

(No Model.)

C. E. WARDWELL.

SKATE.

No. 310,923.

Patented Jan. 20, 1885.

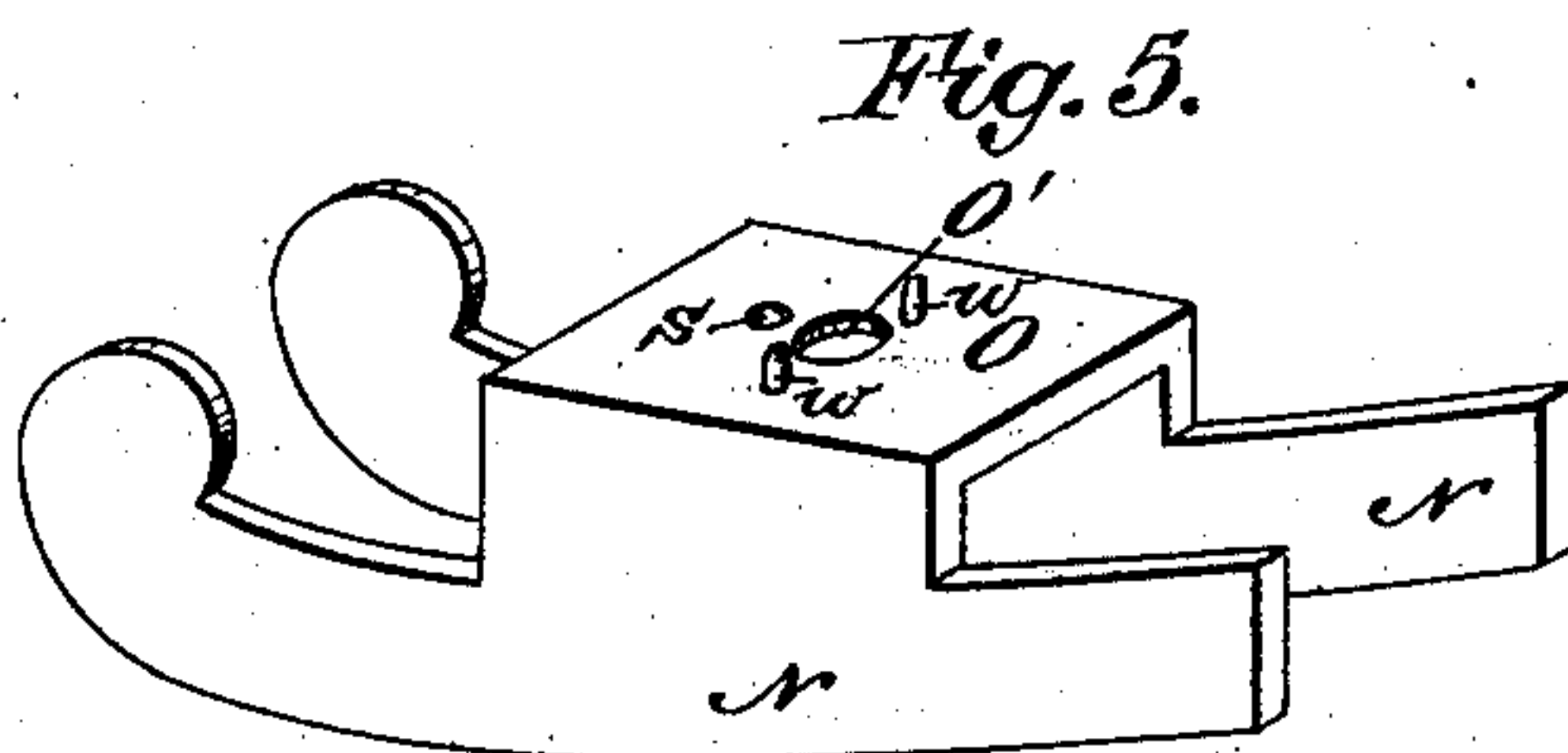
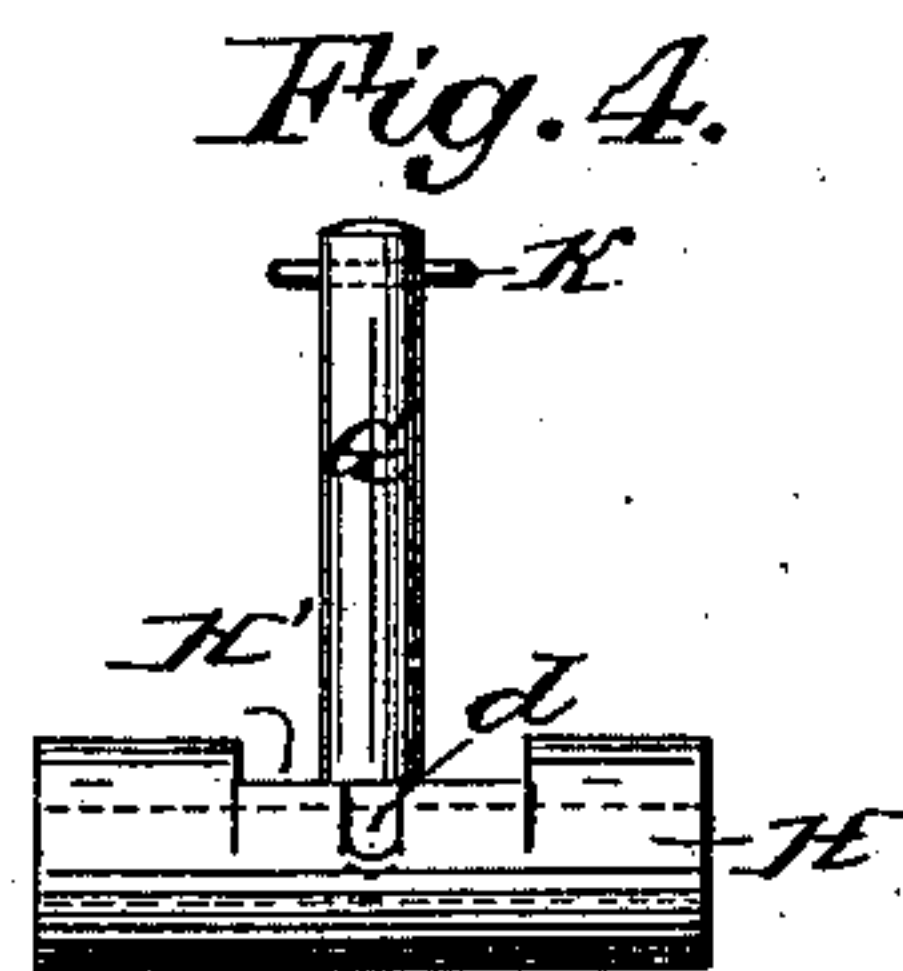
