(No Model.) 2 Sheets—Sheet 1.

B. HATSCHEK.

SKATE.

No. 441,841. Patented Dec. 2, 1890.

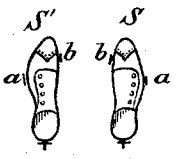


Fig. 5

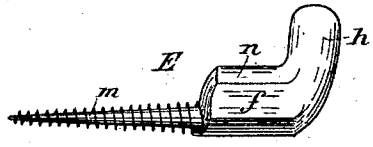


Fig. 6

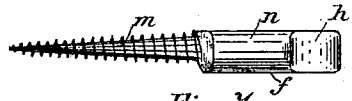


Fig. 7

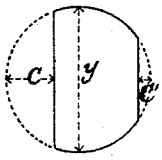


Fig. 10

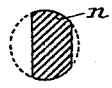


Fig. 9

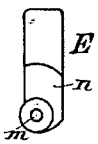


Fig. 8

Fig. 1

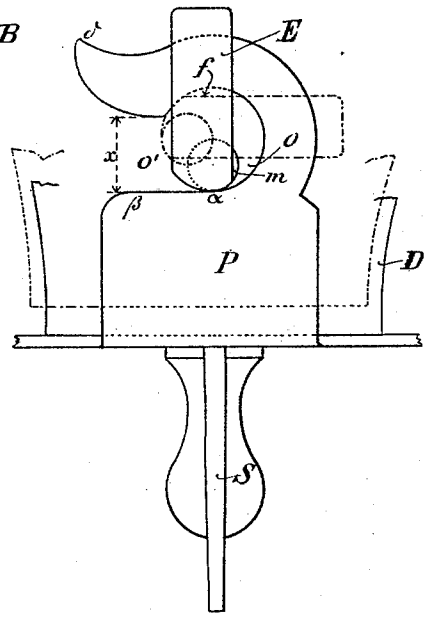


Fig. 4

Witnesses:-
H. E. Walker
A. Goodwin.

Inventor:-
Berthold Hatschek,
by William S. Coulter
atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

B. HATSCHEK.

SKATE.

No. 441,841. Patented Dec. 2, 1890.

