J. Lovatt,

Skate,

No. 51,466. Patented Dec. 12, 1865.

Fig. 1.

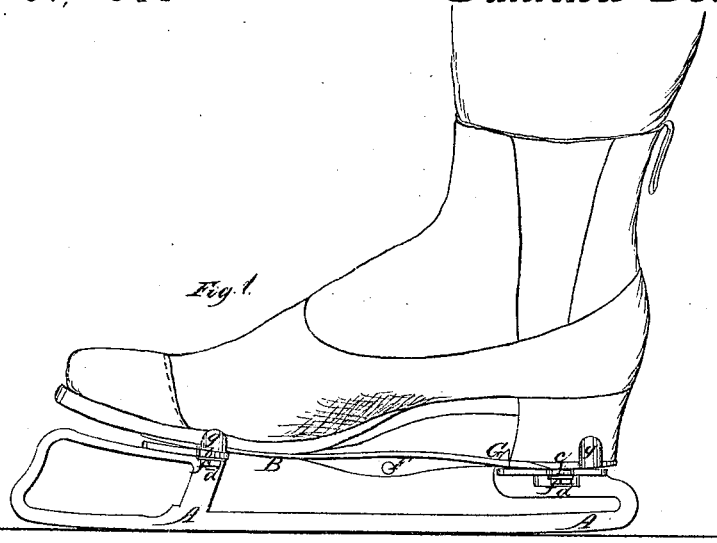


Fig. 2

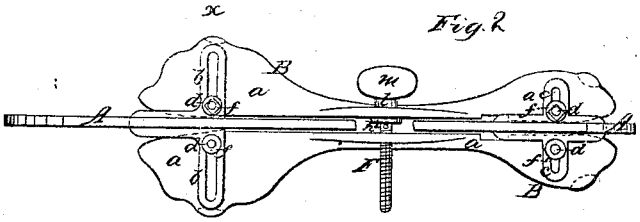


Fig. 5

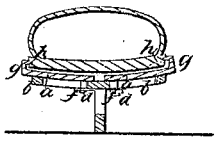


Fig. 3

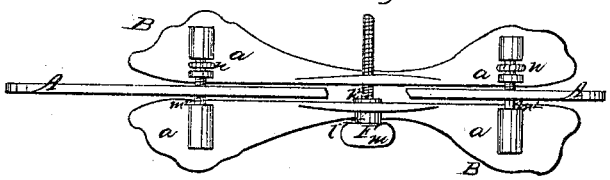
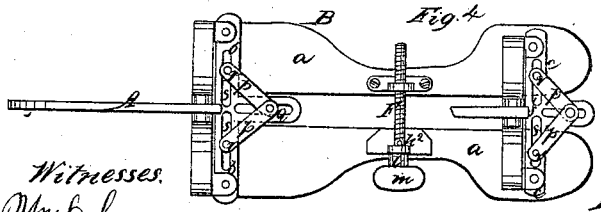


Fig. 4



Witnesses.
Wm. E. Lynn
B. B. Worthington

Inventor
John Lovatt
Munn & Co
Attys.

UNITED STATES PATENT OFFICE.

JOHN LOVATT, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN SKATES.

Specification forming part of Letters Patent No. **51,466**, dated December 12, 1865.

To all whom it may concern:

Be it known that I, JOHN LOVATT, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Skates; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates to a new and improved fastening for skates to the soles of boots and shoes without the use of straps; and it consists principally in dividing the foot rest or support of the skate, in the direction of its length, into two parts or sections, which sections have, at suitable points of their length and upon their outer edges, raised studs or clamps, and are so arranged upon the supports therefor of the skate runner or blade as to be susceptible of a lateral movement with regard to and toward each other, so that when the foot has been placed thereon they can be brought through their raised studs or clamps upon and against the sides of the boot or shoe sole with any desired degree of pressure and there held, thus firmly and tightly clamping or binding the boot or shoe sole between the same, the foot being released by simply loosening and withdrawing the two portions of the foot-rest from each other.