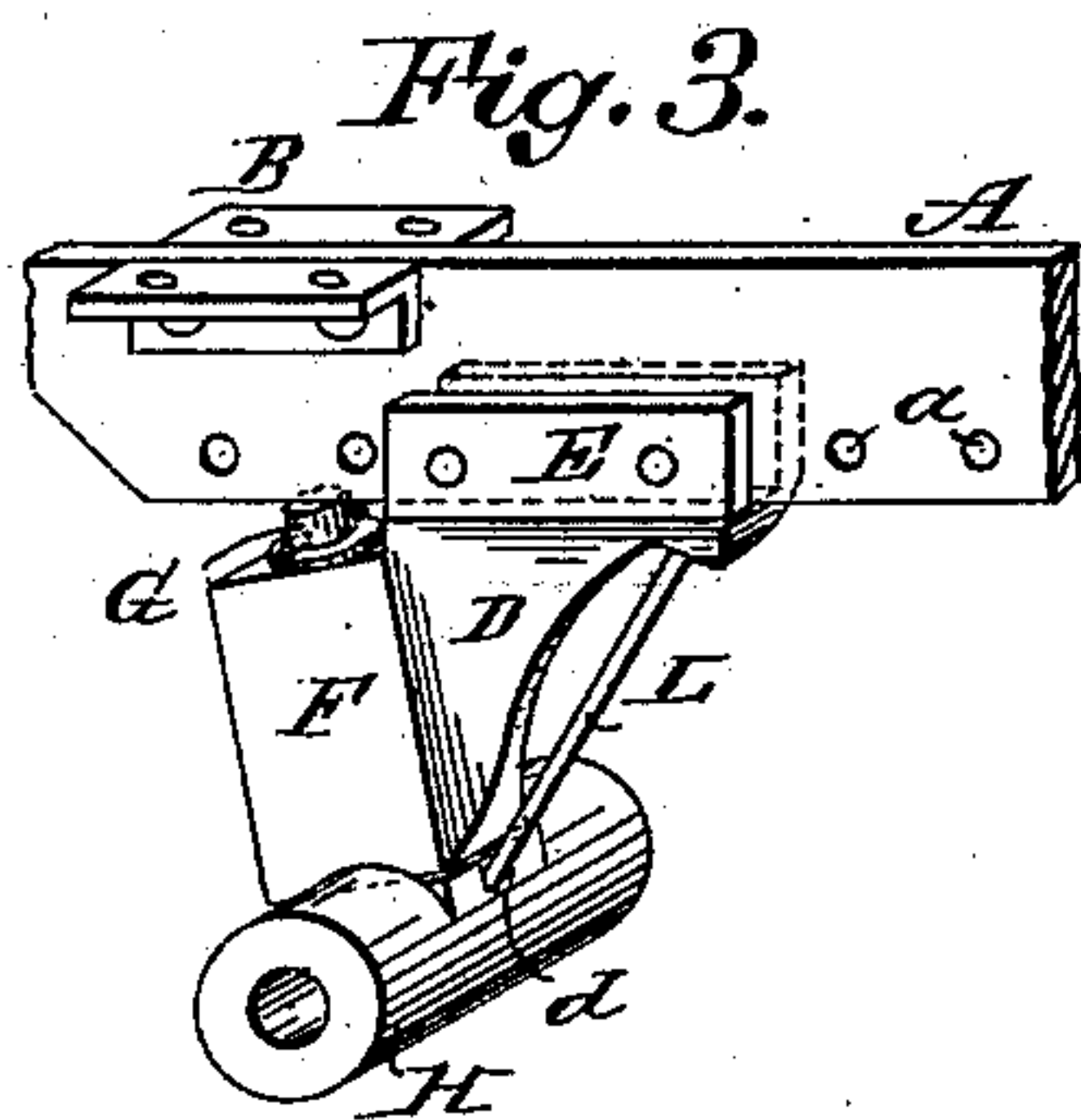
