(No Model.)

E. H. BARNEY.

SKATE.

No. 594,191. Patented Nov. 23, 1897.

Fig. 1.

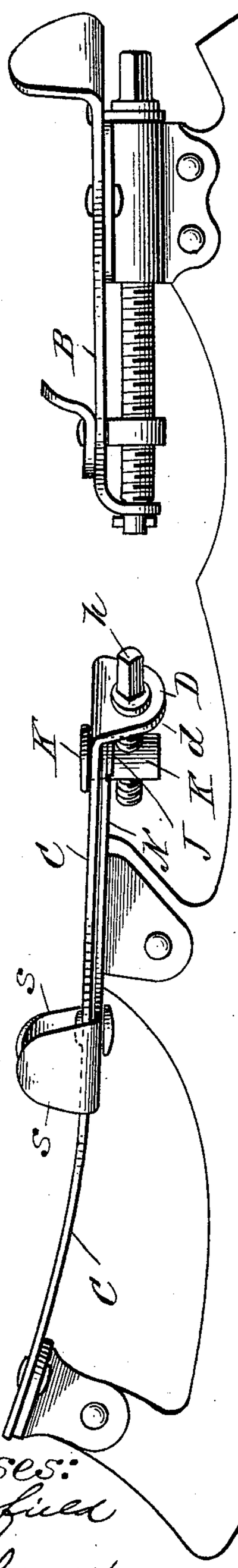


Fig. 3.

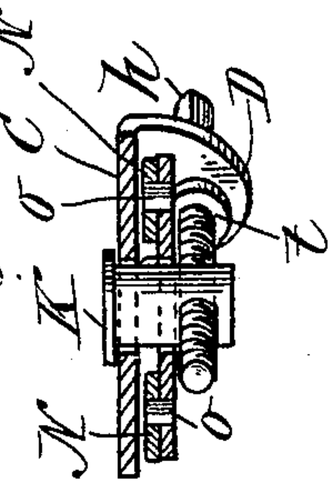
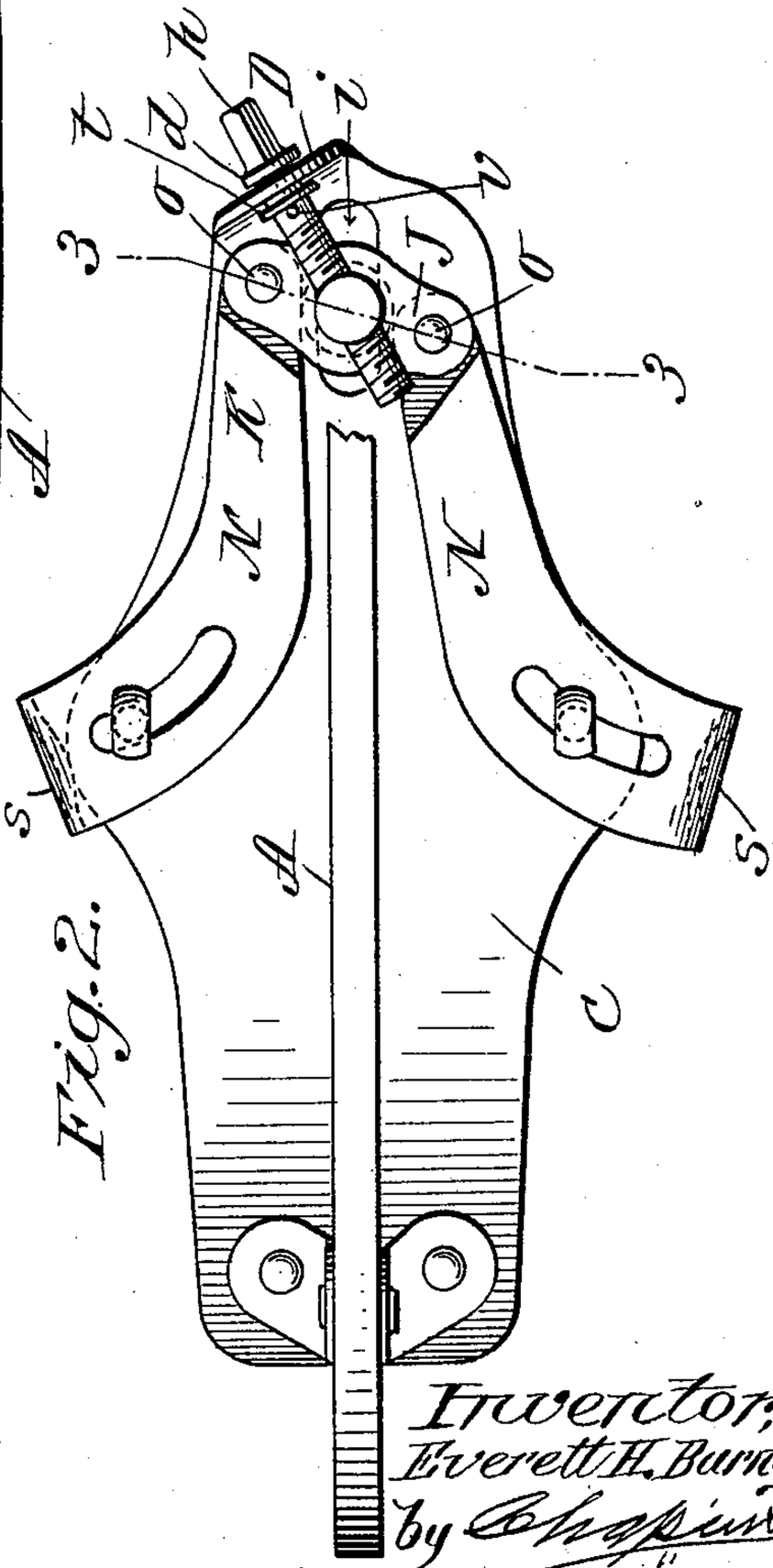