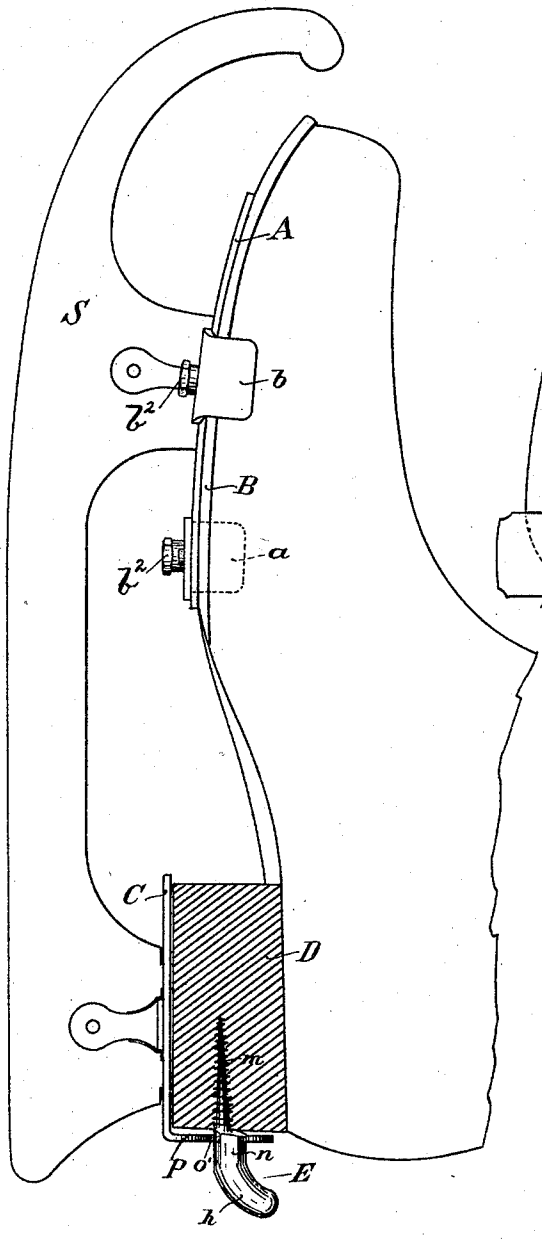


Fig. 2

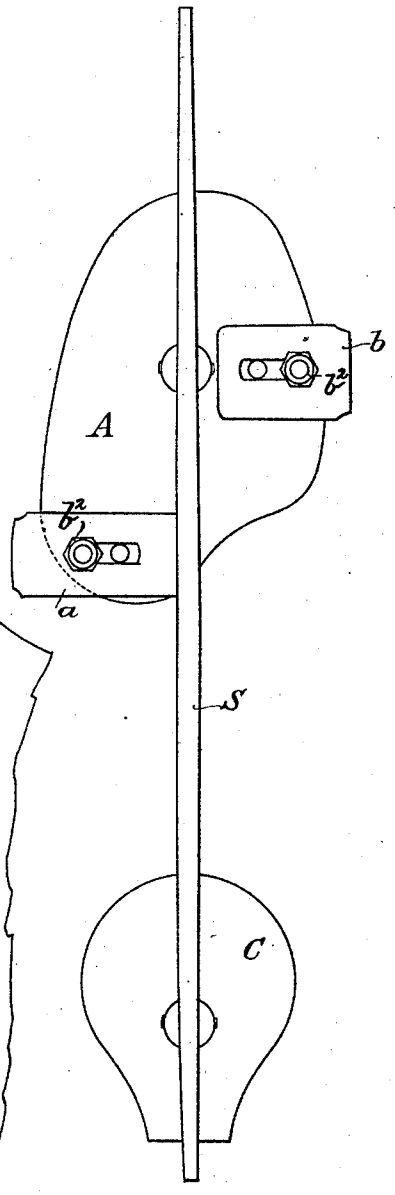


Fig. 3

Witnesses
H. E. Walker
C. A. Northrup.

Inventor:
Berthold Hatschek
by William E. Boulter
atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BERTHOLD HATSCHEK, OF PRAGUE, AUSTRIA-HUNGARY.

SKATE.

SPECIFICATION forming part of Letters Patent No. 441,841, dated December 2, 1890.

Application filed September 29, 1890. Serial No. 366,539. (No model.)

To all whom it may concern:

Be it known that I, BERTHOLD HATSCHEK, a subject of the Emperor of Austria, residing at Prague, in Austria-Hungary, have invented certain new and useful Improvements in or relating to Skates, parts of which are also applicable to snow-shoes and other adjuncts to be applied to the feet, of which the following is a specification.

The present invention relates to skates, and refers particularly to a new means of fastening the skate onto the sole and heel of the boot.

In the accompanying drawings, Figures 1, 2, and 3 are respectively a plan of the upper side, a side elevation, and a plan of the under side of a skate constructed according to this invention. Figs. 4 to 10 are details hereinafter referred to.

On the sole-plate A, which fits closely against the sole, are secured two side pieces, cheeks, or jaws *a b*, which are adjustably fixed to the sole-plate, in order that they may be adapted to the sole B of any boot whatever its breadth may be. These cheeks *a b* are not placed directly opposite but diagonally opposite to each other.

When fitting the skate to the boot, the sole of the boot is introduced between the two cheeks *a b* in such a manner that the foot is not placed straight on the skate, but diagonally across its longitudinal axis, as shown in dotted lines in Fig. 1, and the boot is then turned in the direction of the arrow shown in Fig. 1 until it is all beneath the boot, as shown in Fig. 1 in full lines, during which operation the whole of the skate performs the functions of a lever.

The manner in which the cheeks *a b* are fixed to the sole-plate and their mode of acting not only depends upon the fact that the diagonal is longer than the perpendicular, but also upon the peculiar form of the universally-used boot-sole, the outer edge of which is stretched longitudinally and is more rectilineal than the inner edge, which is shorter from the front point of the boot to the heel and is peculiarly curved. In consequence of this difference the skates cannot be worn on either foot; but one is adapted to fit the right and the other the left foot, and in such a manner that the cheek *a*, which is situated farther back than *b*, corresponds with the outer edge of the sole of the boot, and the other cheek, which lies nearer to the point of the boot, corresponds with the inner edge, and therefore, as diagrammatically shown in Fig. 5, the skate S is meant for the right foot and the skate S′ for the left.