In the accompanying plate of drawings my improved skate-fastening is illustrated, Figure 1 being a side elevation of a skate with my improved fastening, showing it applied to a boot; Fig. 2, a view of the under side of the foot-rest of the skate, showing one mode of connecting the two sections of the same, and which is similar to that shown in side elevation in Fig. 1. Figs. 3 and 4 are similar views of the foot-rest of the skate to that in Fig. 2, but showing modifications in mode of connecting the two sections together; and Fig. 5 a transverse vertical section of the skate, taken in the plane of the line *x x*, Fig. 2.

A in the drawings represents the blade or runner of the skate, which may be made of any of the usual forms or styles, and of any suitable metal; B, the foot-rest, divided in the direction of its length into two similar parts or sections, *a a*, resting and supported on horizontal brackets or arms *b b* and *c c*, on each side of the blade attached to or forming a part of the same, and directly opposite to each other, at right angles to the length of the skate, one set, *b b*, being at or near the toe-portion of the foot-rest, and the other at or near the heel. These brackets or arms *b* and *c* are slotted in a direction at right angles to the blade, and through each of them passes a stud or pin, *d*, of the foot-rest sections at the proper points therefor, which studs have nuts or heads *f* upon their outer ends and under the brackets or arms *b c*, thus holding the foot-rest sections upon the said arms, while at the same time they can be moved toward and away from each other, or in other words in a direction at a right angle to the length of the skate, their studs being guided by the said slots of the brackets; and, also, are at such points of the foot-rest as to enable the inner edges of its two sections to be brought in close contact with each other at or near the center line of the skate.

Around the periphery of each section of the foot-rest, and at suitable and corresponding points thereof, are raised or vertical studs or clamps *g g*, the upper ends of which have sharp or pointed lips *h h*, or of any other suitable shape to embed themselves in the edges of the boot or shoe when the skate is applied to it, as will be presently explained, the said clamps being made of the proper height therefor. Two of these clamps are upon the heel portion of the foot-rest, and at such points thereof as to bear against the boot-heel, upon its sides, and two more clamps are secured to the foot-rest a short distance from the toe end of the skate.

At the center of the two foot-rest sections or parts passing through one of the same, and screwing into the other is a clamp or set-screw, F, by turning which to the right or left the section into which it screws is either moved toward or away from the other section of the rest, as the case may be, a fixed cap or collar, h^2, upon the shaft of the set-screw, drawing the section outward, and the shoulder *l* of the head *m* of the screw forcing it inward as the screw is properly turned therefor.

To use the skate having its foot-rest connected together as above described, first set the section of the rest through which the screw-shaft F screws at such a position with regard to its blade that when the sole of the boot or shoe is clamped between the side clamps of

the two sections it will be evenly balanced, or sufficiently so upon the skate, which is accomplished by moving it in or out, as may be necessary, until in the proper position, and then tightening the nuts upon its studs or pins passing through the slotted brackets. When placing the foot upon the foot-rest of the skate, turn the set-screw F in the proper direction to cause the other or loose section of the rest to move towards the sole, when its clamps will come to a bearing against the same, embedding themselves therein, as well, also, as the clamps upon the opposite side or section of the rest, and thereby firmly holding or clamping the sole in and between the two sections of the rest, as is obvious without further explanation.

To remove the skate from the foot it is only necessary to turn the set-screw F in the proper direction to draw the loose or sliding section of the foot-rest away from the fixed one, when the skate can be freely detached.

To prevent the foot from slipping when bound between the side clamps of the foot-rest of the skate, as described, lengthwise upon the same, I form a fixed upright or vertical stud or rest-pin, G, at such portion of the skate-blade that when the foot is placed thereon it will bear against the inner edge or side of the boot-heel, as plainly seen in Fig. 1, which rest prevents the foot from moving toward the toe of the skate while the heel-clamps of the foot-rest are at such points thereof as to bear against the rear of the heel at the proper points to prevent the foot from moving backward upon the skate.

