

(No Model.)

E. H. BARNEY.
SKATE.

No. 434,235.

Patented Aug. 12, 1890.

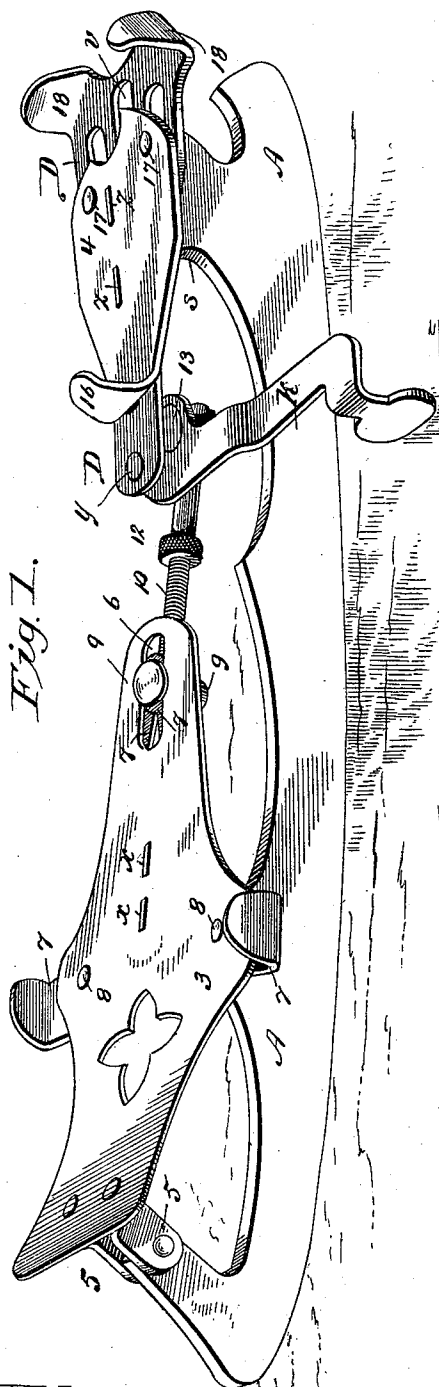


Fig. 1.

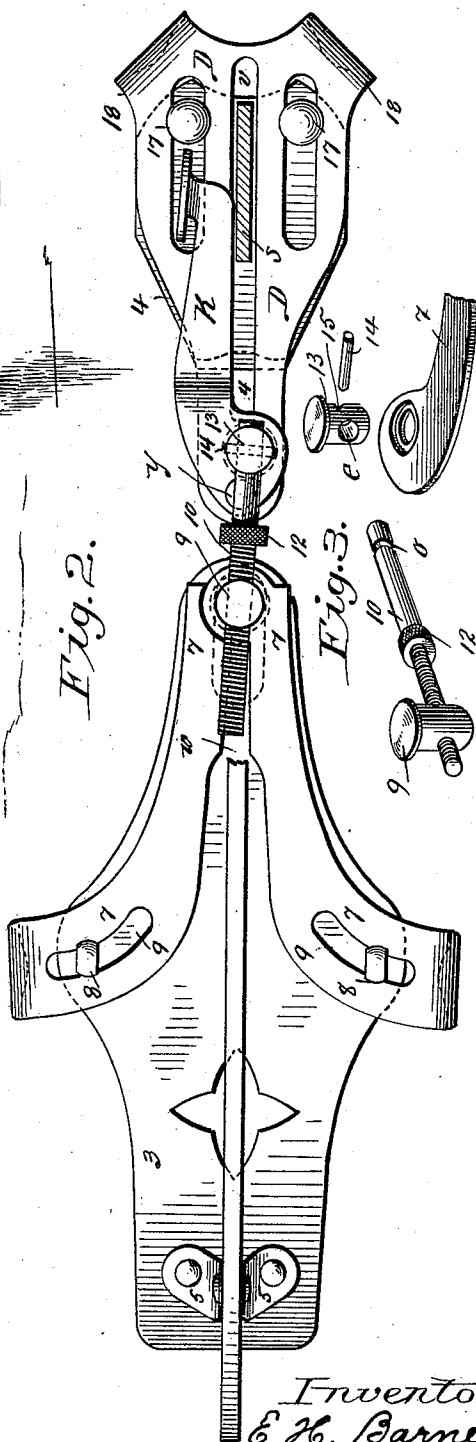


Fig. 2.

