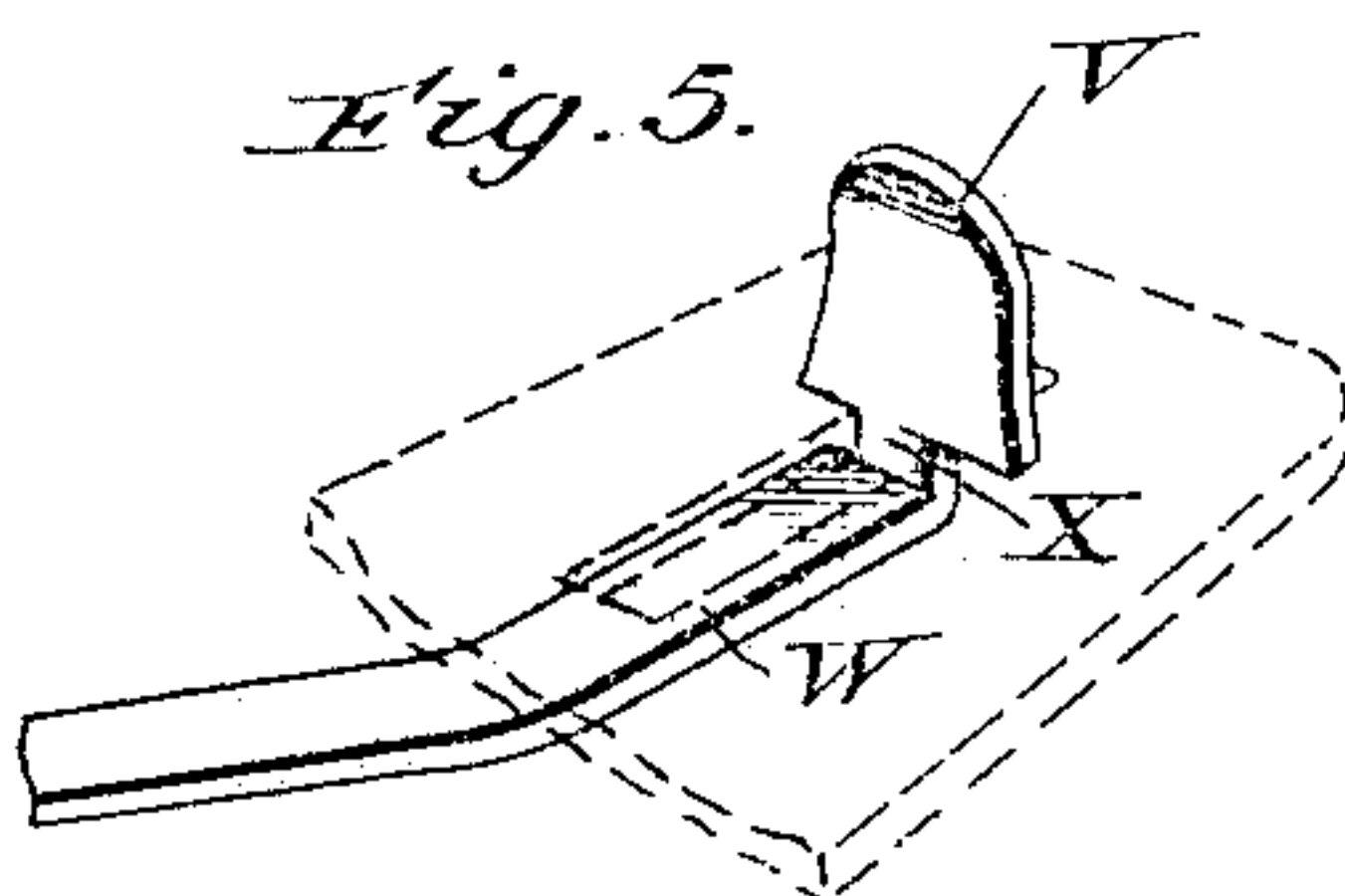