In Fig. 3 a modification of the manner of connecting the two sections of the foot-rest is shown, although operating substantially the same as that above described—that is, one foot-rest being first set and the other moved toward the same by a set-screw, F, but in lieu of the slotted arms bolts or rods m^2 m^2 are fastened horizontally in the blade of the skate, extending across the same and projecting upon each side, one portion of which bolts, and upon the same side of the skate-blade have a screw-thread formed about and around the same. One section of the rest, or that through which the set-screw works, can be moved freely on these bolts, while the other, by turning the milled heads or collars n of the bolts to the right or left, can be either moved toward or away from the blade of the skate, according to the position which it is desired it should occupy, where the milled collars will securely hold it, when, by properly turning the set-screw F, the other section of the foot-rest is moved toward the section set as above explained.

In Fig. 4 a still further modification of the mode of connecting the two sections of the foot-rest together is shown; but in this case, in lieu of first setting one side or section and then moving the other toward it, as above described, they are connected together in such a manner that they will both move simultaneously toward the blade of the skate or away from the same, according as their set-screw F is turned either to the right or left, the set-screw F being similarly arranged to those before referred to. The peculiar connection of the two parts in this case consists of two link-pieces, p p, hung together at one end, their common center pin or stud moving in the longitudinal slot q of the bracket arms or supports of the blade for the foot-rest. The other ends of these links are hung, one to each section of the foot-rest, upon studs or pins r r of the same, which studs move in the transverse slots s s of the brackets. By this connection, as the set-screw F is turned to bring the two sections of the foot-rest together, the two link-pieces moving in the longitudinal and transverse slots of the bracket-arms are brought together or alongside of each other, and when the set-screw is turned to move the rest-sections away from each other the said link-pieces open from each other, so that if such movement of the screw is continued and sufficient length of play is given thereto they will be in one and the same line across the width of the skate, as is obvious without further explanation.

A connection of the sections similar to the above is provided for the foot-rest at or near each end thereof, and at equal distances from the operating set-screw F, so that as the said screw is turned both ends of the foot-rest will be similarly and simultaneously moved.

I have hereinabove described several modes in which the two sections of the foot-rest may be moved toward or from each other, the object being the same, however, in each case—that is, to bind and hold the boot or shoe sole upon its sides between suitable clamps therefor—and there are many other variations which may be made in the same other than those explained, and therefore I do not intend to limit myself to any particular one of the modes specified, as by them all the objects and principles of the present invention are secured.

It may be remarked here, in conclusion, that one section of the foot-rest may be made fixed to the supports therefor of the blade, in lieu of being susceptible of adjustment, as hereinabove explained, the other section being arranged in any proper manner so that it can be moved toward or away from the same and still secure the object of the present invention; but I deem it best to have it adjustable, as thereby it can be set to any variations which there might be in the width of the boot or shoe soles and a more even balancing of the foot upon the skate obtained, the importance of which in skating is well known to all familiar with the use of skates.

I claim as new and desire to secure by Letters Patent—

1. Dividing the foot-rest of a skate in the direction of its length into two parts or sections, which parts are so connected or attached to the supports therefor of the skate that they

can be either moved toward or away from each other, substantially in the manner described, and for the purpose specified.

2. In combination with the above, constructing or forming the outer edges or peripheries of the foot-rest sections, and at suitable points thereof, with raised clamps *g g*, substantially as and for the purpose described.

3. In combination with the longitudinal divided skate foot-rest having side clamps, *g g*, of the fixed rest, pin, or stud G, for the front of the boot or shoe heel, substantially as and for the purpose specified.

The above specification of my invention signed by me this 24th day of October, 1865.

JOHN LOVATT.

Witnesses:

ALBERT W. BROWN,

M. M. LIVINGSTON.