Fig. 3.

Witnesses:

J. A. Gasfield
Wm. S. Bellom

Inventor,
E. H. Barney
by *Chapin & Co*
Atty's.

UNITED STATES PATENT OFFICE.

EVERETT H. BARNEY, OF SPRINGFIELD, MASSACHUSETTS.

SKATE.

SPECIFICATION forming part of Letters Patent No. 434,235, dated August 12, 1890.

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To all whom it may concern:

Be it known that I, EVERETT H. BARNEY, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Skates, of which the following is a specification.

This invention relates to skates, and has for its object the improvement of the construction of the fastening devices thereof and means for attaching the same to the sole-plate of the skate or of holding certain portions thereof in proper operative relations under said sole-plate; and the invention consists in the peculiar construction and operation of certain parts of a skate, all as hereinafter fully described, and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view of a skate embodying my improvements, in which the fastening devices thereof are shown in an open position. Fig. 2 is a bottom plan view of the skate, the fastening devices in this figure being shown in a closed position. Fig. 3 illustrates detail parts of the skate, herein after fully described.

In the drawings, A is the skate-runner. 3 is the sole-plate, and 4 is the heel-plate. The said sole-plate is rigidly secured to the runner A by means of brackets 5, which are riveted to the forward end of the runner, and to the upper ends of which the end of the sole-plate is riveted, as shown in Figs. 1 and 2. Said sole-plate is further secured to the runner by means of portions xx of one of the standards of the runner, which project through perforations in the plate (see Fig. 1) and are riveted or headed down on the upper side of said plate. The heel-plate 4 is secured in like manner to the rear standard of the runner, portions of said standard being riveted or headed down on the upper side of the heel-plate at zz .

The sole-plate 3 has a longitudinal slot 6 formed in its rear end, under which the rear ends of the sole-clamps 7 7 terminate. The front or clamp-bearing ends of said sole-clamps are suspended to the under side of the sole-plate 3 by means of the long-headed bolts or pins 8, which pass through the curved slots 9 in said clamps and are riveted by their unheaded ends to said sole-plate, as seen in Fig.

1, there being space enough between the under side of the heads on said bolts and the adjoining under side of the sole-plate to permit the sole-clamps to freely slide therebetween. The sole-clamps having been engaged on the bolts 8 by so placing them over the heads of said bolts as to bring the edges of the slots 9 parallel with the parallel edges of said heads, the rear ends of said clamps are brought together in the positions shown (overlapping each other) under the said slot 6 in the sole-plate 3, the rear ends of said sole-clamps having been perforated, as shown in a part of one of said clamps in Fig. 3, to receive a pivot-bolt 9.

In skates heretofore made having sole-clamps similar to those herein shown, the rear ends of said clamps are hung on a bolt similar to said bolts 8, passing between said clamps at about w , Fig. 2, and riveted to the sole-plate for the purpose of holding up the rear ends of said clamps and the fastening devices attached thereto; but instead of hanging said clamps and fastening on said bolt, as heretofore, the herein-described skate is improved by slotting the sole-plate, as aforesaid, at 6, and passing said broad-headed pivot-bolt 9 through said plate-slot, the head of said bolt engaging with the upper side of the foot-plate, and its shank passing through the united ends of said sole-clamps. Said pivot-bolt 9 has, as shown in detail in Fig. 3, a screw-threaded transverse perforation through its shank to receive the screw-threaded end of the clamp-bar 10, and the positions of the rear ends of the sole-clamps, the pivot-bolt, and the forward end of the clamp-bar relative to the under side of the slotted rear end of the sole-plate are clearly shown in Figs. 1 and 2.

