

B. GEIGER.

Skates.

No. 134,047.

Patented Dec. 17, 1872.

Fig. 1

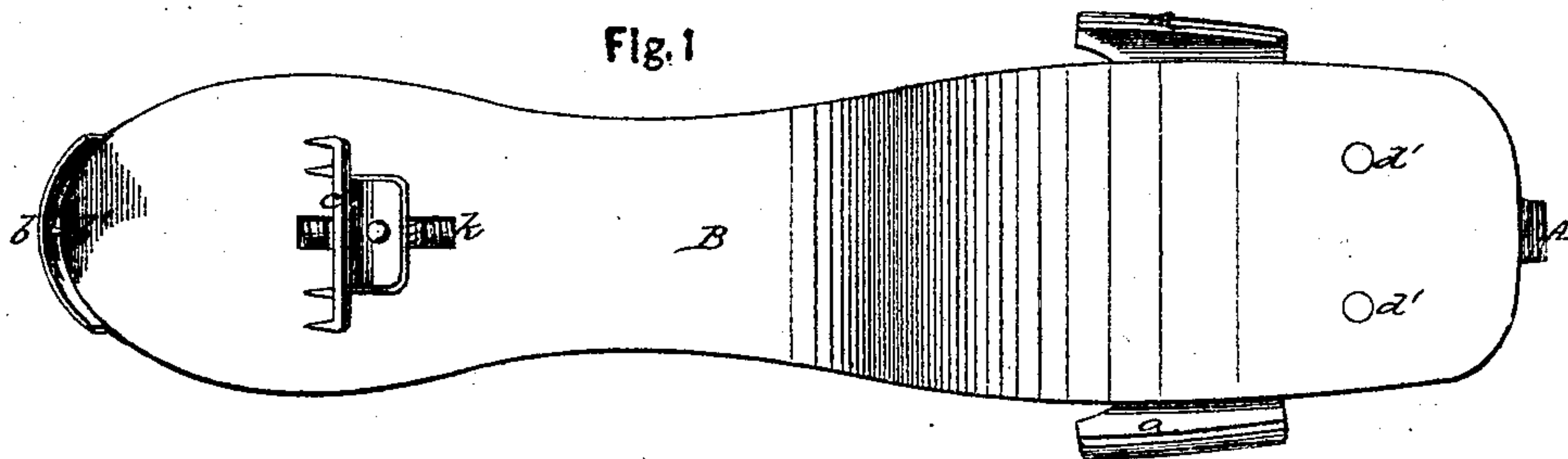


Fig. 2.