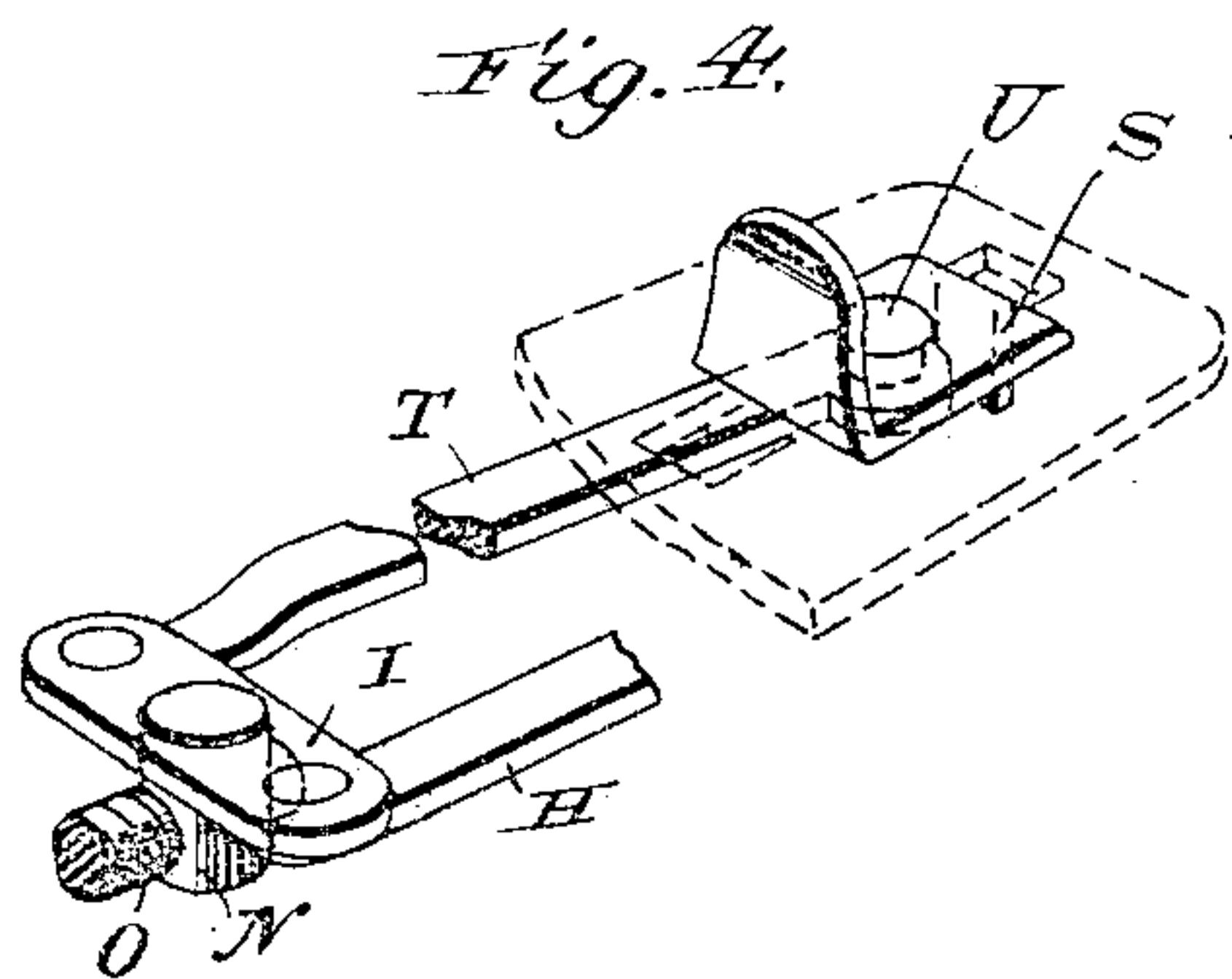
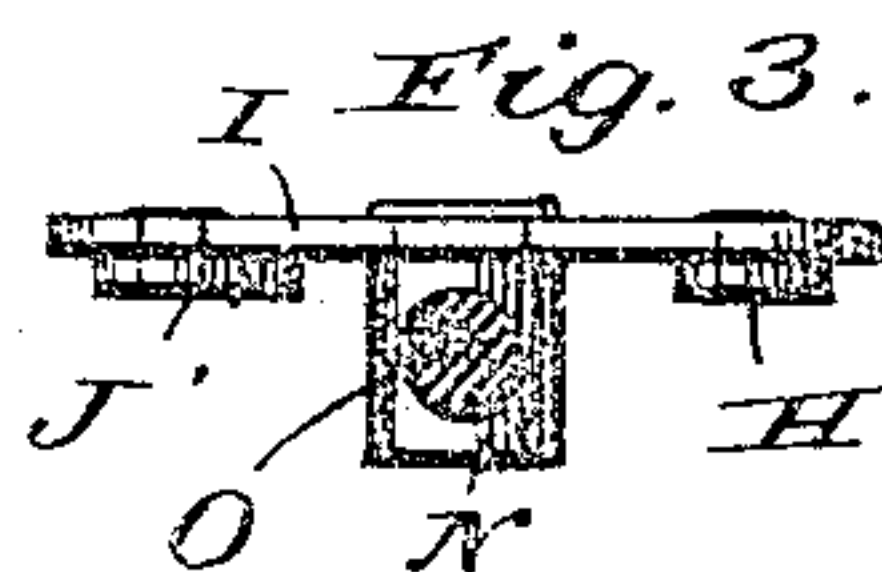
