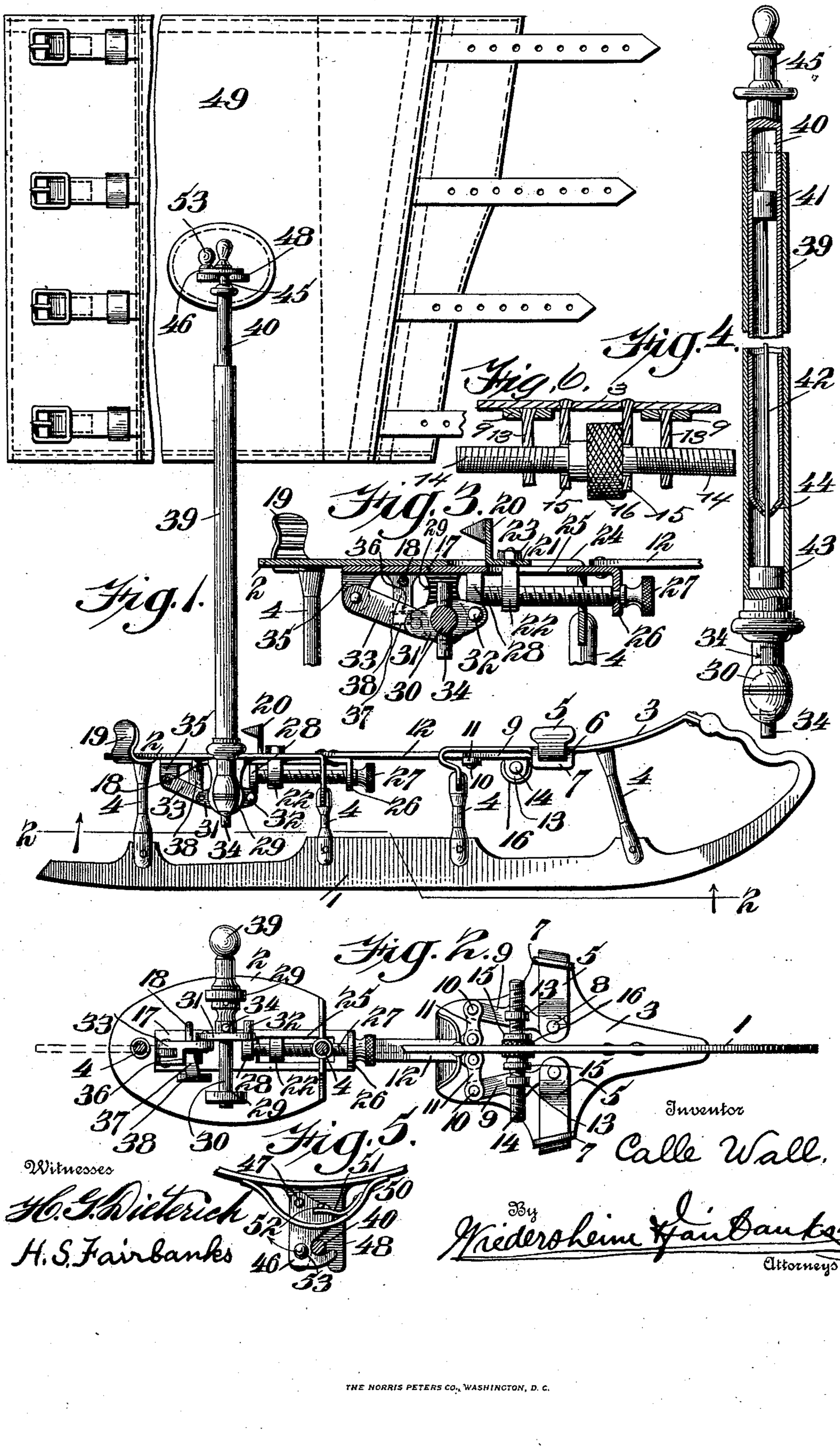
No. 883,923. PATENTED APR. 7, 1908.

C. WALL.

SKATE.

APPLICATION FILED SEPT. 13, 1907.



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SKATE.

No. 883,923. Specification of Letters Patent. Patented April 7, 1908.

Application filed September 13, 1907. Serial No. 392,673.

To all whom it may concern:

Be it known that I, CALLE WALL, a subject of the Czar of Russia, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Skate, of which the following is a specification.

My present invention comprises a novel construction of a skate in which novel means are provided for clamping the same in position on the shoe.

It further consists of a novel construction of a skate in which novel means are employed for supporting the skate with respect to the leg of the wearer.

