

No. 803,698.

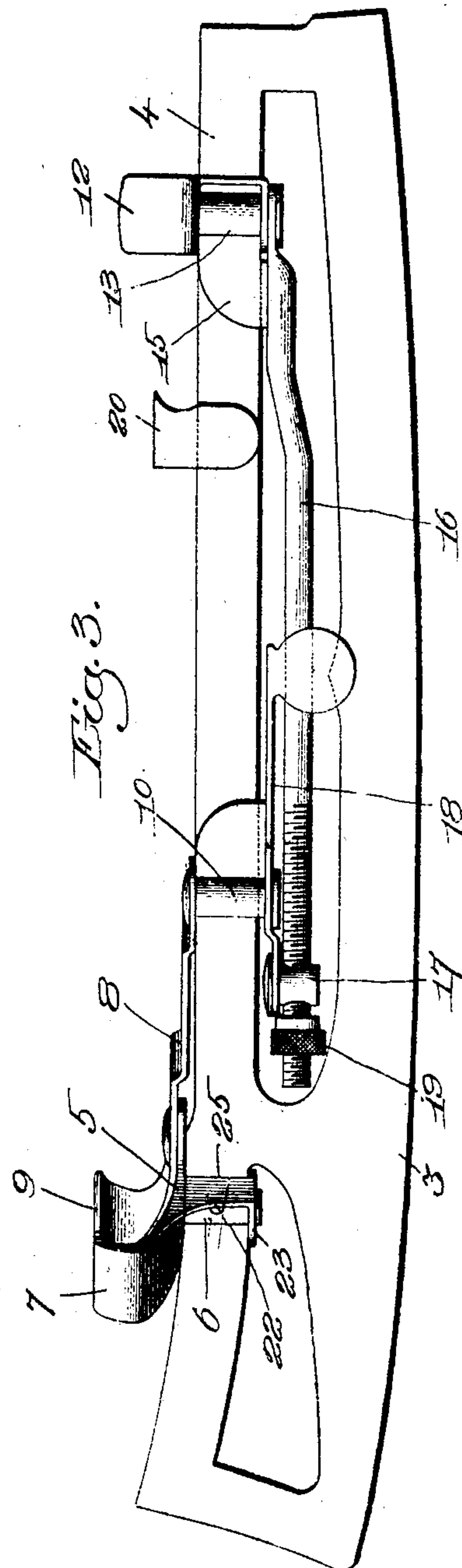
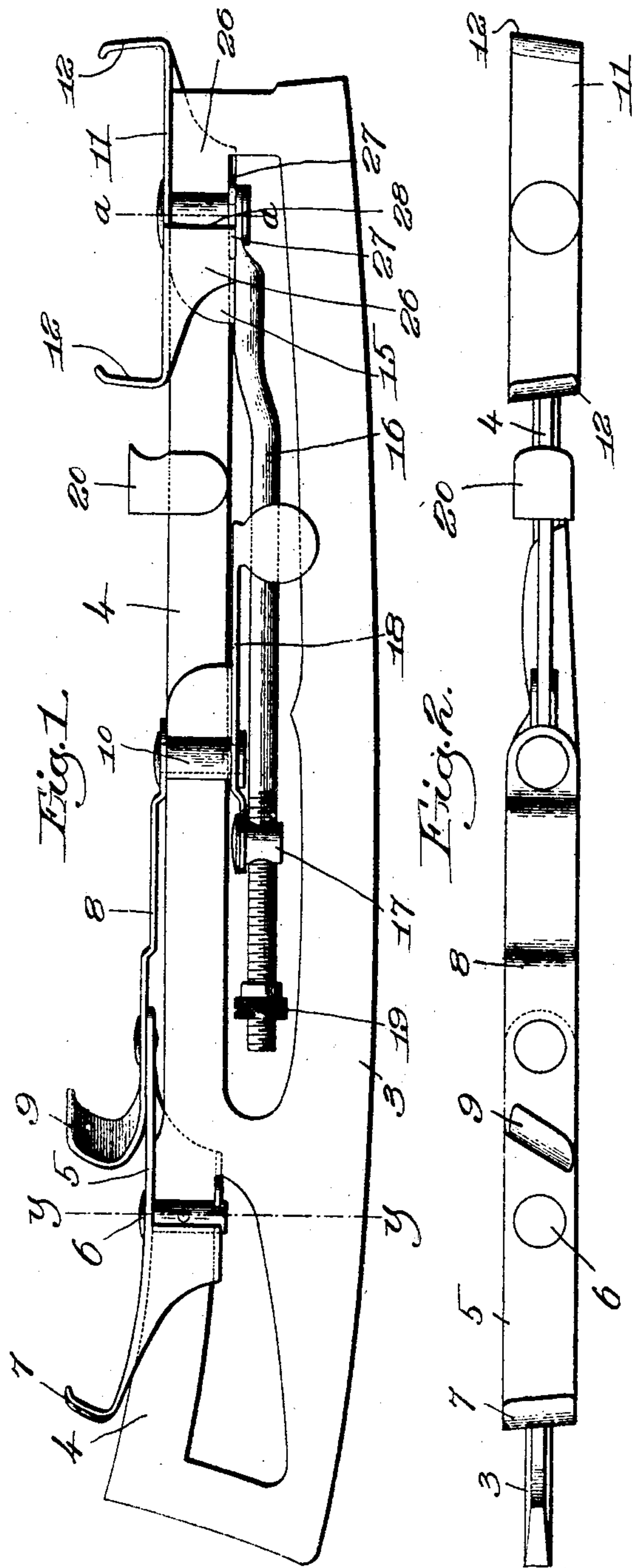
PATENTED NOV. 7, 1905.