In order to adjust the skate for use on any sole, whatever its breadth may be, the two cheeks *a* and *b* can be displaced after loosening the nuts b^2. This of course must always be done before putting the skate on the boot.

When the skate is straight beneath the boot, as in full lines in Fig. 1, the heel of the boot is fixed to the heel-plate C by means of the arrangement shown in Fig. 2 and in an enlarged back view in Fig. 4. The heel-plate C is provided with a perpendicular or vertical plate P, which is fitted closely against the heel D, and which is cut out in the form of a hook which engages with a spur E inserted into the back of the heel and shaped, preferably, as shown in the accompanying drawings. The peculiar form of the plate P and spur E and the adjustment of the latter enable these parts to be fixed to each other. The plate P, as shown in Fig. 4, has a circular opening *o*, a tributary opening or slot *o′* of which extends toward the inner foot edge. The height *x* of the slot *o′* is about two-thirds of the diameter of the opening *o*, the lower part or edge $\alpha\,\beta$ of the crevice is rectilineal and horizontal, while the top edge is curved, as shown, so that it may serve to guide the spur E into the opening *o*. The spur E is inserted, (preferably screwed,) as shown in Fig. 2, into the back of the heel of the boot in the direction of the longitudinal axis of the heel, so that it can be turned around its longitudinal axis. This is accomplished by means of the shank *m*, (see Figs. 2, 6, and 7,) for which in the example shown the shape of a screw has been chosen, but which may be of any other suitable shape—for example, that of a spike or pin. The part *n* of the spur, which is intended to be introduced into the inlet-opening *o′* of the plate P and to be fixed in the circular opening *o*, is shaped as shown in Fig. 9. It is in the shape of a cylinder with two sides or sectors removed, as shown in dotted

lines in Fig. 9, and, as shown in Fig. 10, on an enlarged scale, the height of the sector c is one-third and the height of the sector c' one-twelfth of the diameter y. The diameter y is twice the diameter of the spindle m, the axis of which is eccentric to that of the part n; but the absolute and relative size of these parts, as well as the degree of eccentricity of the spindle m in regard to the part n, may be varied without departing from the spirit of the invention. The part n of the spur terminates in a handle h, the shape and direction of which may be seen from the drawings; but these may also be varied.

The manner in which the spur E is fixed onto the heel is as follows: The shank m, which, as before explained, is screwed into the heel and may be turned on its axis, must be fixed at such a height from the under surface of the heel that when the eccentric part n is in its highest position the under surface of the heel must fit closely on the heel-plate C, but when n is in its lowered position the heel will be raised from the heel-plate C. The eccentric part n of the spur E has the highest position when, for example, the handle h of the spur, as shown in the drawings, points upwardly. Before putting the skate on, the spur is turned ninety degrees in the direction of the outer edge of the foot—that is to say, so that the surface f thereof, Figs. 4, 6, 7, 8, and 9, stands uppermost. When putting the skate on, the part n is now entirely conducted into the mouth of the opening o of the plate P, and the spur E is turned back ninety degrees into its former position, so that the cylindrical part n is well fixed into the opening o, and the heel-plate C is drawn tightly up against the heel. The skate is then tightly secured to the boot. In taking the skate off, the spur E is turned ninety degrees in the opposite direction to the previous one (toward the inner edge of the foot) and the skate detaches itself easily from the boot. It is clear that this method of fastening skates is applicable to all kinds of skates, even to those with wooden bodies or stocks. If desired, the back plate P can be made adjustable, so that the skate can be adapted to a boot or shoe of any length. The same arrangement is applicable for roller-skates, also for climbing irons or spikes, for snow-shoes, for pattens, and other such adjuncts for application to boots, shoes, and the like.

I claim—

1. For securing a skate onto the heel of a boot or shoe, a revoluble spur, such as E, inserted into the heel and adapted to engage a hook-shaped plate, such as P, of the skate, by means of which the eccentric part n of the spur by its rotation slightly raises the back part of the skate and presses it against the bottom of the heel, substantially as described.

2. The spur E, inserted into the heel of the boot, the operative part n of which is eccentric to the shank m and is shaped substantially as described.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

BERTHOLD HATSCHEK.

Witnesses:

JOS. VOSTRIL,

FERDINAND FIALA.