O. EDWARDS.

Skates.

No. 163,307. Patented May 18, 1875.

Fig. 1.

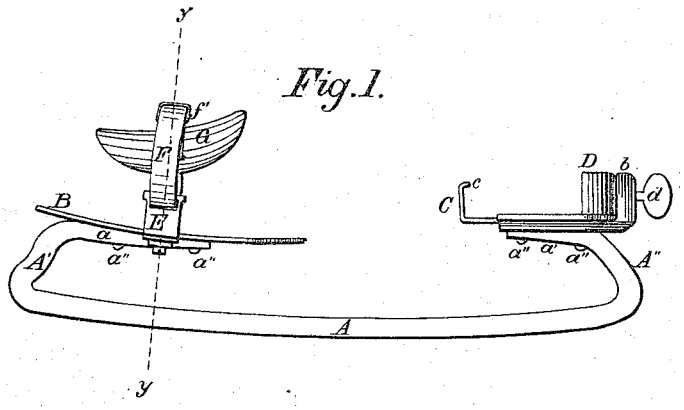


Fig. 2.

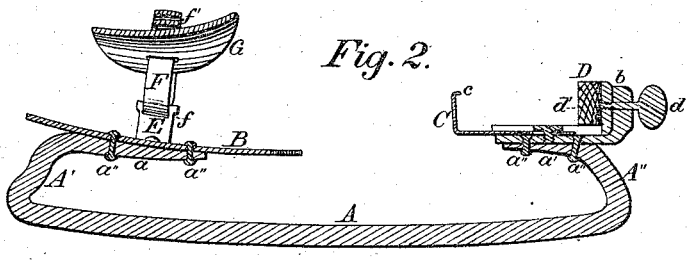


Fig. 3.

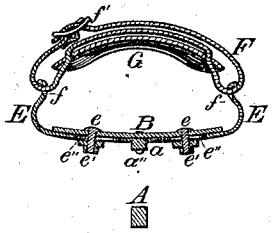


Fig. 4.

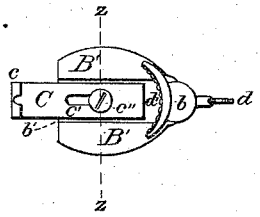
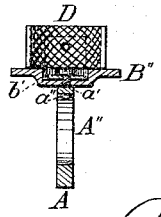


Fig. 5.



Attest:

C. J. Crilly

Benjn. Severson

Inventor:

Oliver Edwards

By N. Cramford atty.

UNITED STATES PATENT OFFICE.

OLIVER EDWARDS, OF FLORENCE, MASSACHUSETTS.

IMPROVEMENT IN SKATES.

Specification forming part of Letters Patent No. **163,307**, dated May 18, 1875; application filed February 8, 1875.

To all whom it may concern:

Be it known that I, OLIVER EDWARDS, of Florence, in the county of Hampshire, in the State of Massachusetts, have invented certain Improvements in Skates, of which the following is a specification:

The object of this invention is to produce a skate that is easy on the foot of the skater, can be perfectly secured to the boot or shoe, and at the same time be durable and light; and it consists in the construction of the parts whereby the above object is attained, as will be fully hereinafter described.

In the drawings, Figure 1 is a side view of the skate; Fig. 2, a longitudinal section of same; Fig. 3, a cross-section on line *y y;* Fig. 4, a top view of heel-plate and fastenings; and Fig. 5 is a vertical section on line *z z.*

A represents the runner of the skate, forming the front riser A′ and the toe-plate support *a* on its forward end, and the rear riser A″ and heel-plate support *a′* at the rear end. B is the toe-plate, and is made fast upon the part *a* of the runner A by the rivets *a′* passing through the plate and its support *a*, as seen in Figs. 1 and 2, and when riveted secures the plate surely to the support *a*. B′ is the heel-plate, riveted fast to its support *a′* by rivets *a″ a″*, the same as the toe-plate. At its rear part a stud, *b*, rises vertically to give support to a clamping-screw. Longitudinally and centrally in the top of the heel-plate B′ is a parallel-sided depression, to receive an adjustable clamp to take hold of the front part of the boot or shoe heel. C is an adjustable clamp-plate, fitting and made adjustable in the depression *b′* of heel-plate B′, is bent upward at right angles to its body at its forward end, terminating in another right-angled bend to the rear to form the sharp teeth *c*, that take into the forward part of the boot-heel, has a slot, *c′*, centrally in a part of its length, in which is the holding-screw *c″*, to hold it to the proper adjustment to receive the boot-heel. D is a circular and upright clamp-plate, concave on its forward side, and has sharp points or roughened surfaces *d′*, to take into the back part of the boot-heel and prevent any slipping of the heel when clamped. *d* is a clamping-screw passing through the stud *b* of plate B′, which forms the nut for screw *d*, and is secured to clamping-plate D, so as to freely turn therein and cause said plate to move back and forth by turning the screw *d* in the screw nut or stud *b*. By first forcing the clamp-plate D back to the stud, then adjusting the clamp-plate C to the size of the boot-heel, and putting the heel between the two parts C and D, and turning the clamping-screw to force the clamping-plate D hard against the heel, it will be securely fixed therein, and will not release its hold until the screw *d* is turned back to force the clamp D from the heel. E E are adjustable bent clamps or jaws for holding the toe of the boot upon the toe-plate of the skate. They pass under the toe-plate, and each has a slot, *e″*, therein to receive a clamping or holding screw, *e*, so that when the clamps are at the right distance apart, the nuts *e′* are turned to bear hard upon the clamps and secure them to the toe-plate, so that there will be no lateral movement of the boot or shoe between the jaws E. As seen in Fig. 3, these clamps E are curved in their upward projection to the slot *f*, near their upper ends, when they bend at right angles out in opposite directions, and receive in slot *f* the holding-strap F, which secures the foot to the skate by the buckle *f′*, and by such construction prevents undue pressure of the strap upon the foot. G is a pad to bear upon the foot and shield the foot from the pressure of strap F, which passes through the pad in openings or eyelets near each end of the pad, and then over it, leaving only the pad to bear upon the top of the foot. This gives ease to the foot under the strap, and prevents the strap from binding the action of the foot in skating, and, in conjunction with the side clamps, makes the skate secure upon the foot of the skater.

It will be observed that the runner of the skate is narrow, and, being made of the best metal, will yield some under the weight of the skater, and, being continued to form the supports of the toe and heel plates, and the toe-plate support *a* extending back and tapered at its rear end, will spring or yield considerably under the weight of the skater, which carries the incumbent weight or pressure forward over the riser at the front end of the runner, and backward the

same to the rear end, making the entire runner a spring, or yielding to the weight of the skater when the greatest weight or force is put upon it, thus giving ease to the forcible strides or motions of the skater, not found in a non-yielding skate, and hence a strong skate of light materials.

Having thus described my invention, what I claim is—

1. The combination of the stationary heel-plate B′, having the depression *b′* and the vertical stud *b*, with the clamp-plate D and screw *d*, substantially as described.

2. The combination of the stationary heel-plate B′, having depression *b′* and stud *b*, clamp-plate D, and screw *d*, with the adjustable jaw C, substantially as described.

3. The adjustable clamps E, when curved to receive the sole of the boot, and bent outward at the slot *f* to receive the strap F, substantially as and for the purpose described.

OLIVER EDWARDS.

Witnesses:

A. L. SOULE,

C. A. SHERMAN.