Fig. 2.



Witnesses:
J. D. Gorfield
H. A. Clemons

Inventor:
Everett H. Barney
by Coupland & Co
Attorneys.

UNITED STATES PATENT OFFICE.

EVERETT H. BARNEY, OF SPRINGFIELD, MASSACHUSETTS.

SKATE.

SPECIFICATION forming part of Letters Patent No. 594,191, dated November 23, 1897.

Application filed March 1, 1897. Serial No. 625,488. (No model.)

To all whom it may concern:

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

This invention relates to skates, the object being to provide improved sole-clamping devices therefor which automatically adjust themselves to the varying conformations of the borders of the sole of a shoe, whereby the runner of the skate is brought to a longitudinally-central position under said sole; and the invention consists in the peculiar construction and arrangement of said sole-clamping devices, all as hereinafter fully described, and more particularly pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a side elevation of a skate provided with sole-clamping and clamp-operating devices embodying my improvements. Fig. 2 is a plan view of the under side of the forward end of the skate, clearly illustrating the several parts of said sole-clamping devices. Fig. 3 is a sectional view on line 3 3, Fig. 2.

Referring to the drawings, A indicates the runner of the skate.

B is the heel-plate, secured on the runner A in the usual manner and provided with heel-clamping devices of the class shown and described in United States Letters Patent issued to me on August 11, 1896, No. 565,715.

The sole-plate C is secured to the upper edge of the runner A in the usual or any well-known manner and has a short slot *i* therethrough longitudinally arranged near its rear end, through which a headed bolt K passes loosely and is free to move between the extremities of said slot. Said bolt K has a screw-threaded clamp-operating screw-rod *h* passing through it, as shown, and said screw-rod has a connection with the sole-plate, whereby it is free to be turned by any suitable key or wrench, but is held against longitudinal movement on said sole-plate by a fixed collar *d* thereon and a washer *t*, which is held in place by a pin *v*. Thus by turning said screw-rod *h* said bolt K has the above-mentioned movement in the slot *i* imparted thereto. A sole-clamping equalizing-bar J is hung on said bolt K under the sole-plate C, which has a free oscillating movement on said bolt.

