W. Race,

Skate.

No. 45,075. Patented Nov. 15, 1864.

Fig. 3.

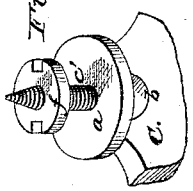


Fig. 1.

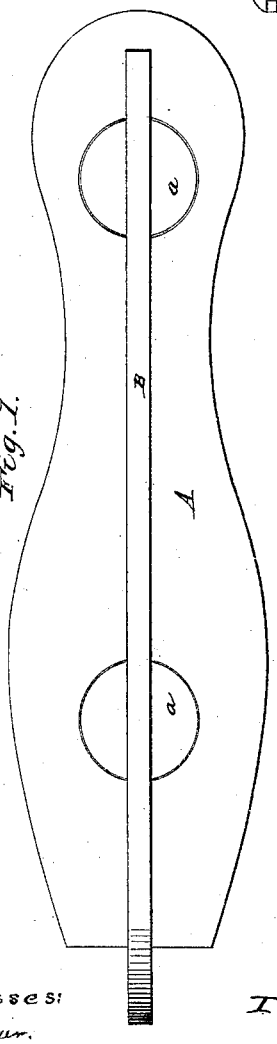
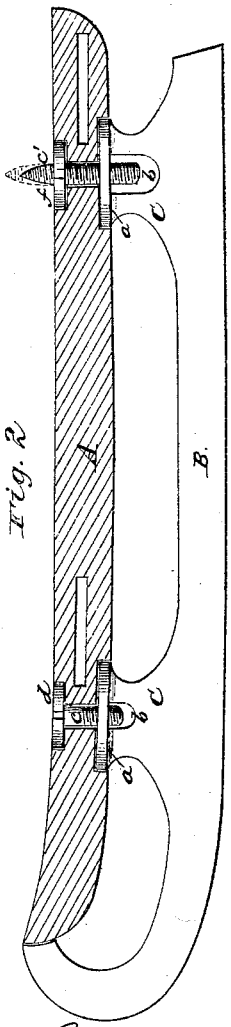


Fig. 2



Witnesses:
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UNITED STATES PATENT OFFICE.

WASHBURN RACE, OF LOCKPORT, NEW YORK.

SKATE.

Specification forming part of Letters Patent No **45,075**, dated November 15, 1864.

To all whom it may concern:

Be it known that I, WASHBURN RACE, of Lockport, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Skates; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a bottom view of my improved skate; Fig. 2, a central longitudinal section of the wooden bed with the skate-runner and connecting parts in elevation; Fig. 3, a perspective view of the parts forming the rear fastening detached.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in a chilled cast-iron skate-runner provided with enlarged plane bearings on the ends of its standards for holding firmly and rigidly against the wood, said bearings being secured in place by means of screws and nuts of a peculiar construction, the screw in the rear forming the heel-screw, and being capable of being adjusted higher or lower at pleasure.

As represented in the drawings, A is the wooden bed or foot-support, which may be of any ordinary construction, and B is the skate-runner, which I make of iron, substantially of the shape represented, and cast in molds with an iron chiller at the bottom, so as to give it a chilled surface at the bearing-edge. I thus produce a surface on the runner as hard as steel and as enduring; and experience has proved that the cast runner can be made sufficiently strong for service without being heavy or clumsy. There is obviously not only great economy in the use of this material instead of steel, but also great economy in the labor of casting instead of forging.

The runner has in front and rear, as usual, two standards, C C, and these are respectively provided with plane bearings *a a* of suitable extent to firmly support the wooden bed, as shown clearly in the drawings. When the bed is secured thereon, it will be seen that the bearing is so broad that the strain or leverage on the wood is in a great degree obviated, and therefore there is less danger of splitting. In most skates the metal passes through the wood in the center, and the bearing, if any, on the under side of the bed is so narrow that the inclination of the foot in skating has the tendency to split the wood or to loosen the fastening.

The standards C C are each provided with an opening, *b*, Figs. 2 and 3, for the purpose of allowing the fastening-screws to pass down through the wood centrally, and that of the heel to adjust higher or lower, as will presently be described. The wooden bed is secured to the front standard simply by a screw, *c'*, which screws through the bearing *a*, and is provided with a head, *d*, countersunk in the upper surface of the wood and clamping the parts together. The rear fastening is arranged somewhat differently, the screw *c* being independent and having a thread cut its whole length, and serving the double purpose of a fastening-screw and as the heel-screw for entering and holding in the boot. It passes down through the wood and screws into the bearing *a*, as in front; but it has on top the wood a nut, *f*, by which the parts are clamped together. By this arrangement it will be seen that a double effect is attained—viz., first, a simple and effective fastening is secured, by which the bed and the runner are rigidly coupled; and secondly, the screw *c*, which also serves as the heel-screw, is adjustable higher or lower at pleasure, as indicated by red lines, Fig. 2, so as to adapt its projection to different sized skates, as well as to compensate for the increase of size of the hole or socket into which it screws in the heel of the boot. As the hole or socket becomes worn or enlarged, the screws can be gradually raised, thus securing at all times a firm connection between the foot and skate. The screw *c* being simply a plain screw without head, it can be easily replaced at any time without difficulty. It will be seen that there is a particular combination and adaptation of parts in this device which renders one dependent on another.

A recapitulation presents the following advantages: A chilled-edge cast-iron runner is produced at much less expense than a steel one, while its bearing-edge is as hard and enduring, and the iron may be made amply strong without being heavy. The remainder of the runner, being soft, is easily worked and finished. The bearings *a a* furnish a broad support to the wood, so that it is not liable to split, while the openings *b b* allow the coupling-screws to pass down through centrally and to adjust

higher or lower, and the whole being formed with the runner B in a single piece is easily and economically made. The heel-screw *c*, by being adjustable higher or lower relatively to the bed A, is adapted to any size of skate, and to compensate for the enlargement or wear of the hole in which it screws in the heel. The combination of the heel-screw *c* with the bearing *a* and nut *f* furnishes a secure coupling of the bed and runner.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A cast-iron skate-runner with chilled running edge or surface, as a new article of manufacture.

2. The rear fastening-screw, *c'*, having a screw-thread on its whole length, arranged in combination with the skate-runner and wood so as to act also as an adjustable heel-screw, substantially as herein specified.

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

Witnesses: WASHBURN RACE.

S. R. O. MATHEUS,

E. STANLEY RACE.