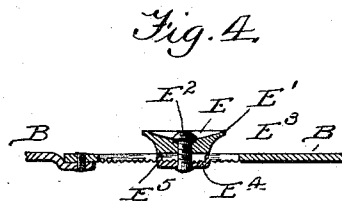
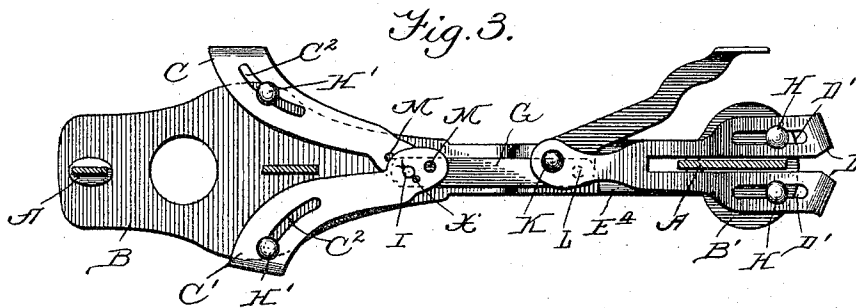
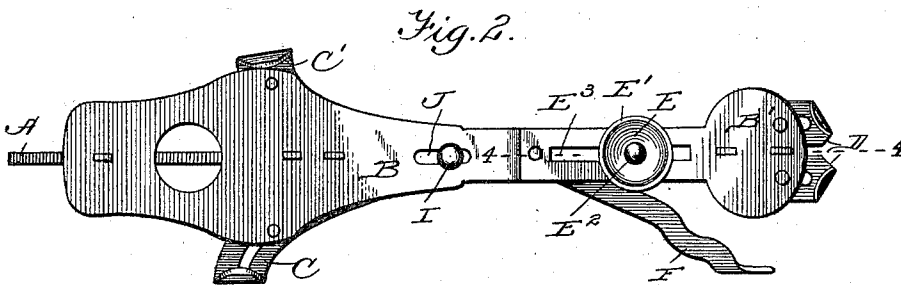
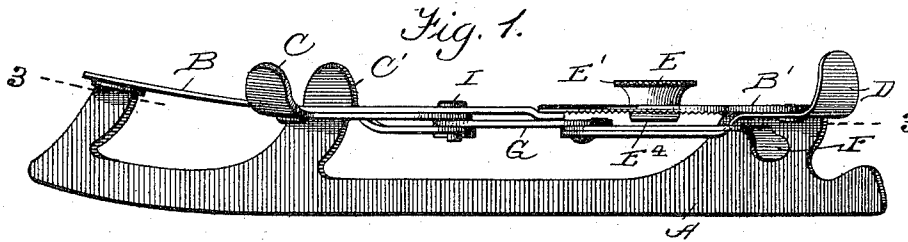


(No Model.)

H. D. CARRYL.
SKATE.

No. 585,429.

Patented June 29, 1897.



WITNESSES:

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HENRY D. CARRYL, OF NEW YORK, N. Y., ASSIGNOR TO THE A. G. SPALDING & BROS., OF SAME PLACE.

SKATE.

SPECIFICATION forming part of Letters Patent No. 585,429, dated June 29, 1897.

Application filed June 9, 1896. Serial No. 594,815. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. CARRYL, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Skates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates particularly to an adjustable stop for the front of the heel, to devices allowing the toe-clamp to be so set that in clamping it brings the runner at one side of the medial line of the shoe-sole or beneath that line, as may be desired, and to the construction of the foot-plate.

In the drawings, Figure 1 is a side view of a skate embodying the invention. Fig. 2 is a top view of the same skate with the parts in the position they assume when the skate is clamped to the shoe. Fig. 3 is a bottom view with that part of the runner lying below the line 3 3, Fig. 1, removed. Fig. 4 is a section on the line 4 4, Fig. 2.

In the views, A is a runner of approved form.

B B' is a two-part foot-plate permanently secured to the runner.

C C' are the two members of the toe-clamp.

D is a heel-clamp; E, a stop coacting with the heel-clamp; F, a clamp-operating lever pivotally connected to one of the clamps (as shown, to the heel-clamp) and connected to the other by a link G. The heel-clamp is a rearwardly-forked plate having in its branches the slots D D, through which pass headed studs H H, holding it against the foot-plate, but allowing it to slide freely. The rear ends of the branches are turned up in the usual manner to form hooks. The toe-clamp members are provided, respectively, with curved slots C² C², through which pass headed studs H' H', rigidly set in the foot-plate and supporting the members of the clamp while allowing them to slide freely in any direction permitted by the slots. The rear portions of the two members overlap each other and also the forward portion of the link G, and the three are perforated for the downward passage of a headed stud I, which passes also through a central longitu-