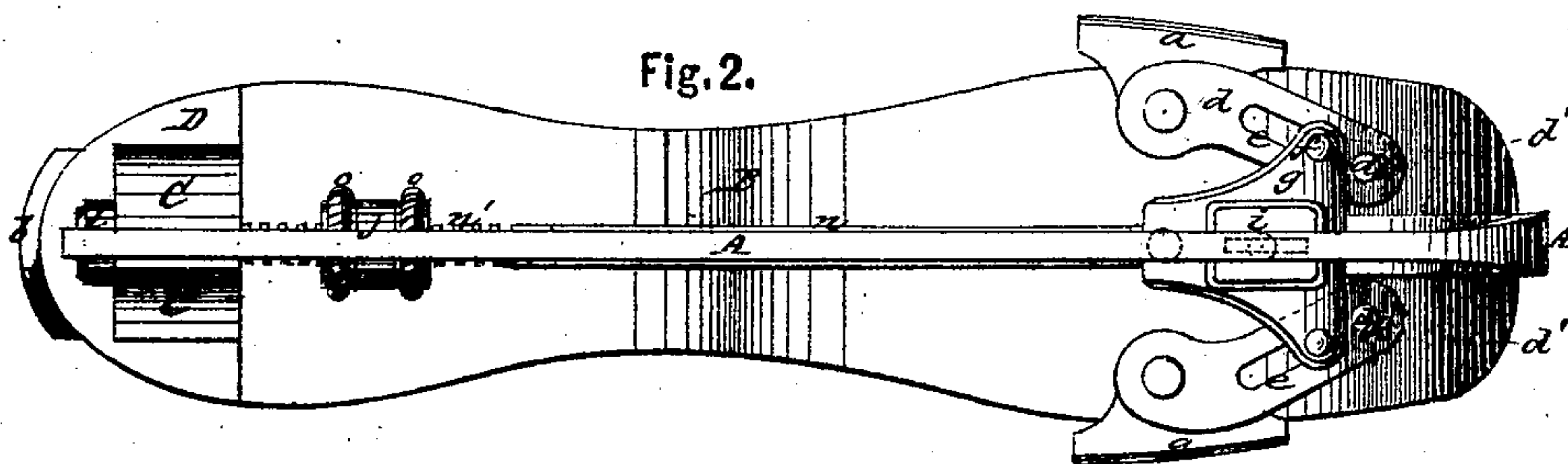
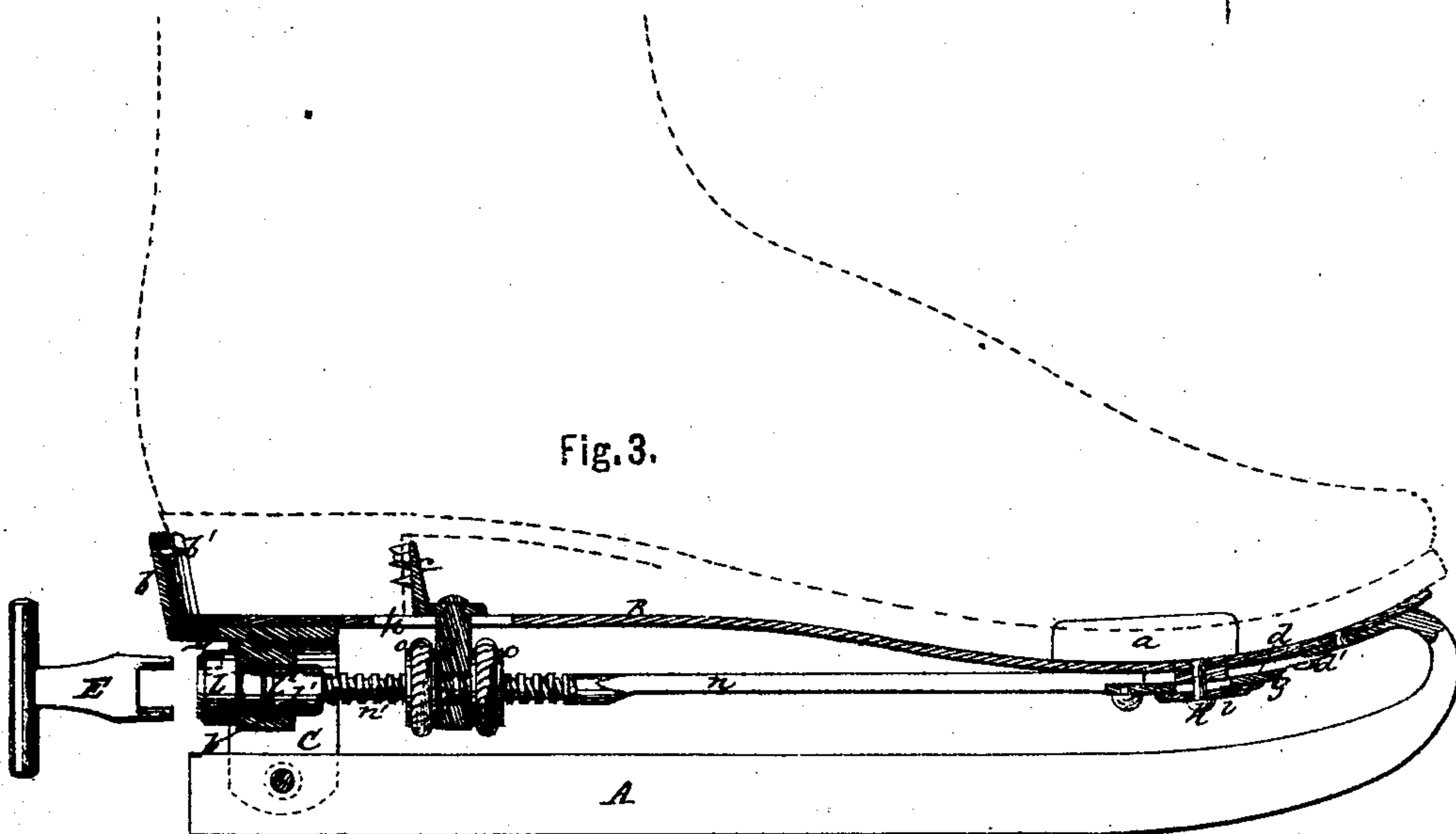


Fig. 3.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

BENEDICT GEIGER, OF SOMERVILLE, MASSACHUSETTS.