The sole-clamps N N, each having a sole-clamping dog *s* on its free end, are supported under the sole-plate C by headed bolts passing through a slot in each clamp in a well-known manner, whereby a force acting against the rear ends of said clamps to move them longitudinally under said sole-plate serves to move the sole-clamping dogs *s s* thereon simultaneously against or from the borders of the sole of a boot or shoe which may be placed on said sole-plate. Heretofore the connection of the rear ends of said sole-clamps N N with the screw-rod by which they are operated has been directly with the bolt K or one similar thereto; but such direct connection of the clamps with said bolt when said bolt is moved, as described, results in imparting a like movement to each clamp, and such movement serves to carry each of the sole-clamping dogs *s s* a like distance outwardly and inwardly of the borders of the sole-plate, and consequently of the opposite borders of the sole of a shoe placed on said plate. This equal movement of said sole-clamping ends of the clamps N N answers every purpose when acting upon shoe-soles which have substantially corresponding curved lines on opposite borders thereof against which both clamp-dogs *s* engage; but it is found that when a shoe having a very narrow toe and a sole having sharply-varying curvatures on the opposite borders thereof is worn, the clamp-dog first engaging with the border of the sole acts to draw the toe end of the skate to one side of the center of the shoe, thus causing an inconvenient displacement of the skate on the shoe. The said clamp-operating screw-rod *h* constitutes simple and effective means for operating said clamps; but I do not limit myself to that device for imparting movement to said clamps through said bolt and equalizing-bar. In the construction herein shown and described the above inconvenience is obviated by placing said freely-oscillating equalizing-bar J on said headed bolt K and by pivotally connecting the rear ends of said clamps to the

ends of said bar, thereby providing means whereby when the skate is held centrally against a shoe for attaching the same thereto one clamp may come to a proper bearing against one edge of the sole while the opposite sole-clamp (which may be farther removed from the other edge of said sole) is gradually drawn thereagainst while the skate is held centrally on the shoe, as aforesaid. The said screw-rod *h*, which is connected with and operates to move said headed bolt K and said sole-clamps N, may be attached revolubly in any suitable manner to the sole-plate of the skate.

Fig. 2 illustrates some of the varying positions relative to the borders of the sole-plate that the shoe-clamping ends *s s* of the sole-clamps N N may assume by reason of the connection of the latter by said oscillating bar J.

The operation of this sole-clamping device is as follows: The skate is applied to the foot with the runner central with the foot and the heel-clamp screwed up to a bearing, and the sole-clamps are then brought to bear on the edges of the sole of the shoe by turning the screw-rod *h*. Should said shoe-sole project over the sole-plate more on one side thereof than the other, the clamp on that side will come to a bearing first and the movement of that clamp will be arrested. The turning of the said screw-rod will continue to operate the sole-clamp which is free, and the stud K, with which the screw-rod engages, will continue its movement in the slot of the sole-plate, the equalizing-bar pivoting by one end on the end of the clamp which has come to a stop against the shoe-sole, and the opposite end of said bar, connected to the other clamp, will continue to draw the other clamp into contact with the other edge of the shoe-sole, the stud K in the slot of the sole-plate and having a bearing on the edges thereof preventing any deflection of the inner ends of the sole-clamps to one side of the center of said sole-plate. When the sole-clamps have both come to a bearing on the edges of the shoe-sole, the continued operation of the screw-rod moves both of the clamps together to tighten them equally thereagainst.

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

In a skate, the foot-plate C, provided with a turned-down flange D at its rear end, and which flange extends at an angle to the plate which is provided with a longitudinal slot through its rear end, combined with the operating-screw *h*, which is passed through the turned-down flange, a headed bolt K loosely placed in the slot and adapted to be moved back and forth therein by a screw, the plate J pivoted upon the bolt and the two sole-clamps N N loosely connected to the opposite ends of the plate; the screw being placed at an angle to the foot-plate, and made to project from one side, substantially as described.

EVERETT H. BARNEY.

Witnesses:
H. A. CHAPIN,
K. I. CLEMONS.