

(No Model.)

W. H. NICHOLLS.
SKATE.

No. 530,711.

Patented Dec. 11, 1894.

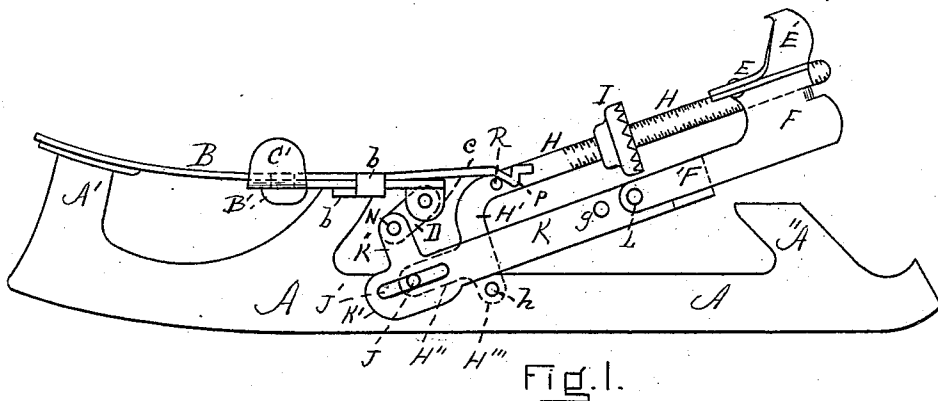


Fig. 1.

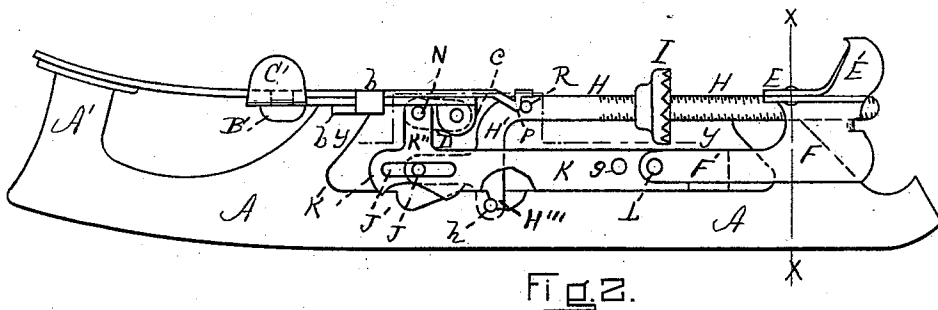


Fig. 2.

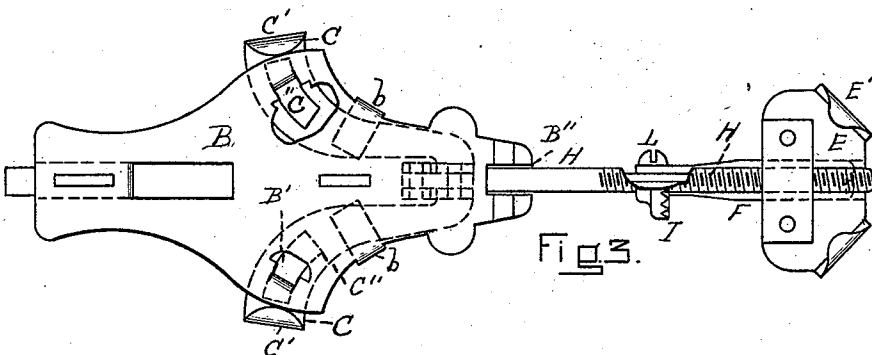


Fig. 3.

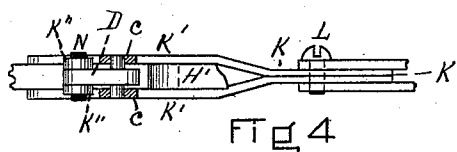


Fig. 4.

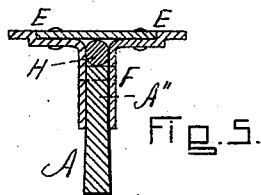


Fig. 5.

WITNESSES

Frank G. Parker.
A. N. Bonney.

INVENTOR

Walter H. Nicholls.
By his Atty
Henry Williams.

UNITED STATES PATENT OFFICE.

WALTER H. NICHOLLS, OF LYNN, ASSIGNOR OF ONE-HALF TO LIBBY,
HARLOW & CO., OF BOSTON, MASSACHUSETTS.

SKATE.

SPECIFICATION forming part of Letters Patent No. 530,711, dated December 11, 1894.

Application filed August 8, 1894. Serial No. 519,735. (No model.)

To all whom it may concern:

Be it known that I, WALTER H. NICHOLLS, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Skates, of which the following is a specification.

This invention relates to that class of skates which are provided with clamps whereby the skate is secured to the boot or shoe without the aid of straps, and it consists of a certain novel construction and arrangement of parts whereby the adjustment is rendered automatic, sure and positive in operation, quick and not liable to release the foot by reason of any natural movement thereof.

