

(No Model.)

J. LAPP.
CONVERTIBLE SKATE.

No. 330,133.

Patented Nov. 10, 1885.

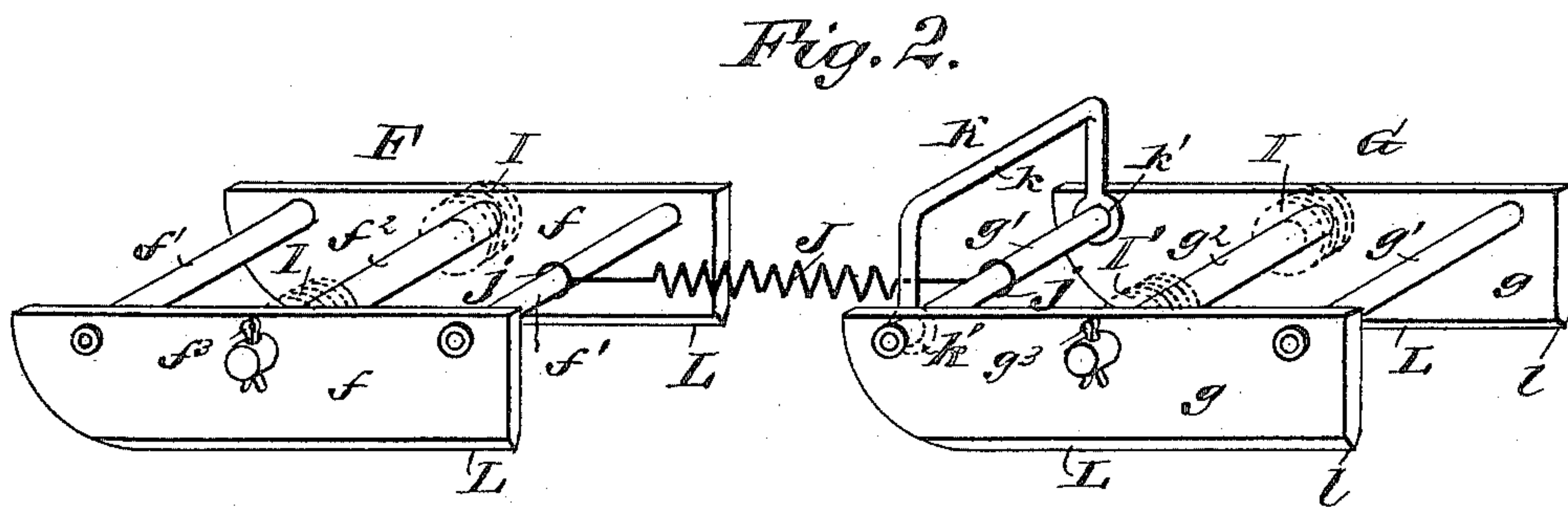