J. E. MARTIN.

SKATE.

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2 SHEETS—SHEET 1.



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# UNITED STATES PATENT OFFICE.

JOHN E. MARTIN, OF SOMERVILLE, MASSACHUSETTS.

## SKATE.

No. 803,698.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed January 3, 1905. Serial No. 239,366.

*To all whom it may concern:*

Be it known that I, JOHN E. MARTIN, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Skates, of which the following description, in connection with the accompanying drawings, is a specification, like figures on the drawings representing like parts.

This invention relates to skates, and has for its object to provide a novel skate in which the sole and heel sustaining parts may be folded onto or against the runner.

All clamp-skates now on the market, so far as I am aware, have the sole and heel sustaining portions fixed with relation to the runner. Such skates are more or less unwieldy to carry because the heel and sole sustaining portions occupy a plane at right angles to that of the runner. In a skate embodying my invention the heel and sole supporting portions can be folded up against or parallel to the runner, so that when in condition for transportation the skate occupies very little or no more space than the runner itself.

In order to obtain the above results, I construct my improved skate with a runner portion to which is pivoted a sole-sustaining portion having means to grip the edge of a sole and also a pivoted heel-sustaining portion adapted to grip the heel, both said portions being adapted to be turned into substantial alinement with the runner or closed when the skate is not in use, said sole and heel supporting portions being operated conjointly to clamp the sole and heel edges by means of a lever and a rod.

In the drawings, Figure 1 is a side elevation of a skate embodying my invention, said figure showing the skate closed. Fig. 2 is a top plan view of Fig. 1. Fig. 3 is a side elevation of the skate shown in Fig. 1 when said skate is clamped to the sole of a shoe. Fig. 4 is a top plan view showing the sustainer open and with the heel of a shoe in dotted lines. Fig. 5 is a top plan view of the skate clamped to the shoe, the sole of the shoe being shown in dotted lines. Fig. 6 is a plan view of the clamping-rod detached. Fig. 7 is a bottom plan view of a portion of the sole-support. Fig. 8 is a view on the line *yy*, Fig. 1. Fig. 9 is a transverse view through the fulcrum-block of the heel-support in line *a*, Fig. 1. Fig. 10 is a detail showing the saddle 15 detached.