dinal slot J in the foot-plate and is supported by the resting of its head upon those portions of the foot-plate at the sides of the slot. The lower projecting part of this stud is transversely perforated to receive a cotter which supports the link and clamp members. The lever F is pivoted at K to the forward portion of the heel-clamp, and to the lever at one side of the point K the rear end of the link G is secured by a pivot L. Swinging the lever evidently causes the two clamps to mutually approach or recede in a well-known manner, the heel-clamp being drawn against the rear portion of the heel of a shoe in position to receive the skate, and the toe-clamp being drawn rearward with equal force. Owing to the curvature of the slots in the toe-clamp members the latter are forced inward as they move toward the rear and caused to clamp the shoe-sole transversely. Through this clamping a frictional resistance is offered to further rearward movement, and this resistance is the limit of the pull that can be exerted upon either clamp by swinging the lever, and usually such resistance can be obtained only upon a sole of approximately a certain width. If the two members of the clamp be symmetrical and symmetrically arranged, they bring the medial line of the sole directly over the runner. This is satisfactory when the soles are of certain common forms, but when they are of certain other forms almost equally common at the present time it is very objectionable. To overcome this objection and at the same time to allow the same skate to be used on soles of very different widths, the rear ends of the clamp members are provided with extra perforations M for the stud I. For use upon narrow soles such that the runners should be central the stud is placed in the front holes of both members. By passing the stud through the forward hole of one member and through a hole farther toward the rear in the other member the runner is thrown to the right or the left according as one or the other member is made the shorter. For an extremely wide sole the stud is passed through the rear opening in both members. The cotter allows this kind of change to be made very conveniently and is more nearly absolutely safe than most devices that could replace it.

Were no other devices provided, the skate could not be clamped with all the security desirable for the reason that if in the working movements of the foot the toe-clamp's frictional grip allows any movement, however slight, of the sole such movement must be forward, since the heel offers positive resistance instead of frictional. Now such forward movement allows the heel-clamp to advance a like amount, slacking the toe-clamp in turn, and so on until the skate is detached. I therefore prevent the forward movement of the heel by placing in front of it a rigid stop. This stop is shown as a circular nut E, having a thin overhanging milled margin E', adapting it to engage a depression in the front of the heel and to be turned by the fingers. It works upon a threaded bolt E², passing loosely through a slot E³ in the foot-plate and having at its lower end a flat head E⁴, provided upon its upper surface with corrugations to engage with corresponding corrugations of the lower surface of the foot-plate. The upper end of the bolt at some distance above the nut when the latter is in clamping position is enlarged, so that complete detachment of the nut is impossible, although it may be unscrewed just far enough to free the engaging corrugations and allow the nut and its bolt to slide freely forward or backward. The bolt is, further, so formed that it cannot turn in the slot, preferably by bending up from the head into the slot lugs E⁵. It is evident from the description that this stop may be adjusted for a heel of any size, that its engagement with the heel prevents lifting of the latter even if the clamp D should fail to aid in this respect, and that it affords a positive resistance to the advance of the heel. It follows that slight slipping of the toe-clamp is practically prevented and that if it should occur there is no longer instant multiplying of the effect and consequent detachment of the skate.

It is desirable to have the rear portion of the foot-plate much thicker than the front portion. It is therefore made in two parts—a thick rear or heel portion and a thin front portion, the latter having its rear end bent sharply downward at the front end of the rear portion, passed beneath it, and then riveted

to it, whereby the upper surfaces of the two are practically continuous.

What I claim is—

1. The combination with a foot-plate, of two sole-clamping members mounted thereon, a device engaging both said members to slide them longitudinally, means whereby their longitudinal movement varies the lateral distance between the clamping-surfaces, and means for at will varying the point at which one of the two is engaged by said device.

2. The combination with the foot-plate, the heel-clamp and means for forcing the latter forward, of a stop adjustably fixed to the foot-plate in front of the place of the heel and provided with an overhanging portion adapted to enter a depression in the front of the heel.

3. The combination with the slotted foot-plate corrugated below, of the threaded bolt non-revolubly fitting said slot, projecting upward through the same and enlarged at its free end, and the nut having the thin overhanging, milled margin and working upon said bolt between said enlargement and the foot-plate.

4. The combination with the foot-plate, of the slotted toe-clamp members overlapped at their rear ends and having a plurality of stud-holes through the overlapped parts, the stud passing through the slots and fixed to the foot-plate, and a stud passed through a stud-hole of each member and pivotally connecting the two.

5. The combination with the foot-plate provided with the central slot, of the slotted toe-clamp members overlapping at their rear ends and provided with a plurality of stud-holes the headed studs passing through the slots in the toe-clamp members and fixed in the foot-plate, the headed stud passing downward through the slot in the foot-plate and through a stud-hole in each of said members, a cotter passed through the stud last mentioned below said members, and means for drawing said members rearward.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY D. CARRYL.

Witnesses:

JAMES M. CARRINGTON,
OCTAVUS C. MYERS.