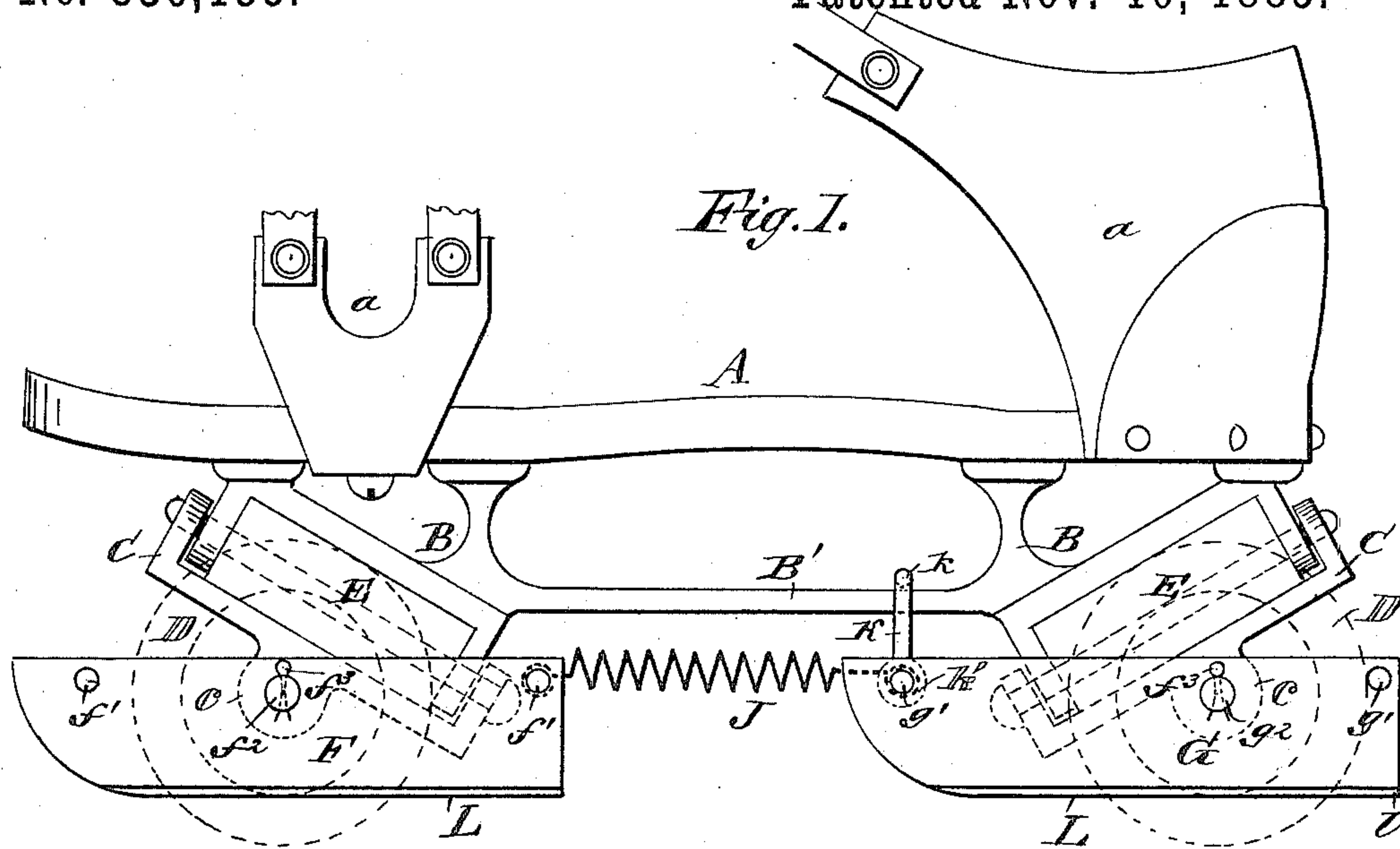
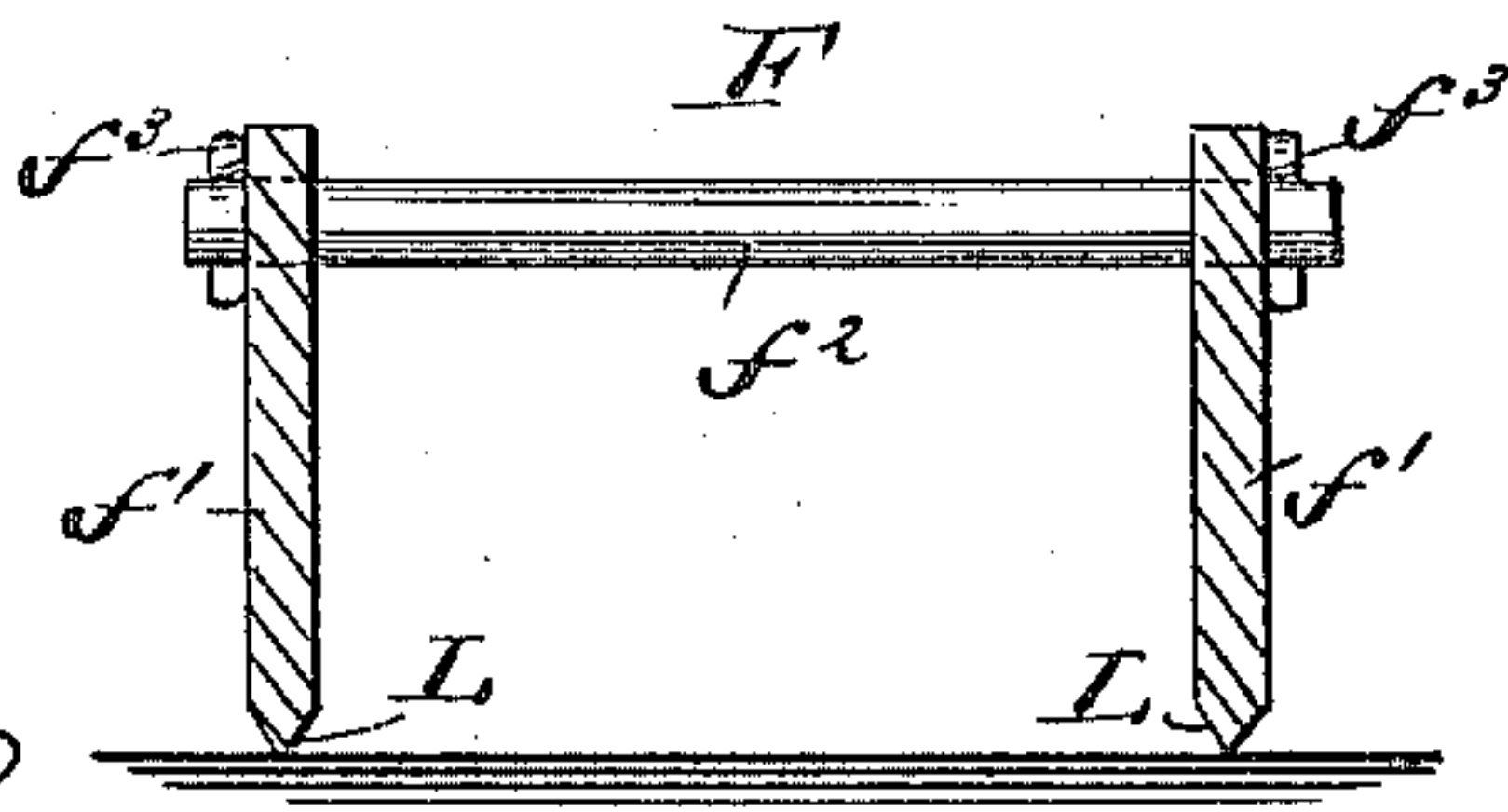