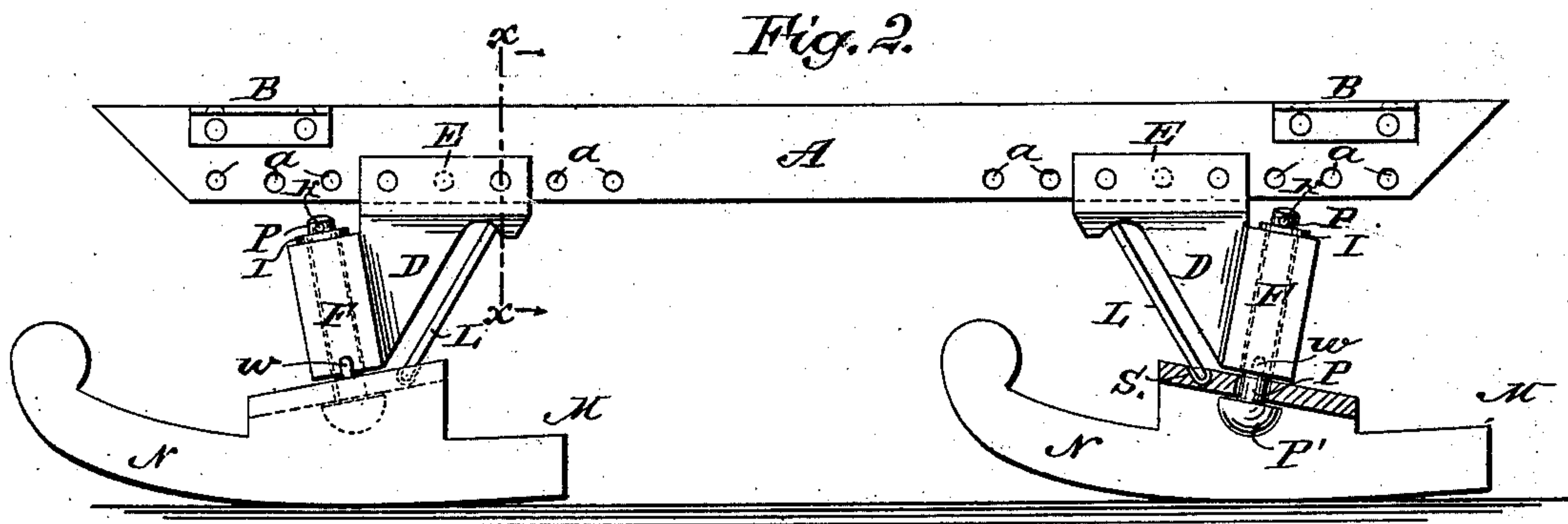
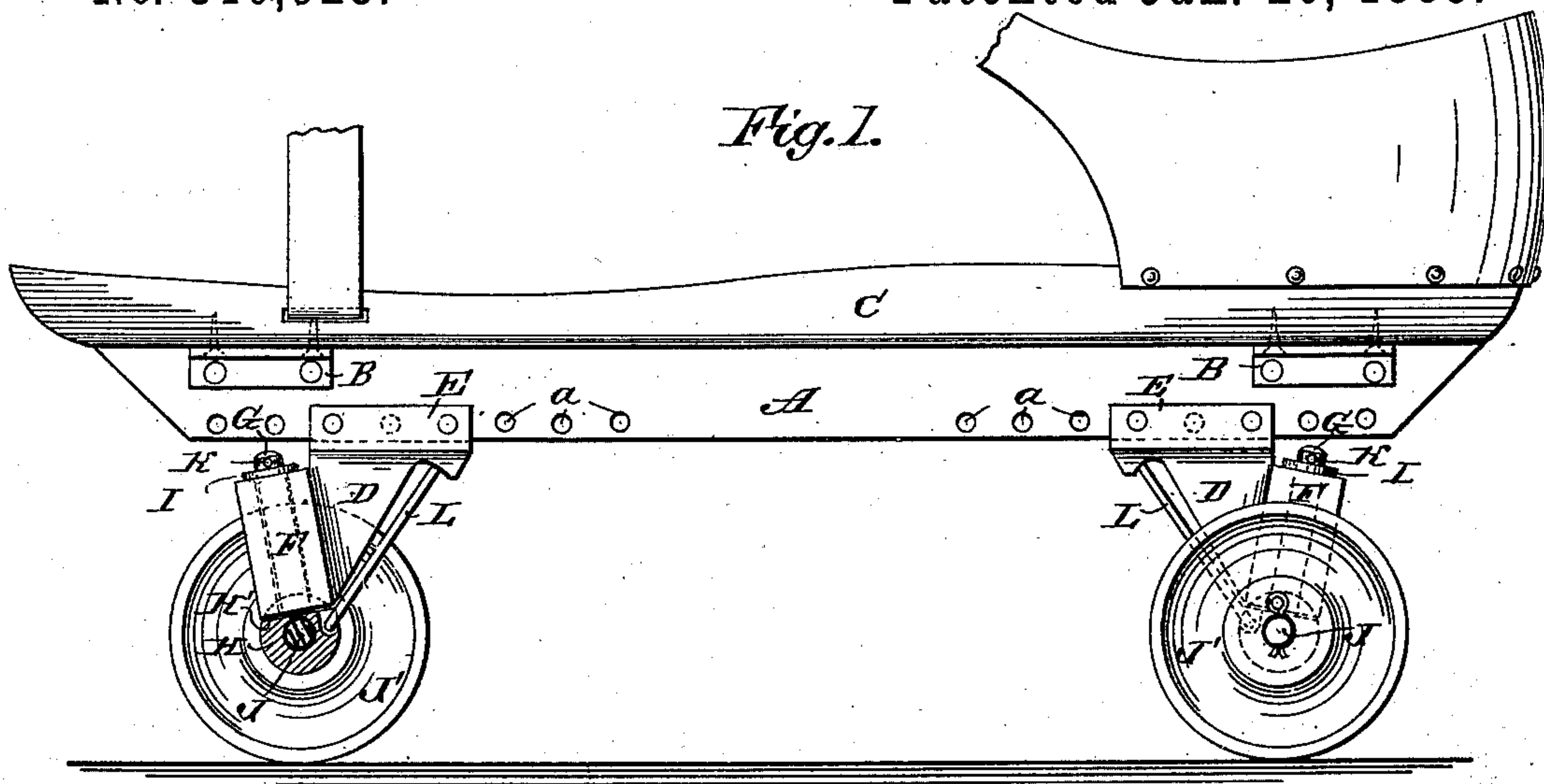


Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES E. WARDWELL, OF HOLYOKE, MASSACHUSETTS.

SKATE.

SPECIFICATION forming part of Letters Patent No. 310,923, dated January 20, 1885.

Application filed May 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. WARDWELL, of Holyoke, in the county of Hampden and State of Massachusetts, have invented a new and Improved Skate, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved skate which can easily be adjusted as a runner-skate or roller-skate.

The invention consists of the combination of parts and their construction, substantially as hereinafter fully set forth and claimed.

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

Figure 1 is a side view of my improved skate, showing it provided with rollers. Fig. 2 is a side view of the bar, showing it provided with the runners, one of which is shown in section. Fig. 3 is a perspective view of one of the knees. Fig. 4 is a face view of one of the sleeves for holding a roller-axle. Fig. 5 is a perspective view of one of the runners. Fig. 6 is a cross-sectional view on the line *x x*, Fig. 2.

On a flat bar, A, angle-irons B are riveted or otherwise securely fastened on both surfaces at the front and rear ends, in such a manner that the top flanges of the angle-irons will be flush with the top edge of the bar A. Along its bottom edge the bar A is provided at each end with a series of apertures, *a*. The bar A is placed against the under side of a foot-plate, C, of the usual construction, and is held in place by screws passed through the top flanges of the angle-irons B into the under side of the foot-plate. On the bar A a knee, D, is held at each end, which knees are each provided in the top piece, E, with a longitudinal groove for receiving the bottom edge of the bar A. On the upright edge of each knee a socket-piece, F, is formed which is adapted to receive a spindle, G, projecting upward from a sleeve, H, adapted to receive a shaft, J, on the ends of which rollers J' are mounted. A washer, I, is placed on the upper end of the spindle G, and a pin, K, is passed through the upper end of the spindle above the top of the socket-piece F.

The sleeve H is provided in its top with a

recess, H', into which the lower end of the socket-piece F passes, the recess being slightly longer than the lower end of the socket-piece, to permit the spindle G and the sleeve H to turn slightly on the longitudinal axis of the socket-piece.

A spring wire or rod, L, secured to the inner end of the top of the knee, extends down into a recess or notch, *d*, in the sleeve H. The knees are fastened on the bar A, as shown in Figs. 1 and 2. They can be fastened a greater or less distance from the ends of the bar A, as this bar is provided with a series of apertures, as described, through which apertures the pins, screws, or rivets for holding the knees on the bar A are passed, as shown in Fig. 6.

The runners M are formed of two runner-blades, N, united by a top plate, O, provided with a central aperture, O', through which a spindle or pin, P, having a head, P', is passed in such a manner that the head P' is on the under side of the plate O. A pin, K, is passed through the upper end of the pin or spindle P, above the top of the socket-piece, F.

The lower end of the spring-wire L can pass into a socket or recess, S, in the top of the plate O.

The skate can easily be changed to a roller-skate or runner-skate, as may be desired, and the rollers or runners can easily be placed a greater or less distance apart.

The spring-wire L, acting on the sleeve H or the plate O, always straightens them when the foot is lifted—that is, brings them at right angles to the bar A—and the springs also prevent the sleeve H and the runner-plates from clicking or rattling.

The plate O, connecting the two runners N, is provided with upwardly-projecting pins *w* at each side of the said aperture O', or with a pin behind the aperture O', which pins prevent the runners from swinging too far, the same as the recesses H' in the sleeves H limit the rocking or swinging of the sleeves. In place of providing the pins *w*, the front and rear of the plate can be bent up to form flanges or stops serving for the same purpose as the pins *w*.

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

1. In a skate, the combination, with the foot-

plate bar A, of the knees D, held detachably on the bar A, and provided with socket-pieces F, spindles held in the socket-pieces, and rollers or runners held on the spindles, substantially as herein shown and described.

2. In a skate, the combination, with the knee D, having a spring rod or wire, L, of a spindle held to turn in the knee, and a sleeve or runner-plate held on the lower end of the spindle and provided with a notch or recess for receiving the lower end of the spring-rod L and with a recess or notch to limit its movement upon the spindle, substantially as herein shown and described.

3. In a skate, the foot-plate bar A, and the knees D, having spindles and the spring-rods L, in combination with the runners M, with their connecting-plates O, provided with central apertures, O', sockets S, and pins or studs w, entering sockets in the lower ends of the knees, substantially as and for the purpose set forth.

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Witnesses:

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