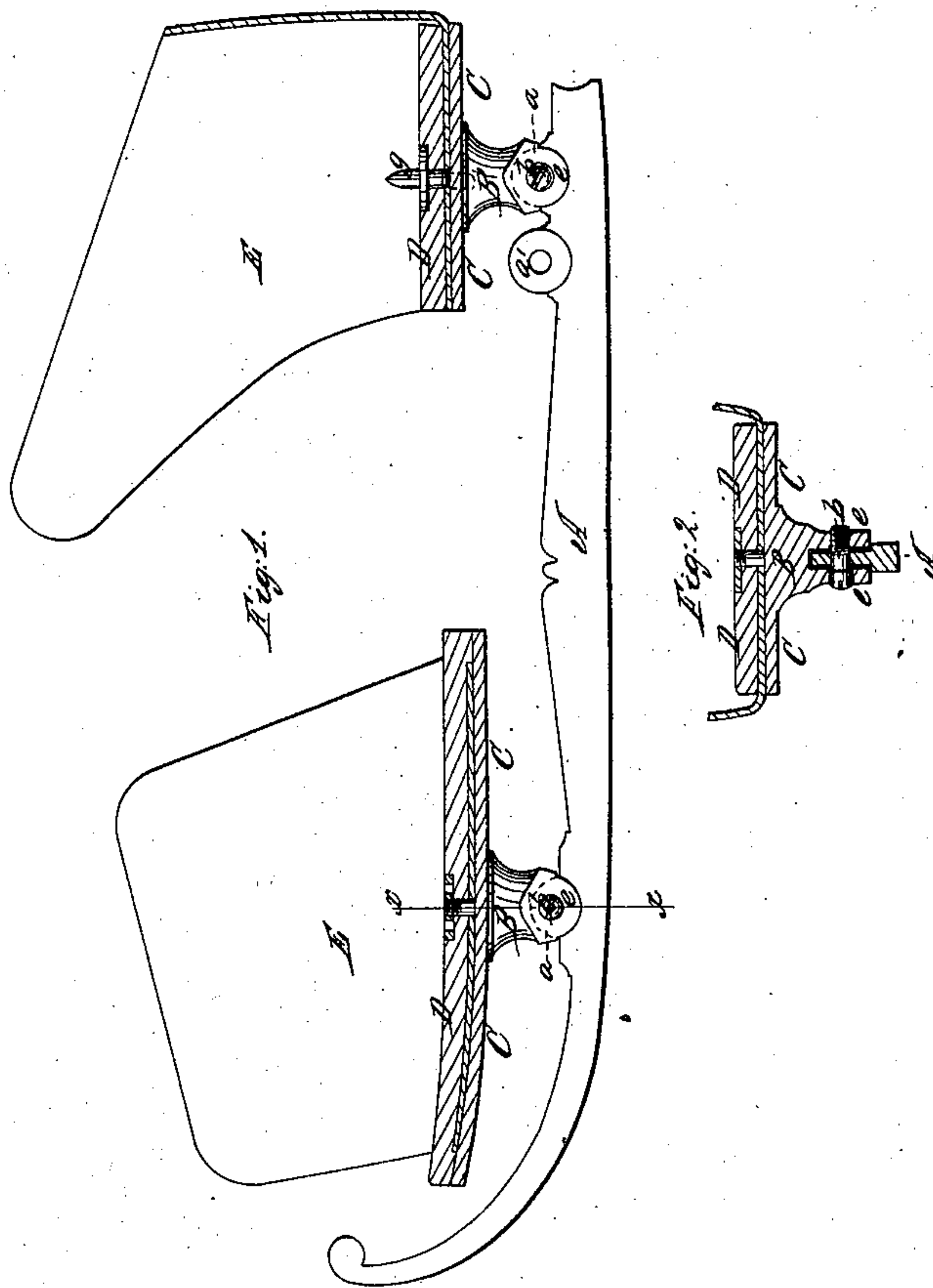


H. W. Warner

Skate,

N^o 31,043.

Patented Jan. 1, 1861.



Witnesses:

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UNITED STATES PATENT OFFICE.

H. W. WARNER, OF GREENFIELD, MASSACHUSETTS.

SKATE.

Specification of Letters Patent No. 31,043, dated January 1, 1861.

To all whom it may concern:

Be it known that I, H. W. WARNER, of Greenfield, in the county of Franklin and State of Massachusetts, have invented a new and useful Improvement in Skates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a vertical longitudinal section taken through the foot-stands, showing the manner of attaching the same to the runner of the skate, and the leather straps,—front and heel straps,—to the foot-stands. Fig. 2 is a vertical transverse section taken through the front foot-stand, standard and runner as indicated by the red line $x x$, Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

To enable those skilled in the art to fully understand my invention I will proceed to describe its construction and operation.

It is a fact well known to skaters that the stiff foot-stand or stock skates require to be strapped very tight to the feet on account of their inflexibility, and when thus strapped the free circulation of blood in the feet is stopped, and a cold cramping sensation is the result, the muscles of the feet and ankles are also rendered inactive, and the skates soon become so painful to the feet that much of the pleasure is prevented.

My object is to remedy these and many other difficulties attending the use of stiff skates by making the foot-stand in separate and independent parts, and in attaching them when properly made to the runner by bolts and nuts so as to obtain a pivot connection and thus allow to each of the parts a free longitudinal rocking movement; and furthermore to form the parts so that they may be detached from the runner and brought nearer together or set farther apart so that the same skates may be made to fit feet of any ordinary size. For this purpose the runner, A, is made of a suitable piece of metal of any desirable shape to suit the fancy, with two three or more curved projections, $a a a'$, formed on its top edge with holes drilled through them, as shown by the drawings, for the reception of pins or bolts, $b b$.

B B are two standards for supporting the metal plates, C C, and these are riveted se-

curely to the said plates; the lower ends of the standards have two strong jaws, $e e$, formed on them which are placed outside of the projections, $a a$, on the skate-iron, and are attached to the skate-iron by the pins, $b b$, which pins may be kept in place by suitable nuts, or a female screw may be tapped in one of the jaws, e , to receive and retain in place the pins, and thus the extra nuts may be dispensed with. The pins, $b b$, are fixed in the jaws, $e e$, of the standards, but work loosely in the holes in the projections, a , so as to allow the foot-stands, C C, to rock freely in their bearings.

The plates, C C, may be made of thin steel, so as to combine lightness with strength and in order to give the necessary stiffness to them so that the feet will have a firm tread, pieces of hard wood, D, of a suitable thickness and of the same size as the plates are riveted to them, these pieces of wood will serve also to remedy the objection to metal on account of the coldness it imparts to the feet.

The straps, E E, which are very wide are secured to the plates, C C, between the wood and plates, and one fastening will thus serve for the wood and straps. These straps are secured over the feet by buckles in the usual manner of fastening wide skate-straps.

The heel pin, g , is attached by drilling a hole down through the heel plate, C, into the heel standard, B, and screwing or driving it down into the hole.

The skate when thus made will be very light and portable, and the foot-stand or stands will accommodate themselves to the shape of the sole of the boot when the skate is strapped on, at the same time the stands will allow of a free motion to the feet, and the skates, although not requiring to be strapped so tightly to the feet, may be securely attached without inconvenience, or paid.

Having thus described my invention I claim as new and desire to secure by Letters Patent as an improved article of manufacture—

A skate provided with separated foot plates C, that are jointed to the runner A, as herein shown and described.

H. W. WARNER.

Witnesses:

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