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN LAPP, OF HONEOYE FALLS, NEW YORK.

CONVERTIBLE SKATE.

SPECIFICATION forming part of Letters Patent No. 330,133, dated November 10, 1885.

Application filed November 21, 1884. Serial No. 148,497. (No model.)

To all whom it may concern:

Be it known that I, JOHN LAPP, of Honeoye Falls, in the county of Monroe and State of New York, have invented a new and Improved
5 Convertible Skate, of which the following is a full, clear, and exact description.

The object of my invention is to improve the construction of convertible roller and ice skates so that the advantages of the automatic side curving movements common to
10 roller-skates may be availed of in ice-skates, and so that the skates shall afford quite as firm a support to the ice-skater as do the rollers in roller-skating.

15 My invention consists in a convertible skate constructed with removable front and rear runners constructed each with two opposite blades connected to each other, and adapted to be pivoted to the inclined elastically-cushioned pivoted frames which ordinarily support
20 the rollers from the skate foot-piece, together with a spring connecting the front and rear runners and a bail or tie connected with the forward end of the rear runner, and
25 passing over a bar or rod attached to the skate foot-piece to allow the back end of the rear runner to be forced into the ice.

The invention consists also in particular constructions and combinations of parts of
30 the skate, all as hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate
35 corresponding parts in all the figures.

Figure 1 is a side elevation of my improved skate, showing in full lines the runners attached for ice skating, and in dotted lines the position of the rollers when the skate is adjusted for roller-skating. Fig. 2 is a perspective view of the ice-runners detached from the skate foot-piece, and Fig. 3 is a cross-section
40 of one of the runners.

The letter A indicates the foot-piece of an
45 ordinary roller-skate, which is provided with the usual heel and toe straps, *a a*, of any approved construction, and B is the frame fixed to the foot-piece, and in which the roller-frames C, supporting the rollers D, are pivoted, rubber or other elastic blocks E being fitted between the frames C and the foot-piece in the
50 usual or any approved way.

