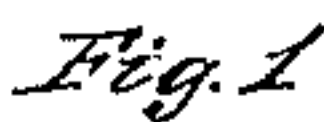


Skate,

Patented Oct. 2, 1866.



Inventor;
J. W. Arvine
by Atty's
Mason, Fenwick Lawrence

UNITED STATES PATENT OFFICE.

F. W. ARVINE, OF NEW HAVEN, CONNECTICUT.

IMPROVED SKATE.

Specification forming part of Letters Patent No. 58,367, dated October 2, 1866.

To all whom it may concern:

Be it known that I, F. W. ARVINE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Skate; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of the skate strapped to a boot. Fig. 2 is a view of the skate with the runner detached from its rear standard. Fig. 3 is a bottom view of the foot-stand with a portion of the runner broken away. Fig. 4 is a longitudinal section taken centrally through the skate when the parts are adjusted as shown in Fig. 1. Fig. 5 is an enlarged view, showing the sliding wedge and toe-straps.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention is to employ the runner of a skate as a lever for tightening a strapped skate upon the foot, and holding it firmly thereon, at the same time making provision for quickly detaching the skate from the foot by a simple movement of the runner, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the foot-stand, which may be made of thin steel, so as to possess strength and lightness, and which is shaped to the sole of the boot. The rear or heel edge of this stand A is provided with one or more heel-spurs, *a*, which project upward and curve forward, for the purpose of entering the heel of a boot when the skate is properly secured thereto, as shown in Fig. 1.

Two standards, B and C, are secured, respectively, to the heel and toe parts of the stand A, and project suitable distances from the bottom of the same, and have slots cut in their lower ends for receiving the upturned ends of the runner D, as shown in Figs. 1, 2, and 4. These standards B and C may be made of cast metal and riveted firmly to the foot-stand.

The runner D may be made of a narrow piece of steel bent at its end, as shown in Fig.

1, or constructed in any other suitable manner whereby a space is left between its upper edge and the bottom of the foot-stand.

This runner is pivoted at its forward end to the stud or standard B by a transverse pin, *b*, so that it will swing freely about this pin. The rear end of said runner is slightly tapered, and notched at *b'* for receiving a latch, *c*, that is formed on a thumb-spring, *c'*, by which this rear end of the runner is securely locked within its slot in the standard C by simply pressing the runner therein. By pressing the spring *c'* forward the rear end of the runner will be released, and may be moved to the position shown in Fig. 2.

To the upper edge, and near the front end of the runner D, a rod, E, is pivoted, which extends backward and upward a suitable distance, and is again pivoted by a transverse pin to a short stud which projects from the bottom of a sliding plate, G. The rear portion of this plate is quite narrow, and its forward portion terminates in a wedge, G', which is slotted at *d d* and *e*. The side pieces outside of the two oblique slots *d d* are slightly depressed for the purpose of receiving loosely the eye-plates *f f*, to which the toe-straps H H are hinged, as shown in Figs. 3 and 5.

The plate G G' is arranged in the center of the foot-stand, in a direction with the length thereon, and it is connected to this stand A, and guided in its longitudinal movements by means of two jaws or lugs, *g g*, and also a short fixed piece, *g'*, which latter passes through the oblong slot *e* in the wedge G', and has a transverse plate, *h*, riveted to it, as shown in Figs. 3, 4, and 5. This piece *h* is slotted in a direction with its length, which slots receive pins *i i*, that project from the eye-plates *f f*, and allow these plates to be extended and contracted laterally by the movements of the sliding plate G G'.

The two toe-straps H H are connected together above the foot-stand A by means of buckles or other fastening which will admit of their being loosened or tightened at pleasure to adapt them to different sizes of feet.

I use, in conjunction with the toe-straps H and heel-spurs *a*, an instep-strap, J, which latter is secured by a staple or other fastening to the rear end of the slide G G', as shown in

Figs. 1 and 3. This instep-strap is made of two parts, and united above the foot-stand by means of a buckle.

The manner of applying the skate to the foot is as follows: The latch *c* is released from the runner and the latter adjusted, as shown in Fig. 2, which operation will move the slide *G G'* forward to the position indicated in Fig. 5, and thus cause a separation of the lower ends of the toe-straps *H*, and also move the lower ends of the instep-strap forward. The foot is now put upon the stand *A* and slipped beneath the straps *J* and *H* to the position desired. The rear end of the runner is now forced back to its position in the standard *C* and locked, which operation draws the slide *G G'* backward, and contracts the size of the space within the toe-straps, and also moves the foot-stand forward until the spurs bite firmly into the heel of the boot, after which the instep-strap *J* is drawn tightly over the foot, thus securely and tightly fastening the skate upon the foot.

As my improved skate is adapted to fit feet of different sizes, it will be necessary before using the devices for tightening the skate on the foot to adjust the toe and instep straps according to the degree of tightness which will be found comfortable.

The runner *D* serves as a powerful lever by which to draw the straps very tight about the feet, and at the same time to force the heel-spurs *a* into the boot-heel to secure the skate at this point. The plate *h*, with its transverse

slots crossing the oblique slots through the wedge *G'*, will allow the toe-strap to be expanded and contracted laterally, but prevents this strap or straps from being moved out of place longitudinally.

The tightening of the instep-strap is effected by the continued backward movement of the slide *G G'* after the heel-spurs enter the boot-heel.

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

1. Adapting the runner of a skate to serve as a lever, in conjunction with clamps or other fastenings, for securing a skate to the foot, substantially as described.

2. Pivoting the runner *A* to the foot-stand at one end, and providing a latch-fastening for said runner at its other end, substantially as described.

3. Applying the instep and toe straps to a sliding plate, *G G'*, operating substantially as described.

4. The heel-spurs *a*, in combination with a sliding plate, *G G'*, having toe and instep straps applied to it, substantially as described.

5. The construction of the bottom slide of two portions, *G G'*, which are adapted for adjusting the toe and instep straps of a skate.

F. W. ARVINE.

Witnesses:

HENRY DAVIS,
SIMEON E. BALDWIN.