

(No Model.)

O. E. WOLLERT.
SKATE.

No. 502,109.

Patented July 25, 1893.

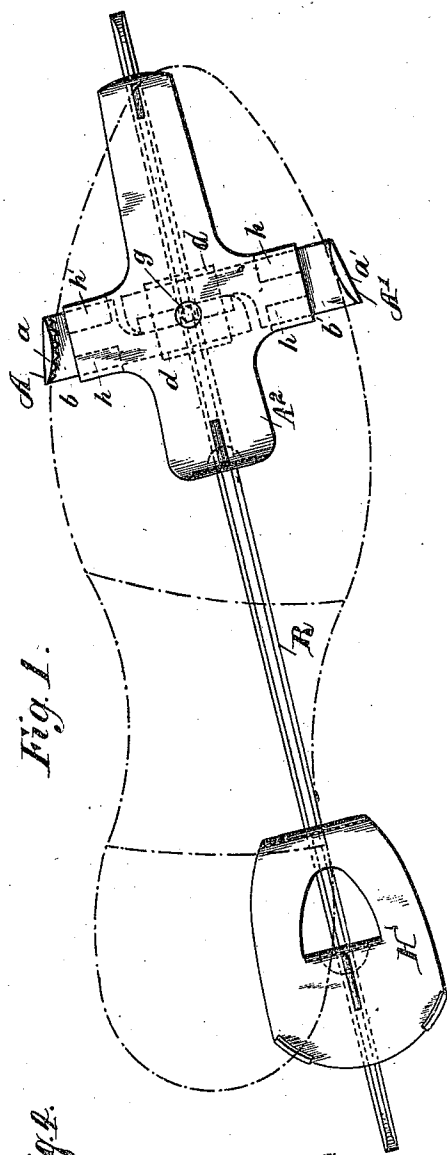


Fig. 1.

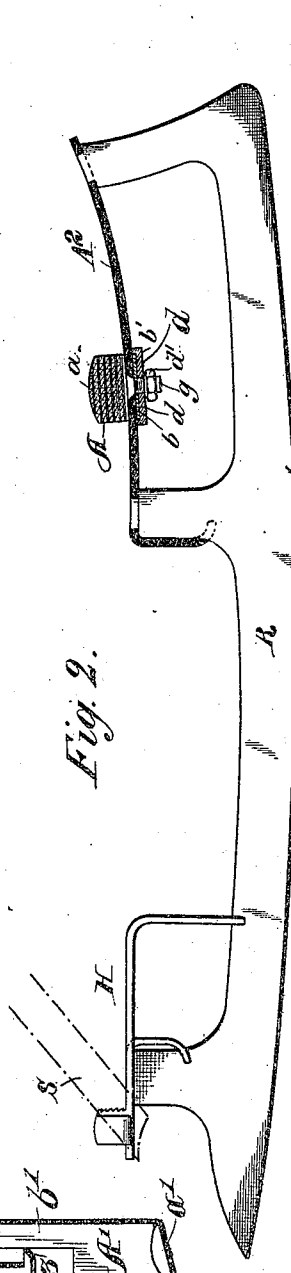


Fig. 2.

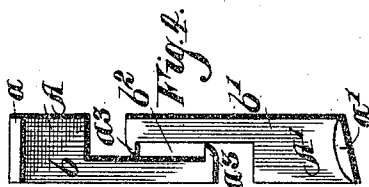


Fig. 3.

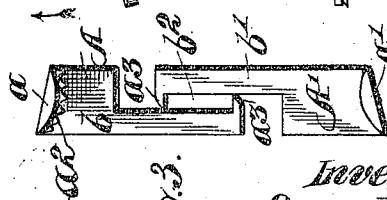


Fig. 4.

Witnesses:

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By *Harry M. [Signature]* Attg.

UNITED STATES PATENT OFFICE.

OSCAR EHRENFRIED WOLLERT, OF STOCKHOLM, SWEDEN.

SKATE.

SPECIFICATION forming part of Letters Patent No. 502,109, dated July 25, 1893.

Application filed October 10, 1892. Serial No. 448,368. (No model.) Patented in Sweden August 11, 1892, No. 3,889.

To all whom it may concern:

Be it known that I, OSCAR EHRENFRIED WOLLERT, a subject of the King of Sweden and Norway, residing at Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in Skates, (for which I have obtained Letters Patent in Sweden, No. 3,889, dated August 11, 1892;) 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to skates, and has for its object certain improvements whereby the skates may be more readily adjusted and fastened to the feet, and whereby when once adjusted to a given dimension of boot or shoe further adjustment is avoided, as will now be fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of a skate with my improvements applied thereto. Fig. 2 is a vertical, longitudinal section thereof, and Figs. 3, and 4, are detail views of the sole clamp detached.

Similar letters of reference refer to like parts in the above-described drawings.

The general construction of the skate is a well-known one and requires therefore no detailed description, my improvements relating chiefly to the means for securing the foot or sole plate to the boot or shoe.

