



# UNITED STATES PATENT OFFICE.

JOHANN PETER BECKER, JR., OF REMSCHEID, GERMANY.

## IMPROVEMENT IN SKATES.

Specification forming part of Letters Patent No. 197,007, dated November 13, 1877; application filed October 3, 1877.

*To all whom it may concern:*

Be it known that I, JOHANN PETER BECKER, JR., of Remscheid, Germany, have invented certain new and useful Improvements in Skates, to be called "Automatic Fasteners;" and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a side elevation of a skate containing my invention. Fig. 2 is a plan view of the same, and Figs. 3 and 4 are detail views of parts of the same. Fig. 5 is a view of a key to be used with a skate containing my invention.

The object of my invention is to so construct a skate that it may be readily and effectively secured to the boot or shoe of the user without the employment of the hands; and it consists in the devices and their combinations, as will be hereinafter fully pointed out and clearly claimed.

In the drawing, B is a resilient foot-plate, made of steel or other suitable material, which is secured at or near its front, by a standard, *h*, or in any other convenient manner, to the rail A, its rear portion being free to move, for a purpose hereinafter described, and provided with a heel-clamp, *t*.

C is a piece of metal which is recessed to fit and work over the rail A, and is secured to the rear portion of the foot-plate B, serving to enable the latter to move vertically without any sensible lateral motion.

A rivet, *c*, secured to the piece of metal C works in a slot, *d*, cut in the rail A, at an angle to its base, and prolonged from a point, *o*, on lines parallel, or nearly parallel, to said base, this construction causing the rivet *c* to be forced forward as the foot-plate is depressed, and to be sprung backward after passing the point *o*, and thus to be held securely in place.

In the forward end of the foot-plate are depressions or grooves in which plates *n* slide, having clamps *n'* at their outer edges, of any convenient shape. Over these plates, and extending beyond them, is a plate, E, held in contact with the foot-plate B, at or near its forward end, by a stud, *i*, forming a part of, or connected to, the standard *h*. The head of this stud is elliptical in form, and projects over the

plate E, its body passing through a slot in said plate. To get said plate into the position shown in the drawing, it is first placed at right angles to the rail A, and then over the stud *i*, the latter passing through the said slot. The plate is then turned, and the head of the stud is thus caused to project over the same, as above referred to, and thus retain it in position vertically and laterally, and yet permit it to slide longitudinally.

The plate E is provided with oblique slots, into which the heads of bolts *l* project, which are secured by nuts *k* to the plates *n*. These plates *n* are slotted, to permit of adjustment in the ordinary manner.

*f* is a slide which is bifurcated beneath the foot-plate B, and passes through, and is capable of sliding in, a slot in the foot-plate, and then through a slot, *x*, in a plate, *m*, a nut clamping the plates E and *m* together being prevented from forcing the plate *m* so as to bind against the foot-plate by a shoulder on said slide *f*. The slot *x* in the plate *m* allows a clamp, *m'*, with which it is provided, to be adjusted to suit the heel of the boot or shoe.

*g* is a pusher, bifurcated at its lower part to embrace the rail A, to which it is pivoted, its upper part entering the bifurcations of the slide *f*, and being pivoted thereto, the points of pivoting to the rail and slide being out of a vertical line, for a purpose to be explained.

To use the skate, the clamps *m' n'* must first be adjusted to fit the heel and sole of the boot or shoe, in a manner similar to that employed in using the "Halifax skate." The boot or shoe is then placed in position, and, pressure being applied to the heel, the foot-plate is depressed until the rivet *c*, moving down the slot *d*, has passed the point *o*, when it is sprung into the prolongation of said slot *d*, and is there firmly held. As the foot-plate is thus depressed, the pusher *g* forces the plates *m* and E backward, the former plate causing the clamp *m'* to hold the heel of the boot or shoe between it and the clamp *t*, while the latter plate, by means of its oblique slots, causes the plates *n* and their clamps *n'* to approach each other and grasp the sole of the boot or shoe, thus firmly securing the skate to the boot or shoe.

To remove the skate, the end of the key (shown in Fig. 5) is placed between the end of

the slot *d* and the metal piece C, and by turning said key a projection on it forces the rivet *c* out of the prolongation of the slot *d*, past the point *o*, when the resiliency of the foot-plate causes it to rise in the slot *d*. As the foot-plate rises, the pusher *g* causes the plates *m* and E to move forward, and thus release the clamps *m' n'* from pressure upon the heel and sole of the boot or shoe.

My invention may be used in any kind of skates. When used in roller-skates, those parts only of the rail are used that are necessary for the pivoting of the pushing-piece, and for the fastening mechanism to slide and catch in.

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

1. The resilient foot-plate, in combination with means for operating the sole and heel clamps by its depression, and means for retaining it in a depressed position, substantially as described.

2. The resilient foot-plate, combined with the clamps *m' n'*, pusher *g*, and slot *d*, substantially as described.

3. The combination of the resilient foot-plate with the slot *d* in the rail, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHANN PETER BECKER, JR.

Witnesses:

BERNHARD SCHENK,  
FRANZ HAGENBOERN.