3 designates the runner of the skate, which may be of any suitable or usual construction,

although I prefer to construct it with the top rail 4, which is separated from the bottom by a suitable slot. The part on which the sole of the boot or shoe rests when the skate is applied thereto I have designated as the "sole-sustainer," and that part on which the heel rests I have designated as the "heel-sustainer." The sole-sustainer is constructed to be closed as above described, and in this form of my invention it comprises a bar or member 5, pivoted to the top rail of the runner, as at 6, and having one end 7 shaped to form a clip to engage the edge of the sole and another bar 8 pivotally connected to the bar 5 at 5<sup>x</sup> and having one end 9 shaped to engage the other side of the sole. The bar 8 is pivotally connected to a sliding fulcrum-block 10, which is mounted to slide back and forth on the upper rail 4 of the runner, the sliding movement of said fulcrum-block obviously carrying the sole-sustainer from its closed position (shown in Figs. 1 and 2) into its open position. (Shown in Figs. 3 and 4.) The heel-sustainer is herein shown as a bar 11, pivotally mounted upon the runner and having its ends 12 shaped to engage the sides of the heel. Said heel-sustainer is shown as pivoted on a sliding fulcrum-block 13, also mounted to slide back and forth upon the upper rail 4 of the runner. The shape of the sliding fulcrum-block which I prefer to employ is in the form of a split pivot-pin adapted to straddle the upper rail of the runner, said pin preferably having secured thereto the saddles or guides 15, which embrace said upper rail of the runner and which serve to hold the fulcrum-block in proper position. The fulcrum-block 13 for the heel-sustainer has pivoted thereto one end of a rod 16, the other end of which is screw-threaded and passes loosely through a block 17, pivotally connected to one end of the clamping-lever 18. Said clamping-lever 18, as I have chosen to illustrate the same herein in one form, is pivoted intermediate its ends to the fulcrum-block 10. Mounted on the screw-threaded rod 16 is a nut 19, which may be adjusted to adapt the skate to accommodate different sizes of boots and shoes.

20 designates a stop or lug fixedly secured to the runner and adapted to engage the breast of the heel when the skate is clamped to a boot or shoe.

When the skate is closed in the position shown in Figs. 1 and 2, the two members 5 and 8 of the sole-sustainer stand substantially parallel with each other and substantially par-



allel with the runner, and the heel-sustainer also stands parallel with the runner. In opening the skate preparatory to applying it to a boot or shoe the heel-sustainer is swung into a transverse position and put in its rearmost position, as shown in Fig. 4, and the clamping-lever 18 is swung into the open position shown in said figure. This movement of the block 17 toward the heel, and after the lever is swung into such position the sliding fulcrum 10 may be engaged by hand and be moved on the top edge of the runner toward the toe of the skate, thereby opening the sole-sustainer, as shown in Fig. 4. When the parts are in the position Fig. 4, the skate is ready to be applied to the boot or shoe, and in doing this the skate is applied to the sole and heel of the boot or shoe so that said heel is received between the ears or lugs 12 and the stop 20 and the edges of the sole between the lugs 7 and 9 of the sole-support, and thereafter the clamping-lever 18 is turned from the position shown in Fig. 4 to that shown in Fig. 5. During the first portion of the swinging movement of said lever the block 17 engages the stop-nut 19, which has been adjusted on the rod 16 to accord with the size of the shoe, and as the lever swings about the fulcrum-block 10 said lever, through the rod 16, draws the heel-sustainer forward until the ears or lugs 12 thereof engage the heel, as shown in Fig. 5, and during the remainder of its swinging movement said lever, as shown, turns on the block 17 as a fulcrum, with the result that the sliding fulcrum-block 10 is drawn backwardly, causing the clips 7 and 9 to bite against and grip both edges of the sole.

In order to strengthen and brace the sole-sustainer when in its open position, I have made the bar 5 with depending flanges 22, the lower ends of which are turned horizontally beneath the upper rail 4 of the runner, such horizontal portions embracing and turning about the lower end of the fulcrum-pin 6. Said fulcrum-pin 6 is preferably split, as shown in Fig. 8, the two legs thereof straddling the upper rail 4 of the runner. This fulcrum may be fastened to the runner in any suitable way, as by a pin 24. When the bar 5 stands at right angles to the runner, the vertical edges 25 of the flanges meet the sides of the runner. The flanges 22 on each side of the bar stiffen and make said bar sufficiently rigid to withstand any strain which is put thereupon, and the intumed or foot portions of said flanges by their engagement with the pivot-pin 6 below the upper rail of the runner serve to stiffen and give strength to the construction. Substantially this same construction is employed in connection with the heel-sustainer, the latter having the strengthening-flanges 26, the lower ends of which are bent horizontally, as at 27, to form foot portions which embrace

the lower end of the pivot-pin of the fulcrum-block 13. When the heel-sustainer is swung into its open position, as shown in Figs. 4 and 5, the vertical edges 28 of the flanges 26 engage the side of the runner. This construction gives the heel-sustainer the rigidity necessary to withstand any strain which may be applied to the skate when in use.

