J. A. DODGE.

SKATES

No. 191,573. Patented June 5, 1877.

Fig. 1.

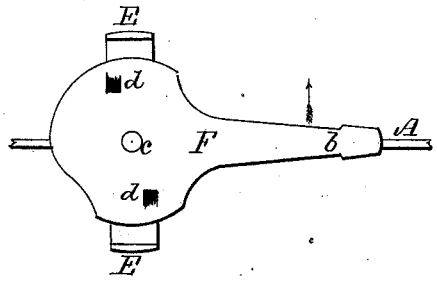


Fig. 2.

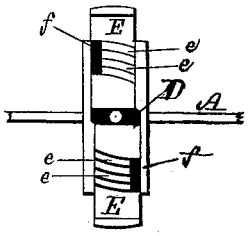


Fig. 3.

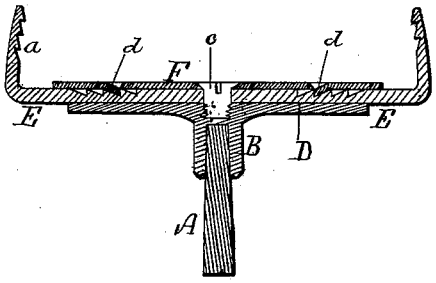
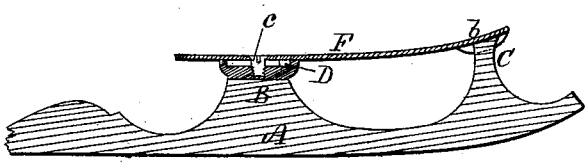


Fig. 4.



Witnesses.
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M. E. Boardman.

Inventor.
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UNITED STATES PATENT OFFICE.

JOHN A. DODGE, OF BRIDGETOWN, NOVA SCOTIA.

IMPROVEMENT IN SKATES.

Specification forming part of Letters Patent No. **191,573**, dated June 5, 1877; application filed December 16, 1876.

To all whom it may concern:

Be it known that I, JOHN A. DODGE, of Bridgetown, Nova Scotia, at present residing at Boston, Suffolk county, Massachusetts, have invented a new and useful Improvement in Skates, of which the following is a specification:

This improvement relates to that portion of skates designed to clamp and confine the sole of the boot; and consists in the combination, with the runner, of a lever and a pair of movable jaws or clamp-plates, operating together, the lever being pivoted to the forward part of the runner, or that portion intended as a rest for the ball of the foot, and provided with obliquely-disposed spurs depending from its under side, which engage segmental or curved grooves cut tangentially upon the clamp or jaw-plates below, the lever having such range of movement upon its fulcrum that its spurs may be thrown out of engagement with its teeth when it becomes desirable to effect great changes in the distance between the jaws in adapting the latter to soles of varying widths.

The drawings accompanying this specification represent, in Figures 1 and 2, plans, and in Figs. 3 and 4 sections, of a portion of a skate containing my improvement.

In these drawings, A represents the forward part of a skate-runner, and B a shelf-plate, created upon or affixed thereto for supporting the ball of the wearer's foot, the extreme forward end of the runner terminating in an upright post, C.

In carrying my improvement into practice, I create in the upper part of the shelf B, and at right angles to the largest plane of the runner A, a groove, D, and I deposit in this groove twin plates E E, whose outer ends terminate in upright jaws or ears *a a*, to clasp the opposite edges of the boot-sole. Over the top of the plates E and shelf B I place a flat lever, F, whose forward end or handle *b* rides over and engages the top of the runner-post C, and thereby retains itself in place, the lever being fulcrumed to the shelf B by an upright pivot, *c*, which extends downward between the inner ends of the plates E and screws into said shelf. *d d* in the drawings represent two spurs punched from the metal of the lever F, one upon each side of its fulcrum, and extending downward each into one of a series of curved segmental grooves or teeth, *e e*, cut in the upper face of each plate E at a tangent to the fulcrum of the lever, the arrangement of the lever and its spurs, and the grooves *e*, being such that as the handle of the lever is turned upon its fulcrum to one side of, and away from, the skate-runner the spurs act upon the teeth to thrust the plates apart, and release the sole from the bite of the jaws, while, as the lever is returned to place, the jaws are forced in toward each other and firmly clamp or clasp opposite edges of the sole.

In practice, the throw of the lever F effects a separation of the jaws about three-sixteenths of an inch, which is sufficient to release the boot-sole; but when it becomes desirable to effect greater changes in the distance between the jaws, (as, for instance, in adapting the skate from one sole to another, whether wider or narrower,) I release the handle *b* of the lever from the inner post C and turn such handle as far as possible in one direction; or, as shown in the present instance, (which represents my improvement as applied to a left boot,) in the direction of the arrow in Fig. 1 of the drawings. Each spur *d* of the lever enters a notch, *f*, cut in the adjacent side of each plate E, these notches being of such length that the plates may be moved outward or inward to the desired extent. When this has been done the handle of the lever is returned to place, and the spurs rest in the advance end of their respective grooves. To separate the jaws *a* when applying the skate to the wearer's foot the lever-handle is turned away from the runner in a direction opposite to that last named, the effect being that the spurs *d* act upon the tangential grooves or teeth *e* to force the said jaws asunder and admit the sole between them. When the lever is returned to place a reverse movement of the plates ensues, and the jaws firmly clamp opposite edges of the sole.

It will be seen that when the lever F is in a locked position, as shown in Fig. 1 of the drawings, the strain and thrusts upon the jaws *a* and plates E are exerted equally upon opposite sides of the fulcrum or pivot of the lever. For this reason there is no tendency of the lever to be thrown from its position, and I am not compelled to resort to additional means,

such as bolts or screws, to confine the jaws securely in place against the sole of the boot.

An important advantage of my improvement will be seen in the fact that I am enabled to adjust the clamp-plates to soles of any width without the use of an instrument of any kind, aside from the skate itself.

Heretofore, as far as my knowledge extends, a screw-driver or wrench is requisite when these changes are to be made.

I claim—

1. The combination of the lever F and clamp-plates E with the skate-runner, the lever being pivoted to the runner and provided with the obliquely-disposed spurs *d*, and the plates being furnished with the tangential grooves or teeth *e* to operate with the said spurs, and with the notches *f* to receive said spurs and release the plates, the whole being substantially as and for the purposes stated.

2. The combination, with plates E, having eccentric grooves arranged in parallel series, of the lever F, provided with spurs engaging said grooves, the whole being arranged substantially as described, whereby the changes in position of the latter to accommodate soles of varying widths are effected without additional means, essentially as and for the purposes stated.

JOHN A. DODGE.

Witnesses:
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