## IMPROVEMENT IN SKATES.

Specification forming part of Letters Patent No. 134,047, dated December 17, 1872.

*To all whom it may concern:*

Be it known that I, BENEDICT GEIGER, of Somerville, in the county of Middlesex and State of Massachusetts, have invented an Improved Skate, of which the following is a specification:

The improved skate is composed of a steel blade or runner of any approved pattern, a metallic floor or sole, and a peculiar adjustable fastening to engage with the sole and heel of the boot or shoe, in which latter the invention consists.

The sole is clamped at about the ball of the foot by jaws pivoted so as to be self-adjusting, and the heel is clamped against an abutment-flange by an adjustable slide or spur. Both clamps are operated by a wrench or key applied to a single screw-nut at the heel of the skate, engaging with a longitudinal rod. This actuates the toe-clamps through a slide and slotted levers or toggles, and the heel-clamp through a pair of adjusting-nuts on an extension of the threaded portion of the rod.

In the accompanying drawing, Figure 1 is a plan or top view of the improved skate; Fig. 2 is an under-side view of the same; and Fig. 3 is a vertical longitudinal section of the skate, the application and operation being illustrated by the dotted outline of a boot, and an elevation of the wrench or key.

In carrying out the invention, a steel blade or runner, A, of any approved pattern, is employed, and a metallic sole or floor, B, preferably, also, of steel. The latter may be supported at front on the upturned toe of the runner by rivets or screws, and at the heel by braces C, and a cast plate or cap, D.

For applying and removing the skate a wrench or key, E, is employed, which may also be of any preferred shape. For attaching or fastening the skate, a pair of jaws, *a*, are arranged so as to engage with the sole of the boot or shoe near the ball of the foot; and an abutment-flange, *b*, with spur *b'*, to support the heel, and a spur-slide, *c*, to engage with its face. The jaws *a* are pivoted to the outer ends of a pair of levers or toggles, *d*, swinging on pivots *d'* (rivets or their equivalent) at their front and inner ends, where they are attached to the under side of the skate-sole B. These levers have vertical slots, *e*, oblique, relatively, to the longitudinal center of the skate, and these slots are engaged by studs *f* projecting from a slide, *g*, which is also attached to the under side of the sole B by rivet, (or

its equivalent,) *h*, passing through a slot in the slide, and engaging with a guard-washer, *i*. The heel-clamp *c* has a perforated stem, *j*, which projects beneath the sole B through a longitudinal slot, *k*, therein.

For actuating the clamps, a screw-nut, *l*, with a cylindrical portion, *l'*, Fig. 3, is journaled in a hanger, *m*, at the heel of the skate, and a rod, *n*, with threaded end *n'*, to engage with this nut, is attached to the slide *g* of the toe-clamp mechanism. The rod *n* also passes through the stem *j* of the heel-clamp *c*, and its threaded portion *n'* is extended past the same and provided with nuts *o*, to constitute adjustable shoulders, through which to engage with said stem. The abutment-flange *b* and hanger *m* are preferably cast on the plate D, as represented. A groove, *l''*, in the nut *l*, receives a transverse pin or screw, *p*, which supports the nut in the act of detaching the skate. By turning the nuts *o* the heel and toe clamps may be adjusted relatively to each other, to suit different feet. The jaws *a* accommodate themselves to the shape of the sole.

The skate being properly adjusted, it may be applied and firmly secured in a moment by rotating the nut *l* by means of the key E. The employment of the journaled nut and screw enables great force to be very easily applied, so that the skate can be securely fastened and readily removed by ladies or children without aid. There are also no projecting parts, and no separate fastening, and no parts which would be likely to be broken or become inoperative; but the arrangement of parts is very simple, compact, and strong, as is apparent.

### Claims.

The following is claimed as new:

1. The slide *g*, having studs *f, f*, in combination with the toggles *d d* pivoted to the sole B, and provided with cam-slots *e e*, as and for the purpose set forth.

2. The journaled nut *l l'*, screw-rod *n n'*, and adjusting-nut *o*, in combination with each other and with the slide *g* of the toe-clamp mechanism, and the heel-clamp or spur *c*, as herein shown and described, for the purpose specified.

BENEDICT GEIGER.

Witnesses:

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