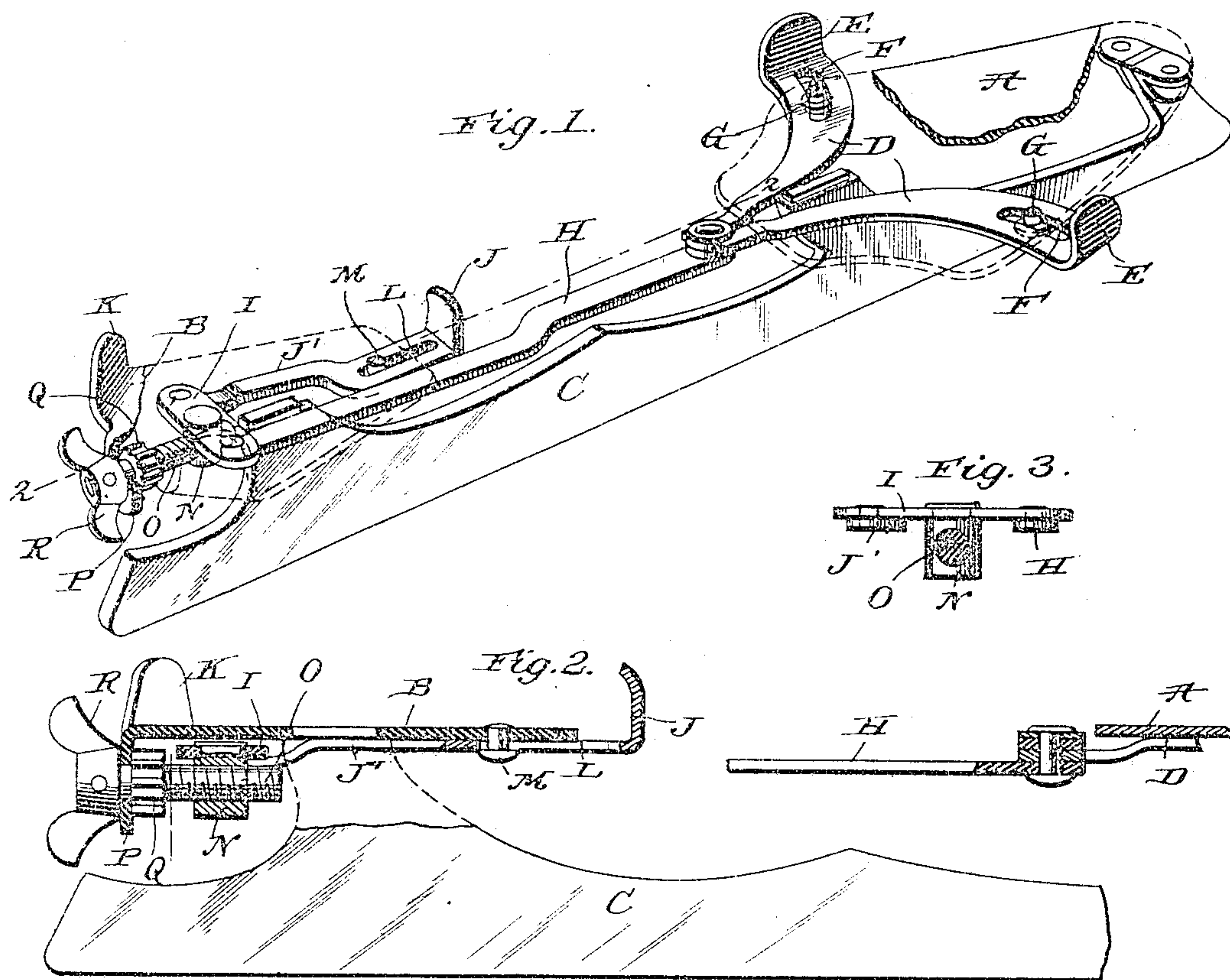