The nature of this invention in detail is fully described below and illustrated in the accompanying drawings, in which--

Figure 1 is a side elevation of my improved skate in position to receive the foot. Fig. 2 is an elevation of the skate in the position assumed when the foot has been pressed upon it and the shoe has been automatically grasped, a portion being represented as broken out. Fig. 3 is a plan view of the same, a small portion being represented as broken out. Fig. 4 is a detail partly in plan and partly in horizontal section on broken line y, Fig. 2. Fig. 5 is a cross vertical section taken on line x, Fig. 2.

Similar letters of reference indicate corresponding parts.

A represents the skate-runner or blade.

B is the sole-plate secured in any desired manner at its toe portion to the toe-support A' of the blade. To opposite edges of the sole-plate, near the shank, are secured supports or guides b which extend downward and inward horizontally beneath the clamps C which are provided at their outer ends with lips C' the object of which is to clamp the sole of the boot or shoe. These clamps are not new in this invention and are provided with openings C'' through which extend guiding lips B' integral with the sole-plate. The rear ends of the clamps C are provided with downwardly extending lips c by means of which they are pivotally secured to a link D.

E is the heel-plate provided with the up-

wardly and inwardly extending clamps E' for clamping the heel of the boot or shoe. From the under side of this heel-plate extends a pair of vertical parallel walls or plates F which constitute a bifurcated frame having forward horizontal extensions F'. A screw-threaded bar or rod H extends between the walls of this frame under the heel-plate and supports a correspondingly threaded, circular dog or nut I preferably provided on its rear surface with teeth or serrations. The forward end of this rod H is bent downward at H' and then forward horizontally as shown by broken lines H'', Figs. 1 and 2, and is pivoted to the skate-runner at h by means of a downward extension H'''. This rod or bar H is provided near its front end with pivots or pins J which extend into horizontal slots J' in the swinging bar K. The rear end of this bar extends between and is pivotally secured at L to the extension F', one or more perforations being provided in order that the pivot L may be applied to either perforation so as to adjustably connect the heel-plate with the bar K. The forward end K' of this swinging bar is spread into two parallel portions whereby it embraces the portion H'' of the rod or bar H. These portions K' are provided with upward extensions K'' which embrace and are pivotally secured at N to the forward end of the link D. The rear end of the sole-plate B is provided with a recess B'' for the accommodation of the rod or bar H, and the under side of said sole-plate next the recess is formed down into shoulders or bends P, the forward side of said shoulders being at an obtuse angle with the sole-plate and the rear side at a right angle therewith. The opposite sides of the bar or rod H are provided with horizontal pins R, next said shoulders.

When the skate is in its normal position, that is, the position shown in Fig. 2, which is the position assumed when it is clamped upon the shoe, the bar or rod H rests upon the supporting extension A'' extending from the skate-runner, and the pins R rest against the rear edges of the shoulders P. The bar or rod H, the heel-plate E with its frame F F' and the swinging bar K are all in a horizontal position.

When the skate is to be applied to the shoe, the rod or bar H H' H'' H''', the heel-plate, frame F F' and bar K are swung up into the position shown in Fig. 1, on the pivot h, the effect being to slide the rod or bar H longitudinally forward in the heel-plate frame, the pins J moving forward in the slots J'. At the same time the rear ends of the toe-clamps C are moved forward by means of the extension, K'' and link D, and are spread by means of the guides B' extending through the openings C'' in the clamps. The pins R, during this process, are slipped in front of the shoulders P, and the rod or bar H extends up at an angle through the recess B'''.

To apply the skate to the shoe the sole is placed upon the sole-plate B and the heel upon the heel-plate E, and the dog or nut I moved on the thread of the rod H toward or against the front edge of the heel. Then, by simply pressing the heel down, the parts are forced into the position shown in Fig. 2, and the skate is firmly and automatically secured to the boot or shoe.

To remove the skate the heel-plate and swinging frame are lifed with the effect of releasing the heel by means of the forward movement of the rod or bar H and hence the nut I, and releasing the sole by the outward movement of the sole-clamp.

Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

1. In a skate, a vertically swinging rod or bar pivotally secured to the stationary portion of the skate, a horizontally slotted frame engaging with the said rod or bar by means of pins extending from the latter into said slots, a frame supporting the heel-clamps adjustably secured to said slotted frame, horizontally moving sole clamps, and a connection between said sole-clamps and slotted frame whereby the swinging of the said rod or bar and slotted frame moves the sole-clamps into or out of engagement with the shoe, substantially as set forth.

2. In a skate, the rod or bar H H' H'' H''' of substantially the shape shown and pivoted to the skate-runner, said rod being provided with the engaging pins J and dog or clamp I, the swinging frame K K' K'' provided with the slots J', the link D connecting said frame with the sole-clamps, and the heel-plate provided with heel-clamps and supported by the frame F F' adjustably secured to the swinging frame, said rod or bar extending loosely into said heel-plate frame, substantially as set forth.

WALTER H. NICHOLLS.

Witnesses:

HENRY W. WILLIAMS,
E. A. WOODBURY.