It further consists of a novel construction of clamping mechanism in which means are employed for positively locking the parts in assembled position.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings, one form thereof since this embodiment has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown.

Figure 1 represents a side elevation of a skate and its adjuncts, embodying my invention. Fig. 2 represents a section on line 2—2 of Fig. 1. Fig. 3 represents a sectional view, partly broken away, of the heel supporting portion of the skate showing more clearly certain portions of the clamping mechanism. Fig. 4 represents a side elevation, partly in section, of the actuating lever. Fig. 5 represents in side elevation, a view of the fastening device seen in Fig. 1. Fig. 6 represents a sectional view of Fig. 2.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a blade or runner to which the foot supporting plates 2 and 3 are secured by means of the connections 4 which may be of any usual or conventional construction.

5 designates the toe clamps which pass through the apertures 6 in the depending members 7 which latter are formed by deflecting a portion of the plate 3, it being noted that the inner ends of the clamps 5 have pivoted thereto at 8, one end of the levers 9, the outer ends of which are pivoted at 10 to the links 11, said links 11 having their opposite end pivoted to the connecting arm 12.

13 designates threaded rings which are pivoted to the levers 9 and through which passes the threaded rod 14 which is provided with oppositely directed threads at opposite ends thereof, said rod being journaled in brackets 15 which are rigidly secured to the plate 3 in any suitable manner.

16 designates an adjusting nut fixed on the rod 14 whereby the distance apart of the deflected portions of the toe clamps 5 may be adjusted according to requirements.

17 designates a plate which is longitudinally movable between the guides 18 and the plate 2, said plate having rigidly secured thereto, one end of the connecting arm 12, which latter passes through an aperture in the downwardly deflected end of the plate 3.

19 designates the rear heel clamps which are rigidly secured to the plate 2.

20 designates the movable heel clamp, the lower end of which is deflected as indicated at 21, said plate being rigidly secured to the threaded block 22, which latter has its upper end threaded and provided with a nut 23, whereby said nut is maintained in assembled position with respect to the movable heel clamp 20, as will be readily apparent from Fig. 3. The laterally extending portion 21 of the clamp 20 is guided in the slot 24 in the plate 2. The block 22 is longitudinally movable in the slot 25 of the plate 17, it being noted that one end of said plate is deflected, as indicated at 26, in order to form a journal for the adjusting screw 27 which has threaded engagement with the block 22 and is rotatably mounted in the bearing 28.

29 designates brackets secured to the bottom of the plate 2 and in which a rod 30 is journaled, said rod having loosely mounted thereon, a lever 31, one end of which is provided with a pin 32, the other end thereof being pivoted to a link 33.

34 designates a pin rigidly carried by the rod 30, the ends of which are adapted to coact with the stud or pin 32 carried by the lever 31. The link 33 has its opposite end fulcrumed to a lug 35 carried by the plate 17. The link 33 is angularly cut away, as indicated in Fig. 2, in order to form a shoulder 36 with which is adapted to engage the deflect-

ed end 37 of a stud 38 rigidly secured to the plate 2.

39 designates a lever fixed on the shaft 30, said lever in the present instance comprising a cylindrical tube within which a rod or tube 40 has a sliding fit, said rod having therewithin a plunger 41 which is connected by means of a wire or cable 42 to a plunger 43 having a tight fit in the lower end of the member 39, it being noted that the inner end of the member 40 is deflected inwardly or swaged together as at 44, in order that the member 40 will under normal conditions not be withdrawn from the outer member 39. The member 40 is provided with a neck or reduced portion, as indicated at 45, with which the locking member 46 is adapted to engage, as most clearly indicated in Figs. 1 and 5, in order to maintain the said member 40 in proper relation with respect to the leg of the wearer, it being noted that the plate 46 is pivoted at 47 to an angle plate 48 which is adapted to be secured to the gaiter 49, it being noted that a guard plate 50 is secured to the plate 48 and to said latter plate a spring 51 is secured, the front end of which engages a pin 52 carried by the plate 46, whereby the latter is normally maintained in closed position.

53 designates a stud carried by the plate 46 whereby the latter may be manually opened when desired.