No. 787,090.

PATENTED APR. 11, 1905.

S. W. FINCH.
SKATE CLAMP.

APPLICATION FILED JAN. 9, 1904. RENEWED FEB. 3, 1905.



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UNITED STATES PATENT OFFICE.

STANLEY W. FINCH, OF WASHINGTON, DISTRICT OF COLUMBIA.

SKATE-CLAMP.

SPECIFICATION forming part of Letters Patent No. 787,090, dated April 11, 1905.

Application filed January 9, 1904. Renewed February 3, 1905. Serial No. 244,045.

To all whom it may concern:

Be it known that I, STANLEY W. FINCH, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Skate-Clamps, of which the following is a specification.

My present invention pertains to improvements in skate-clamps, the construction and advantages of which will be hereinafter set forth, reference being had to the annexed drawings, wherein—

Figure 1 is a perspective view of an ice-skate embodying my invention, the foot-plates being shown in outline only in order more clearly to disclose the clamp; Fig. 2, a longitudinal sectional view on the line 2 2 of Fig. 1, portions of the skate being omitted; Fig. 3, a rear elevation of the equalizing member, the actuating-screw appearing in section; Fig. 4, a perspective view of a modified form of construction, and Fig. 5 a similar view illustrating a further modification.

The object of my invention is to provide a simple and efficient skate-clamp, the heel and sole members of which may be brought into proper clamping position through the manipulation of a single actuating device, the parts properly positioning or equalizing themselves as the actuating device is manipulated.

With the present construction the rear heel-clamps are stationary, the forward heel-clamp alone being movable, so that the foot of the wearer will always occupy the same position with relation to the runner (or rollers) of the skate. Furthermore, the construction is such that the movable heel-clamp and the sole-clamps will be automatically and perfectly adjusted to the heel and sole of the wearer's shoe as the actuating device is manipulated. In other words, the forward heel-clamp and the sole-clamps have an intermediate equalizing connection, which causes all of said clamps to come, respectively, into contact with the heel and the sole of the shoe before any direct pressure is applied to either. In this manner the same force is applied to each clamp.

Referring first to Figs. 1 to 3, inclusive, A denotes the sole-plate; B, the heel-plate, and C the runner, the invention being shown as

applied to an ice-skate for the purpose of illustration, though it is equally well adapted for use in connection with roller-skates.

Mounted beneath the sole-plate A are the sole-clamps D D, said clamps being of the usual construction, each having an upstanding end E and a slot F, through which passes a rivet G. The clamps curve inwardly toward their rear ends, at which point they are pivotally connected to a draw-bar or link H, which extends rearwardly beneath heel-plate B, where it is pivotally connected to one end of an equalizing-lever or cross-bar I.

J denotes the movable heel-clamp, which works in conjunction with the fixed heel-clamps K K, formed as an integral portion of heel-plate B. The body of clamp J underlies heel-plate B and is formed with a slot L, through which passes a rivet or stud M, secured to said heel-plate. The clamp is provided with a rearward extension J', which corresponds to or is the equivalent of the draw-bar H, said extension being pivotally connected to the cross-bar or equalizing-lever I at that end opposite its connection with draw-bar H.

A stud or post N is pivotally connected to the cross-bar or equalizing-lever I at its mid-length, said stud or post being provided with a transverse threaded opening designed to receive a screw O. The rear or outer end of said screw passes through a downwardly-extending ear or finger P, which latter is formed as an integral part of heel-plate B. Screw O is held against endwise movement through ear or finger P by the nut or block Q, which is secured upon said screw adjacent to the inner or forward face of ear P, and by the thumb-nut R, secured upon the outer end of screw O.

By turning screw O in one or the other direction equalizing-lever I will be moved bodily forward or backward, as the case may be, either opening or closing the clamps. It is to be noted, however, that if the sole-clamps come into contact with the edge of the shoe-sole before the heel-clamp comes into contact with the heel the sole-clamps will come to rest, and a further rotation of the screw O will serve to swing the equalizing-lever bodily,

the pivotal point of attachment of said lever and draw-bar H becoming the fulcrum of the lever. Such movement will then draw heel-clamp J into contact with the heel of the shoe, and when this occurs the cross-bar or lever I will draw alike on the heel-clamp and the sole-clamps through draw-bar H, thereby insuring an equal degree of pressure upon the heel and the sole of the shoe of the wearer.