It will be seen from the above description that my improved skate can be applied quickly and easily to a boot or shoe, and it has the advantage that the sole and heel sustainers may be closed, as shown, to occupy a very much smaller space than ordinary clamp-skates.

The construction herein illustrated is that which I deem most practical for this purpose; but I do not wish to be limited to the exact construction shown, as I believe I am the first to produce a skate in which the sole and heel of the boot or shoe to which the skate is applied have contact with and are supported by a pivoted sole-sustainer and a pivoted heel-sustainer, which are adapted to be closed or folded to occupy a position substantially in line with the runner, and which sole-sustainer and heel-sustainer are provided with means to grip the sole and heel separately. The particular form of sole-sustainer or heel-sustainer is not, therefore, essential to my invention, but may be varied in many ways without departing from the spirit of the invention expressed in the appended claims.

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

1. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner when in use and provided with means to grip the edges of the sole of a boot or shoe, an independent heel-sustainer also pivoted on the runner and provided with means to grip the heel, and means operatively connecting said sole-sustainer and heel-sustainer to cause them to clamp the sole and heel of a shoe.

2. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner when in use and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected with said sole-sustainer, and a lever connected to said fulcrum-block for sliding the latter longitudinally of the runner and thereby clamping the sole-sustainer to the sole of a shoe.

3. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner, and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected to said sole-sustainer, independent heel-clamping means, and a lever connected to the sliding fulcrum-block and said heel-clamping means.

4. In a skate, a runner provided with means to sustain and engage the heel of a boot or



shoe, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner when in use, and a lever joining the means for engaging the heel with the sole-sustainer, movement of the lever in one direction serving to fix the skate to the boot or shoe.

5. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected to said sole-sustainer, an independent heel-sustainer having means to grip the heel of a shoe, and a clamping-lever operatively connected to both the sliding block and the heel-sustainer.

6. In a skate, a runner, a pivoted sole-sustainer provided with means to grip the edge of a sole, a heel-sustainer slidably mounted between its ends on and crossing the runner when in clamping position, and a clamping-lever operatively connecting the sole-sustainer and the heel-sustainer.

7. In a skate, a runner provided at its upper edge with a sole-sustainer comprising a member pivoted between its end to and crossing the runner when in use, said sole-sustainer when not in use being adapted to fold into the plane of the runner.

8. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected with said sole-sustainer, a heel-sustainer pivoted to, and slidably mounted on the runner and crossing the same when in clamping position, a clamping-lever, and operative connections between said lever and both the sliding fulcrum-block and heel-sustainer.

9. In a skate, a runner, a sole-sustainer comprising a member pivoted between its ends to said runner and crossing the same when in use, a sliding fulcrum-block operatively connected with the sole-sustainer, a fixed stop to engage the breast of a heel, a sliding heel-sustainer, and a clamping-lever operatively connected to both the sliding fulcrum-block and heel-sustainer.

10. In a skate, a runner provided with a sole-sustainer comprising a member pivoted between its ends to and crossing said runner when in use, a heel-sustainer pivoted between its ends to and crossing the runner when in use, said sole-sustainer and heel-sustainer being foldable into the plane of the runner when not in use.

11. In a skate, a runner, a sole-sustainer comprising a bar pivoted between its ends to the runner and having a clip or ear at one end, a second bar pivoted to the other end of the first-named bar, said second bar also having a clip or ear to engage the sole of a shoe, a sliding fulcrum-block pivotally connected with

said second bar, and means to slide said block longitudinally of the runner thereby to clamp the sole of a shoe between said clips or ears.

12. In a skate, a runner, a sole-sustainer comprising a bar pivoted between its ends to the runner and having a clip or ear at one end, a second bar pivoted to the other end of the first-named bar, said second bar also having a clip or ear to engage the sole of a shoe, a sliding fulcrum-block pivotally connected with said second bar, and means to slide said block longitudinally of the runner thereby to clamp the sole of a shoe between said clips or ears, combined with heel-clamping means.