The above-described means of hanging the rear ends of the sole-clamps and the forward end of the clamp-bar to the rear end of the sole-plate constitute important improvements over devices heretofore used for this purpose, in that the pivot-bolt 9 is made to serve a double purpose and said rearwardly-located hanger-bolt is dispensed with. Furthermore, said improvements provide a more solid and durable construction. The said clamp-bar 10 has formed thereon, opposite the opening between the sole-plate and heel-plate of the skate, a knurled collar 12, which provides im-

proved and more convenient means for operating said bar (by turning the same) to adjust the clamping devices of the skate for boots of varying sizes than have heretofore been employed. Near the rear end of said clamp-bar 10 is formed an annular groove *o*, and said grooved end of the bar 10 is connected to the pivot-bolt 13 as follows: Said bolt 13 has a transverse perforation *e* to receive the rear end of said bar 10, and when said end is in place in said bolt the pin 14 is passed through a pin-hole 15 therein, and through said annular groove 10 in the bar, thereby locking the rear end of the clamp-bar to the bolt 13, but permitting said bar to be turned freely to screw it in and out from said forward pivot-bolt 9. The said bolt 13 is pivotally secured to the clamp-lever K, and the latter is connected with the heel-clamp, as below described, thereby uniting the sole and heel clamps. The said heel-plate 4 has on its inner end a clamp-hook or abutment 16 for engagement with that edge of the heel of the boot adjoining the shank thereof.

The heel-clamp D is hung to slide under the heel-plate on two headed rivets or bolts 17, riveted to the heel-plate, said bolts passing through slots in the heel-clamp, as shown. Said heel-clamp is centrally slotted at *v* to allow the rear runner-standard *s* to pass up through it, and has on its rear end two upright clamp-hooks 18 for engagement with the rear edge of the boot-heel, the latter being clamped between said hooks 18 and the fixed abutment 16 on the heel-plate 4. In order to impart the requisite clamping movements to the said sole-clamps 7 and to the heel-clamp D, the forward end of the latter is pivotally connected at *y* to the clamp-lever K near the inner end of the latter, and the pivot-bolt 13, to which the rear end of the clamp-bar 10 is connected, passes loosely through said lever near said pivot *y*, but a little to one side of the axis of the latter, as shown, this disposition of pivot-connections providing for a toggle-locking action of the parts when the clamp-lever is swung rearwardly to a locked position, as shown in Fig. 1, in that the axis of the pivot-bolt 13 is then brought to one side of the axial line of the pivot *y*, and thus the result of a clamp-strain on the bar 10 is to draw the free end of the

clamp-lever more closely against the rear standard *s*, which is its locked position.

In operating the skate to put it on the boot the clamp-bar is swung outwardly, as in Fig. 1, to open or loosen the heel and sole clamps. If, then, the said clamps spread too much to permit the lever K to draw them against the heel and sole of the boot when said lever is swung back, as in Fig. 2, the clamp-bar 10 is in the manner aforesaid turned to screw it into the pivot-bolt 9, thereby more or less approaching said clamps, and if the clamps spread too little, said bar 10 is unscrewed from the pivot-bolt 9, and the proper primary adjustment being secured, the clamps are finally locked on the boot sole and heel by operating lever K, as aforesaid, thereby firmly fastening the skate to the boot.

What I claim as my invention is—

1. In a skate, the sole-plate having a central longitudinal slot in its rear end, combined with the sole-clamps hung under said plate and having the rear perforated ends thereof terminating under said slot, a pivot-bolt passing through said plate-slot and said clamps and having its head engaging with said plate, and the clamp-rod having a screw engagement with said pivot-bolt, substantially as set forth.
2. In combination, the longitudinally-slotted sole-plate, the sole-clamps, the pivot-bolt 9, having a head engaging with the upper side of the sole-plate and passing therethrough and through said sole-clamps, combined with the clamp-bar having the knurled collar 12 thereon, and having a screw engagement with said pivot-bolt, substantially as set forth.
3. The pivot-bolt 13, engaging with the clamp-lever K, the screwed clamp-bar 10, having the knurled collar thereon and one end entering a transverse perforation in said bolt and having an annular groove in said end, and a pin 14, passing through said bolt and engaging with the groove in said bar, combined with the pivot-bolt 9, passing through the sole-plate and the sole-clamps and having a screw engagement with said clamp-bar, substantially as set forth.

EVERETT H. BARNEY.

Witnesses:

H. A. CHAPIN,

G. M. CHAMBERLAIN.