The operation of my novel device will now be readily apparent. The toe clamps 5 are adjusted for the proper size shoe, by means of the screw 16, whereby the distance between the toe clamps 5 may be regulated. The position of the movable heel clamp 20 with respect to the stationary clamps 19 is adjusted by means of the screw 27, whereby the block 22 may be moved a desired distance outward or away from the fixed heel clamps 19. After the toe clamps and heel clamps have been adjusted for the required size, the lever 39 is rocked forwardly whereupon one end of the pin 34 will engage the pin 32 carried by the lever 31 and cause said lever to be turned on its fulcrum, thereby exerting a pull on the link 33 and causing the plate 17 to be moved forwardly which will cause the movable clamp 20 to be moved forwardly so that the skate may be readily placed against the sole of the shoe. The lever is now rocked upwardly and rearwardly during which movement, the pin 34 will engage the underside of the pin 32, thereby causing said pin to be raised and the lever 31 to be turned on its fulcrum, so that the plate 17 and thereby the movable clamp 20 is moved towards the fixed clamp 19, so that the movable clamp will engage with the heel of the wearer. As the link 33 turns upwardly on its fulcrum its free end will be raised, as indicated in Fig. 2, so that the deflected end 37 of the stud 38 will contact with the shoulder 36 of said link and thereby prevent the link 33 from being unlocked and maintains the movable heel clamp and the toe clamps in rigid position.

When it is desired to remove the skate, it is simply necessary to actuate the member 39, whereupon the operation above described again takes place.

It will be understood by those skilled in the art with reference to Figs. 1, 2 and 3, that when the handle 39 is moved forwardly and downwardly, the upper end of the pin 34 will engage the pin 32, thereby causing the member 31 to be partially rotated. As this member rotates, the end of link 33 nearest to lever 31 will be raised until the shoulder 36 clears the stud 37. On the continued downward movement of the lever 39 the link 33 will be drawn forwardly, thereby moving the movable heel clamp 20 forwardly towards the toe of the skate and causing the skate to be unlocked, as hereinbefore described. The lever 31 is shorter on one side of its fulcrum than the other and it is owing to this construction that such movement is permitted and in practice there is no rearward movement of the movable clamp 20 during this operation.

The gaiter 49 is strapped around the leg of the wearer and the neck 45 of the member 40 is caused to engage with the catch 46, as is indicated in Fig. 1, so that the member 40 and casing 39 will serve as a support for the ankles of the wearer and owing to the manner in which the pin 34 is maintained or carried by the rod 30, it will be seen that a certain amount of relative forward and rearward movement of the members 40 and 39 is permitted without said pin engaging or coming in contact with the pin 32 carried by the lever 31.

It will be apparent that the height of the gaiter 49 above the shoe may vary according to the conditions and requirements of different sized people and that owing to the member 40 being adjustably maintained within the member 39 that the device is adapted for persons of different sizes.

I have, in the present instance, shown and described a preferred embodiment of my invention which gives in practice satisfactory and reliable results, although it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit and scope of the invention or sacrificing any of its advantages.

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

1. In a skate, the combination with the toe support and heel support thereof, of toe clamps carried by said toe support, toggles connected with said clamps, a connecting arm having one end connected with said toggles, a movable heel clamp operatively connected with the other end of said connecting

arm, fixed heel clamps, a rotatable rod having a lever loosely mounted thereon, said lever being operatively connected with said movable clamp, a pin carried at one end of said lever and a pin carried by said rod adapted to coact with said first mentioned pin.

2. In a skate, the combination with the toe support and heel support thereof, of toe clamps movably carried by said toe support, toggles pivoted to said clamps, a connecting arm secured to said toggles, a plate movably carried by said heel support and secured to said connecting arm, an adjustable screw carried by said movable plate, a heel clamp adjustable on said screw, a rotatable rod, a lever loosely mounted thereon, a pin carried by one end of said lever, a link to which the other end of said lever is pivoted, the opposite end of said link being pivoted to said plate, a pin carried by said rotatable rod adapted to coact with said pin to move said plate forwardly or rearwardly, and means for preventing movement of said movable plate when in its rearmost position.

3. In a skate, the combination with the toe support and heel support thereof, of toe clamps carried by said toe support, toggles pivoted to said clamps, a connecting arm secured to said toggles, a plate movably carried by said heel support and secured to said connecting arm, an adjustable screw carried by said movable plate, a heel clamp adjustable on said screw, a rotatable rod, a lever loosely mounted thereon, a pin carried by one end of said lever, a link to which the other end of said lever is pivoted, the opposite end of said link being pivoted to said movable plate, a pin carried by said rotatable rod adapted to coact with said lever pin to move said plate forwardly or rearwardly, and a stop carried by said heel support and coacting with said link to prevent movement of said plate when in its rearmost position.