13. In a skate, a runner, a sole-sustainer comprising a bar pivoted between its ends to the runner and having an ear at one end to engage the sole of a shoe, and a second bar pivoted to the first-named bar, said second bar also having an ear to engage the sole of a shoe, a sliding fulcrum-block to which the second bar is jointed, a clamping-lever pivoted to said fulcrum-block, a sliding heel-sustainer, operative connections between said heel-sustainer and clamping-lever, and a fixed stop to engage the breast of the heel.

14. In a skate, a runner, a pivot-pin secured thereto, a sole-sustainer including a bar resting on the runner and loosely mounted on said pivot-pin, said bar having depending flanges, the lower portions of which are shaped to form foot portions to bear against said pivot-pin.

15. In a skate, a runner, a pivot-pin secured thereto, a sole-sustainer including a bar resting on the runner and loosely mounted on said pivot-pin, said bar having depending flanges, the lower portions of which are shaped to form foot portions to bear against said pivot-pin, said foot portions having openings to embrace said pivot-pin.

16. In a skate, a runner, a pivoted sole-sustainer and a heel-sustainer comprising a bar having means to grip the heel of a shoe, a pivot-pin carried by the runner and on which said bar turns, said bar having depending flanges, the lower portions of which are shaped to constitute foot portions to bear against said pivot-pin.

17. In a skate, a runner, a pivoted sole-sustainer, and a heel-sustainer comprising a bar having means to grip the heel of a shoe, a pivot-pin carried by the runner and on which said bar turns, said bar having depending flanges, the lower portions of which are shaped to constitute foot portions to bear against said pivot-pin, said foot portions embracing said pivot-pin.

18. In a skate, a runner, a sole-sustainer comprising a member pivoted between its ends to the runner and having a clip or ear at one end, a second member pivoted to the other end of the first-named member and having a clip or ear to engage the sole of a boot or shoe, and means connected to one of said members to



move the members that the clips thereon shall clamp between them the edges of the sole of a boot or shoe.

19. In a skate, a sole-sustainer having ears to engage a shoe-sole, a heel-sustainer also having ears to engage a shoe-heel, said sole-sustainer and heel-sustainer each comprising a member pivoted between its ends to and crossing the runner when in use.

20. In a skate, a runner, a pivot-pin embracing said runner, a sole-sustainer comprising a bar mounted on said pivot-pin and crossing the runner and having at one end an ear, a second bar pivoted on the opposite end of said first-named bar and having at one of its ends an ear, a sliding fulcrum-block connected with an arm of said second bar, means to guide and sustain said fulcrum-block loosely and slide the said fulcrum-block forwardly toward the front end of said skate causing the ears to be separated that they may be made to receive between them the sole of a shoe.

21. A skate comprising a runner, a sole-sustainer and a heel-sustainer each comprising a member pivotally mounted between their ends on the runner, means to move said sustainers relatively longitudinally of the runner, said sustainers crossing the runner when open for use and constructed to be closed to occupy a position substantially parallel with the runner when folded in the plane of and above the runner.

22. In a skate, a sole-sustainer having ears to engage a shoe-sole, a heel-sustainer also hav-

ing ears to engage a shoe-heel, said sole-sustainer and heel-sustainer comprising a member pivoted between its ends to and crossing the runner when in use, both said sustainers when not in use being foldable into the plane of and above the runner.

23. In a skate, a runner, a heel breast-gage, a heel-clamp comprising a member pivoted between its ends to and above the runner and crossing the same when in use, and means to move one of said parts toward the other to clamp the skate to the heel.

24. In a skate, a runner, a saddle fitting both sides of the runner, and a split pin embracing the runner and carried by the saddle.

25. In a skate, a runner having a top and bottom bar with a space between, a saddle embracing the top bar and contacting with the under side thereof, and a split pin straddling said bar mounted in said saddle and slidable therewith on said top bar.

26. In a skate, a runner provided at its upper edge with a sole-sustainer, said sole-sustainer comprising a member pivoted between its ends to and crossing the runner when in use, and being foldable above the runner and into the plane thereof when not in use.

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

JOHN E. MARTIN.

Witnesses:

GEO. W. GREGORY,  
MARGARET A. DUNN.