The foot or sole plate, A^2 , is preferably cruciform, or substantially so, the lateral arms at their outer ends being made sufficiently wide to admit of a portion thereof being bent into U-shape to form on their under side transverse guide grooves or ways, h , h' , in which slide the shanks or arms, b , and b' , of the foot or sole clamps, A , and A' , respectively. As shown in Fig. 3, the shanks of the sole clamps, A , and A' , are cut away for a portion of their length, leaving a shoulder or lateral projection, a^3 , at their inner attenuated ends that serves to limit the movement of the clamps in one direction, the shoulders formed by the cut away or recessed portion at

the other end thereof limiting the movement of said clamps in a reverse direction, while the shoulders or projections, a^3 , also serve to hold the shanks at a certain distance from each other, whereby a slot, b^2 , is formed between them for the passage of the screw-bolt, g , that is secured centrally or nearly so of the sole plate, A^2 , preferably at the point of intersection of the longitudinal and transverse center planes or lines, as shown in Fig. 1, said plate being also provided at that point with supporting and guide ways, d , d' , in which the shanks, b , and b' , of the sole clamps, A , A' , are supported and adapted to slide. By means of the described construction of the shanks of the sole clamps a single locking bolt, g , and nut, d' , is all that is required to firmly secure the clamps in position when once adjusted.

As shown in Figs. 1, 3, and 4, the inner or acting or biting faces of the clamping jaws, a , and a' , are not parallel with the skate runner, R , but at an angle thereto, the inclination of the inner face of the clamping jaw, a' , of the clamp, A' , being preferably greater than that of the jaw, a , of clamp, A , as shown in Figs. 1, 3, and 4, though the inner face of one of said clamping jaws may be parallel with the runner, R , preferably that of the inner jaw, a , against which the greatest pressure is exerted in skating, as shown in Fig. 4. In practice I prefer to make the inner face of both jaws, a , and a' , more or less convex, the clamping face of the outer jaw, a' , being as usual corrugated transversely, while that of the inner jaw, a , is provided with forwardly inclining teeth, a^2 , as shown, for purposes presently explained.

In the use of the skates the clamping jaws, A , and A' , are first adjusted to the width of the sole of the boot or shoe at a point in front of the greatest diameter of the sole, and then secured into the adjusted position by means of the nut d' , on bolt, g . If the foot is now slipped between the clamping jaws, a , and a' , the longitudinal center of the boot or shoe will be on a line inclined to the longitudinal axis of the runner, R , as shown in dotted lines in Fig. 1. By turning the skate in the direction of the arrow to bring the heel plate, H , thereof under the heel of the boot or shoe, the clamping jaw, a , will perform the function of

a fulcrum on which the skate (which performs the function of a lever) turns, the clamping jaw, a' , moving rearwardly or toward the heel of the boot or shoe along the edge of the sole, and as the latter increases in diameter in that direction it will be firmly clamped between the jaws, a , and a' , when the skate has been turned into position for use, that is to say, when the heel plate, H, of the skate has been moved under the heel of the boot or shoe. Inasmuch as the inner jaw a is held against forward motion and the outer jaw a' against vertical motion, the skate can be firmly secured to the boot or shoe by means of a heel strap alone to hold the heel end of the skate in proper position.

To remove the skate it will only be necessary to unbuckle the instep strap and turn the skate relatively to the boot or shoe back to the position shown in Fig. 1, when the foot may be readily slipped from between the clamps.

By giving the acting or biting face of the jaw, a' , of clamp, A', a greater inclination toward the longitudinal axial plane of the runner, R, than to the like face of jaw, a , of clamp, A, a better wedging action is obtained when the skate is turned as before described.

Not only are the devices for securing the toe end of the skate to a boot or shoe of the simplest and most inexpensive nature, but when the clamps, A, and A', are once adjusted to a sole of given diameter, no readjustment is necessary, so that as long as the same boots or shoes are worn, to the soles of which the clamps have been adjusted, no further adjustment will be required.

My improvements have the further advantage that the adjustment can be effected anywhere, and that the skates can be put on in a much shorter time than is the case with skates of usual construction, in that this operation is accomplished by simply slipping the foot between the sole clamps, A, and A', turning the skate to bring the heel plate thereof under the heel of the boot or shoe, and then buckling the instep straps, a corre-

spondingly short time being required in taking the skates off.

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

1. In a skate, the combination with the runner and heel plate, of sole clamps adjustable in planes at right angles to the runner, one of said clamps provided with teeth or corrugations to hold it against forward motion and constructed to act as a fulcrum for the runner when the skate is applied to the foot and the runner moved laterally to bring said heel plate to the heel of the boot or shoe, the other sole clamp provided with teeth or corrugations to prevent vertical motion of the sole plate, and constructed to guide the skate in its lateral movement.

2. The combination with a skate, of sole clamps adjustable in a plane at right angles to the runner, said clamps having convex acting or biting faces, one of which is provided with forwardly inclined teeth, said acting or biting faces lying in planes intersecting the longitudinal plane of the runner in a forward direction, for the purpose set forth.

3. The combination with the sole plate, of a skate provided on its under side with transverse guide ways, and a screw-threaded bolt or pin between said ways, of two clamps fitted and reciprocally movable in said ways, said clamps having a portion of the proximate faces of their shanks recessed to form an abutment or shoulder at either end and a slot between them for the passage of the bolt or pin and to limit the movement of the clamps in either direction, and a nut adapted to screw onto the bolt and impinge upon both shanks of the clamps, for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

OSCAR EHRENFRIED WOLLERT.

Witnesses:

KARL ESIK THORSSELLY,
FRANS JOHAN LUNDGREN.