4. In a skate, the combination with the toe support and heel support thereof, of toe clamps carried by said toe support, toggles pivoted to said clamps, a connecting arm secured to said toggles, a movable member carried by said heel support and secured to said connecting arm, an adjustable screw carried by said member, a heel clamp adjustable on said screw, a rotatable rod, a lever loosely mounted thereon, a pin carried by one end of said lever, a link to which the other end of said lever is pivoted, the opposite end of said link being pivoted to said toe support, a pin carried by said rotatable rod adapted to coact with said lever pin to move said member rearwardly or forwardly, a stop carried by said heel support, and coacting with said link to prevent movement of said member when in its rearmost position, and an actuating lever secured to said rotatable rod.

5. In a skate, the combination with the toe support and heel support thereof, of clamps carried by said toe support, toggles pivoted to said clamps, a connecting arm secured to said toggles, a movable member carried by said heel support and secured to said connecting arm, a screw carried by said member, a heel clamp adjustable on said screw, a rod rotatably mounted, a lever loosely mounted thereon, a pin carried by one end of said lever, a link to which the other end of said lever is pivoted, the opposite end of said link being pivoted to said member, a pin carried by said rotatable rod adapted to coact with said lever pin to lock or unlock said clamps, means for preventing movement of said member when the heel and toe clamps are locked, an actuating lever secured to said rotatable rod, and means for locking said actuating lever against accidental movement.

6. In a skate, the combination with the toe support and heel support thereof, of toe clamps carried by said toe support, toggles pivoted to said clamps, a connecting arm secured to said toggles, a movable plate carried by said heel support and secured to said connecting arm, a screw carried by said plate, a heel clamp adjustable on said screw, a rotatable rod, a lever loosely mounted thereon, a pin carried by one end of said lever, a link to which the other end of said lever is pivoted, the opposite end of said link being pivoted to said plate, a pin carried by said rotatable rod adapted to coact with said lever pin, a stop carried by said heel support coacting with said link to prevent movement of the latter when in its rearmost position, a tubular actuating lever secured to said rotatable rod, a rod telescoping within said actuating lever and means for locking the telescoping rod against accidental movement.

7. In a plate, the combination with the toe support and heel support thereof, of toe clamps movably carried by said toe support, toggles pivoted to said clamps, a connecting arm secured to said toggles, a movable plate carried by said heel support and secured to said connecting arm, a screw carried by said plate, a heel clamp adjustable on said screw, a rotatable rod, a lever loosely mounted thereon, a pin carried by one end of said lever, a link to which the other end of said lever is pivoted, the opposite end of said link being pivoted to said plate, a pin carried by said rotatable rod adapted to coact with said lever pin, means for preventing movement of said plate when the clamping mechanism is in its engaging position, a tubular actuating lever secured to said rotatable rod, a rod telescoping within said actuating lever and means for preventing disengagement of said rod with said lever.

8. In a skate, the combination with the toe support and heel support thereof, of toe clamps carried by said toe support, toggles

pivoted to said clamps, a connecting arm secured to said toggles, a movable plate carried by said support and secured to said connecting arm, a screw carried by said plate, stationary heel clamps, a heel clamp adjustable on said screw, a rotatable rod, a lever loosely mounted thereon, a pin carried by said lever, a link to which the other end of said lever is pivoted, the opposite end of said link being pivoted to said plate, a pin carried by said rotatable rod adapted to coact with said lever pin, an actuating lever secured to said rotatable rod, a member longitudinally adjustable with respect to said actuating lever, means for preventing disengagement of said member and lever, and a fastening device for said member.

9. In a skate, the combination with the toe support and heel support thereof, of toe clamps guided in said toe support, toggles pivoted to said toe clamps, threaded rings pivoted to said toggles and having oppositely directed threads, a rod having threaded engagement with said rings, and rotatably mounted on said toe support, a connecting arm secured to said toggles, a movable plate guided in said heel support and secured to said connecting arm, stationary heel clamps, a heel clamp adjustably carried by said plate, and toggle mechanism for securing said plate in its rearmost position.

10. In a skate, the combination with the toe support and heel support thereof, of toe clamps carried by said toe support, toggles connected with said clamps and having each an adjustable pivot, a movable heel clamp connected with said toggles, fixed heel clamps, a rotatable member, means connected therewith for actuating said movable clamp, and actuating means for said member.

11. In a skate, the combination with the toe support and heel support thereof, of toe clamps carried by said toe support, toggles connected with said clamps and having each an adjustable pivot, a movable heel clamp operatively connected with said toggles, fixed heel clamps, a rotatable member, means connected therewith for actuating said movable clamp, actuating means for said member, and means for preventing movement of said toe clamps and movable heel clamp when the parts are in clamped position.

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