

The object of the present invention is to produce a skate provided with a toe-clamp or spring designed to come over the toe of the wearer, and rest upon the top of the ball of
25 the foot, so that a slight motion of the foot in either direction will secure the necessary rocking movement, while at the same time a spring interposed between the two axles will allow a curvature to the track, thereby making it very
30 easy for the wearer to turn short curves without, as is now required, making short oversteps for that purpose.

The invention consists in the peculiarities of construction of the various parts and their
35 combination in a skate as more fully hereinafter described and claimed.

Figure 1 is a perspective view of my improved skate. Fig. 2 is a vertical longitudinal central section. Fig. 3 is a vertical cross-section on the line *x x* in Fig. 2. Fig. 4 is a
40 vertical cross-section on the line *y y* in Fig. 2. Fig. 5 is a top plan of my improved skate.

In the accompanying drawings, which form a part of this specification, A represents a
45 steel strap or spring, which is made of a steel ribbon, standing upon its edge, and of sufficient width to afford the requisite stiffness to support the platform of the skate, which is secured above it. Each end of this spring A is
50 secured between blocks B, which may be made of wood, where more lightness is preferred, or of metal ornamented in any style, and

screws are employed, passing through the blocks on either side of the spring, to hold the parts together, care being taken that the center of the spring, as shown at *a*, is not encumbered, so that it may perform its function at that point of springing laterally or upon lateral curves.

C are the axles, which are secured (one forward and the other aft) as shown, passing at each end through the spring and its inclosing blocks, and upon the ends of the axles the wheels D are secured in any of the well-known ways. Just forward of the rear axle, and slightly in rear of the front axle, are placed the
60 rubber springs E, upon which the platform F, which forms the foot-rest of the skate, rests, and screws *b*, passing through the platform and the center of such springs into the blocks below, secure the platform in place. I do not
65 desire to limit myself to these screws as means of fastening the platform to place, as any other device or devices may be adopted for that purpose which do not interfere with the necessary
70 action of the parts.

In the platform there is cut a longitudinal slot, *c*, for purposes hereinafter described.

G is a metal clamp, designed to stand crosswise of the platform, as shown, with its ends
80 turned up to embrace the sole of the shoe of the wearer, and having a lateral slot, *d*, and a bolt or rivet, *e*, passing through this slot *d* and the slot *c* in the platform, affording means for adjusting this strap-clamp forward and
85 aft, as may be desired.

H is a spring-extension of the platform, bending backward over such platform, so that the toe of the wearer will rest against the bend, and the extension itself is of such length as
90 to extend backward and rest upon the top of the foot of the wearer. It is also adjustable by means of a slot and the screws *b* and rivets *e*, as shown in Fig. 2.

I is a saddle secured to and across the platform immediately over the center *a* of the
95 spring A, or that portion thereof which is not inclosed between the blocks, and a yoke, K, straddles such spring A, embracing the same closely from the bottom part some way to its top edge, whence the two ends of the yoke
100 branch outwardly, and are secured to the projecting ends of the saddle.

Any desired clamping device may be em-

employed at the heel if thought necessary or preferred by the wearer, although if the skate is of the proper length a heel-clamp will not be found necessary, the toe-spring herein-
5 before described, in conjunction with the strap-clamp, holding the device sufficiently firm upon the foot.

In practice, the skate being constructed substantially as described, the wearer inserts his
10 toe under the toe-clamp, letting his heel drop against the heel-plate L, and with his hand moves the strap-clamp G backward until its curved ends embrace the edges of the sole of his shoe. A bend of the ankle in either di-
15 rection produces the rocking motion upon the springs E, and if the operator desires to turn curves without the "overstepping" usually employed for that purpose where the curves are short, his weight, as his foot turns from
20 one direction to the other, causes the yoke to deflect the spring A in the opposite direction, thereby giving a curved track to the device.

It will be noticed that the bearings for the platform are inside the vertical line of the
25 axles, and these bearings may be made adjustable toward or from each other, their distances from each other and from the center *a* controlling to a certain extent the amount of curvature that can be readily had in the op-
30 eration of the skate of the spring A.

I am aware of the Patent No. 287,607, and make no claim to the construction shown therein as forming part of my invention.

I deem it important that the spring A be a
35 flat spring of sufficient width to afford the requisite stiffness to support the platform of the skate.

What I claim as my invention is—

1. In combination with a roller-skate plat-

form, a detachable and adjustable spring-extension thereof folding back upon the same to embrace the top of the foot, and a lateral clamp adjustable to embrace the edges of the sole of the shoe of the wearer, constructed and operating substantially as described.

2. An axle and platform support for a roller-skate, consisting of a flat wide steel spring, A, the ends of which are secured between blocks B, in combination with the axles C, and the spring E, upon which the platform F is se-
50 cured, the parts being constructed, arranged, and operating substantially as and for the purposes specified.

3. In a roller-skate, the platform F, resting upon suitable springs, with its bearings inside
55 the vertical line of the axles, in combination with a saddle and yoke and flat wide spring A, the parts being constructed, arranged, and operating substantially as and for the purposes set forth.

4. In a roller-skate, the combination, with the blocks B, of the spring A, having its ends secured between said blocks, and the axles C, passing through said springs and blocks, and carrying the wheels, substantially as described.

5. A roller-skate consisting of the following elements: an extension steel strap-spring, A, the ends of which are secured between blocks B, axles C, wheels D, springs E, plat-
70 form F, resting upon such springs, strap-clamp G, toe-extension spring-clamp H, saddle I, and yoke K, when the parts are constructed, combined, and operate substantially as and for the purposes specified.

OSCAR J. PUNCHES.

Witnesses:

H. S. SPRAGUE,

CHARLES J. HUNT.