The letters F G indicate the ice-runners of the skate, which I make in the form of bobsleds, or with opposite blades or plates, *f g*,
55 respectively connected by rods *f' g'*, and having loose pivot pins or rods *f² g²*, and which, when the rollers D are removed from the skate-frame C, may be attached to said frames by passing the pivot-pins *f² g²* into the lugs *c*
60 of the front and rear frames, C, respectively, so that the runners F G are held to the foot-piece of the skate, and are free to rock vertically on the frames C. Any suitable split or other pins, *f³ g³*, may be passed through the
65 pivot-pins *f² g²* at their ends and outside of the runner-blades, to hold the runners to the pivots and to the frames C, and should the space between the opposite blades of each runner be greater than the distance between the
70 outside faces of the opposite lugs *c* of the frames C, I will place suitable washers, I, on the pivot-pins of the runners, as indicated in dotted lines in Fig. 2, to prevent lateral slip of the runners on the frames C, as will readily
75 be understood.

I connect the front and rear runners, F G, by a spiral spring, J, the ends *j j* of which are attached, preferably, to the adjacent tie-rods
80 *f' g'* of the runners, so that when the skate is lifted from the ice the spring will keep the runners in line with each other and parallel with the foot-piece.

The letter K indicates a tie, which I prefer to make of a wire having bent end parts provided with eyes *k' k'*, which are placed on the
85 forward tie-rod, *g'*, of the rear runner, G, and the cross-bar *k* of the bail-shaped tie K stands above the bar B' of the foot-piece frame B to form a stop to the swinging of the runner G
90 when the extreme back ends, *l*, of the blades are forced into the ice. The tie or bail K extends across the runner G and allows a free lateral swing of the runner as the skater turns to either side.

A suitable bar or rod may be connected to
95 wooden foot-pieces of skates, over which the bar *k* of tie K may pass, instead of over the frame-bar B', and the tie may consist of a strong cord held to the runner and passing above a
100 bar held to the skate foot-piece; but the metal tie K in bail form is preferred.

I form the lower edges of the runner-blades in obtuse angles, pointing downward, as at L,

so that the runners take sufficient hold on the ice to prevent bodily slip of the skate side-wise on the ice, and I propose to make each runner-blade from two to three inches long, to give from eight to twelve inches total bearing-surface for each skate on the ice to avoid excessive cutting of the ice.

In using the skates with the rollers D attached the side rollers will swing toward each other at the side of the skate at which the foot-piece is inclined downward by the leaning weight of the skater, so as to give more or less sharply-defined curves each way to the skater, the elastic cushions E returning the rollers to normal transverse positions when the skate is lifted, and in a well-known manner.

When the rollers D are removed and the ice-runners F G are attached as above described, the side blades of the front and rear runners will be given the same inward swing toward each other by side pressure on the foot-piece to turn the skater either way, the elastic cushions E acting when the skate is lifted to carry the runner back into normal position in line with the longitudinal center of the skate. The spring J and tie K allow these free movements of the runners, and the spring holds them in line about parallel with the plane of the foot-piece when the skate is lifted from the ice, and the runners adjust themselves freely to any inequalities of the ice-surface, so that the skater may confidently be supported on the large base the runners afford, while having quite the same freedom of movement over the ice allowed by the single-blade runner-skates of common construction, and the back ends of the rear runners may be forced into the ice to stop or control the movements of the skater, as commonly is done with ice-skates.

It is evident that the change from roller to ice skates, and vice versa, may quickly and easily be made, and that ice-runner attachment

is simple, inexpensive, strong, and durable, and not likely to get out of order.

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

1. The combination, in a convertible roller and ice skate, and with the front and rear roller-frames, C, and elastic cushions E, arranged substantially as described, of the runners F G, constructed with connected opposite pairs of runner-blades, $f f g g$, and pivot-rods $f^2 g^2$, adapted to the lugs c of the roller-frame C, and connected by a spring, J, substantially as herein set forth.

2. The skate-runners constructed with front and rear runners, F G, consisting of blades $f f g g$, tied together by rods $f' g'$, and having pivot-pins $f^2 g^2$, and said runners F G being connected by a spring, J, substantially as herein set forth.

3. The skate-runners constructed with front and rear runners, F G, consisting of blades $f f g g$, tied together by rods $f' g'$, and having angular lower edges, L, and the pivot-pins $f^2 g^2$, and said runners F G being connected by a spring, J, substantially as herein set forth.

4. The combination, with the pivoted rear runner, G, of a tie connected to the forward end of the runner and passing over a rod or bar held to the skate foot-piece, substantially as herein set forth.

5. The combination, with a bar or rod on the skate foot-piece, and the rear runner, G, of a tie, K, in the bail form extending over the foot-piece bar and connecting with the forward end of the runner, substantially as herein set forth.

JOHN LAPP.

Witnesses:

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