It will of course be seen that the sole-clamps will adjust themselves as readily as the heel-clamp should the latter be the first to come into contact.

It is also to be noted that the heel-clamp is drawn directly against the shoe-heel and not pushed to place, such adjustment being objectionable for various reasons.

Instead of employing a thumb-nut any means for actuating the screw may be used.

A modification of the heel-clamp is illustrated in Fig. 4 of the drawings. Instead of forming the clamp of a single piece of metal a separately-formed clamp S is connected to a draw-bar T by a rivet U, said rivet passing down through a slot formed in the heel-plate. The rear end of the draw-bar is pivotally connected to the equalizing-lever, as shown.

In Fig. 5 a further modification is shown, wherein the heel-clamp is formed of a single piece of metal. The clamping-finger V stands at right angles to the main body W of the clamp, a reduced neck X extending through a slot formed in the heel-plate. It is essential, of course, that the clamping-finger be passed through the slot and then turned before the parts are fully assembled.

It is evident that any desirable form of sole-clamps may be employed, so long as they are connected to the equalizing-lever in such manner as to obtain the results above set forth.

A mere inspection of the drawings will show that the parts of the invention are all directly and positively connected, so that there is no liability of the clamps slipping or becoming disconnected.

It is to be noted that the equalizing-lever is located in rear of the movable heel-clamp. In fact, it underlies the heel-plate and is ordinarily hidden from view and not in any way obtrusive or objectionable.

Having thus described my invention, what I claim is—

1. In a skate, the combination of a pair of sole-clamps; a draw-bar pivotally connected thereto and extending rearwardly of the skate; fixed heel-clamps; a movable heel-clamp; an equalizing-lever located in rear of the movable heel-clamp and pivotally connected at one end to the rear end of the draw-bar and at its opposite end pivotally connected to the movable heel-clamp; and an actuating device pivotally connected to the equalizing-lever intermediate its ends, whereby the clamp will be drawn to place, substantially as described.

2. In a skate, the combination of a pair of

sole-clamps; a draw-bar pivotally connected thereto and extending rearwardly of the skate; fixed heel-clamps adapted to bear against the rear of the heel; a movable heel-clamp adapted to be drawn against the breast of the heel; a member extending rearwardly from said movable heel-clamp; an equalizing-lever pivotally connected to the draw-bar and said member; and an actuating member pivotally connected to the lever, for moving the same bodily toward or from the rear end of the skate.

3. In a skate, the combination of a foot-plate; a pair of sole-clamps slidably connected to said plate; a draw-bar pivotally connected to the rear ends of the sole-clamps; fixed heel-clamps extending upwardly from the foot-plate; a movable heel-clamp; an equalizing-lever located in rear of the movable heel-clamp and pivotally connected at its opposite ends to the draw-bar and the heel-clamp; a post pivotally connected to said lever intermediate its ends; and an actuating-screw carried by the foot-plate and having its forward end passing into a threaded opening formed in the post.

4. In a skate, the combination of a pair of sole-clamps; a draw-bar pivotally connected thereto and extending rearwardly of the skate; fixed heel-clamps adapted to bear against the rear of the heel; a movable heel-clamp adapted to be drawn against the breast of the heel; a member extending rearwardly from said movable clamp; an equalizing-lever located in rear of the movable heel-clamp and pivotally connected to the draw-bar and said member; a post pivotally connected to said lever intermediate its ends; and an actuating-screw passing into a threaded opening formed in the post.

5. In a skate, the combination of a pair of sole-clamps; a draw-bar pivotally connected thereto; a fixed heel-clamp; a movable heel-clamp acting on the breast of the heel; an equalizer located in rear of the movable heel-clamp and pivotally connected thereto; a pivotal connection intermediate the draw-bar and the equalizer; and means, acting in conjunction with the equalizer, for drawing the clamps to place.

6. In a skate, the combination of a pair of sole-clamps; a fixed heel-clamp; a movable heel-clamp adapted to be drawn against the breast of the heel; an equalizer located in rear of the movable heel-clamp and pivotally connected thereto; pivotal connections intermediate the sole-clamp and the equalizer; and means for actuating said parts.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STANLEY W. FINCH.

Witnesses:

HORACE A. DODGE,
CHARLES H. RAEDER.