

T. T. H. HARWOOD.
Convertible Skate.

No. 214,563.

Patented April 22, 1879.

Fig. 1

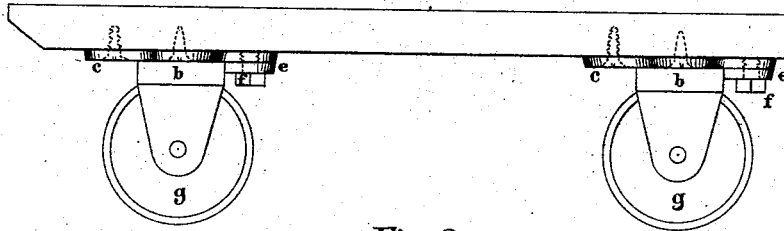


Fig. 2

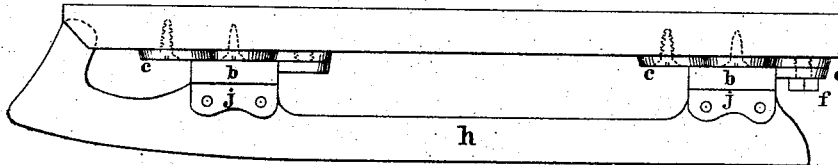


Fig. 3

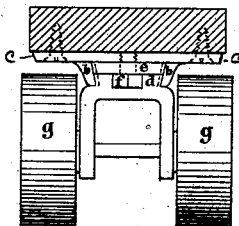


Fig. 5

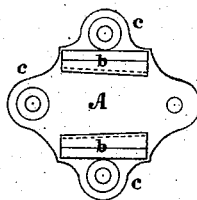


Fig. 4

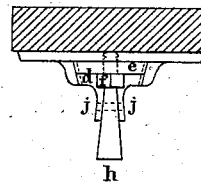


Fig. 6

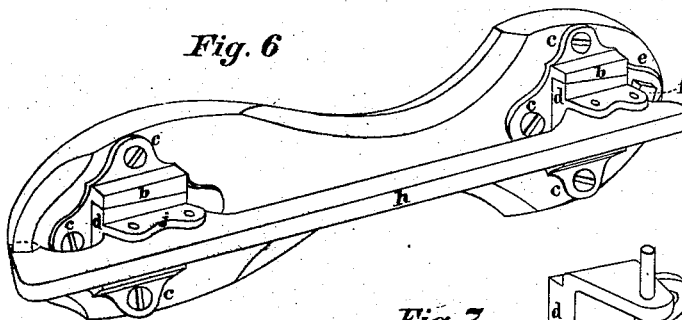
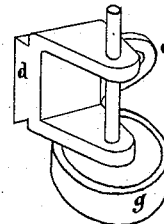


Fig. 7



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UNITED STATES PATENT OFFICE.

T. T. HUNTER HARWOOD, OF DETROIT, MICHIGAN.

IMPROVEMENT IN CONVERTIBLE SKATES.

Specification forming part of Letters Patent No. 214,563, dated April 22, 1879; application filed May 31, 1878.

To all whom it may concern:

Be it known that I, T. T. HUNTER HARWOOD, of the city of Detroit, State of Michigan, have invented a Convertible Skate, of which the following is a specification.

The object of my invention is to construct a skate which may be used on the ice and on a floor or pavement alternately by making it interchangeable from a roller-skate to an ice-skate, the rollers and the skate-iron being made adjustable and removable upon the same frame for that purpose, as hereinafter more fully described.

In the accompanying drawings, Figure 1 is a side view of a roller-skate, showing my improvement. Fig. 2 is a side view, representing my improved skate with iron runner attached in lieu of the rollers. Fig. 3 is a cross-section of skate-stock, with end elevation of roller attachment. Fig. 4 is a cross-section of skate-stock, with end elevation of iron blade attached. Fig. 5 is a bottom-plan view of beveled dovetail seat. Fig. 6 is a perspective view of Fig. 2, and Fig. 7 a perspective view of an adjustable roller-frame.

The same letters refer to like parts in each of the figures.

A *b* represent a metal socket or slide, which is composed of the bed-plate A and two projecting bars, *b*, the adjacent inner surfaces of which are made in dovetail shape, and slightly divergent from one end to the other, thus forming a key-seat for the reception of the wedge-block *d*, hereinafter described. This seat is securely fastened to the frame or stock of the skate by means of two or more lugs, *c*, which project from the bed-plate A, and by screws introduced through them into the body of the frame. If the stock or frame of the skate is composed of metal, rivets may be used in lieu of the screws; and if it is made of cast metal, then the projecting beveled side bars *b* may be part of the casting. Into this socket or slide A *b* is fitted a dovetailed and beveled or wedge-shaped block or key, *d*, in such manner that it may be passed longitudinally into it from one end of the seat until it is securely driven home, and thus firmly and rigidly held between the bars *b*. One end of this block *d* is provided with a lug or longitudi-

nal projection, *e*, through which a set-screw, *f*, is passed, which screws into a similarly-formed projection upon the seat or bed-plate A, or into the body of the frame or stock, as may be preferred. Two of these sockets or slides A *b* are attached upon the bottom side of the skate-stock, as shown in the drawings. The two wedge-blocks *d* (shown in Figs. 1, 3, and 7) are provided with suitable bearings or frame-work for the support of the rollers *g*, so that the skate may be used as a roller-skate upon a floor or pavement.

In Figs. 4 and 6 the skate is shown as converted into a blade-skate for use upon ice, an iron runner, *h*, being substituted for the rollers. In this form the blocks *d* are provided with jaws *j*, between which the iron or steel blade *h* is securely held by one or more rivets. In case the blade or runner is made of cast metal, the blocks *d* may be formed thereon as a part of the casting.

It will readily be seen that inasmuch as the blade provides of itself a firm and rigid connection between the two blocks *d*, only one set-screw, *f*, is required to prevent the iron from becoming disconnected.

In order to produce greater strength in this form of my improved skate, the blocks *d* are passed and driven into their seats A *b* from the front end of the frame in such manner that the nose of the iron will rest against or enter a slot made in the front or toe of the stock. At every successive stride of the skater in skating forward, the blade is driven harder and tighter into the seat, and should the skater strike upon obstructions on the ice the same effect will be produced, rendering a disconnection of the iron from the frame an impossibility during the forward movements of the skater. The single set-screw *f* at the heel of the skate, Figs. 2, 4, and 6, is all-sufficient to hold the iron in place during the backward movement.

Although I insist that the dovetail shape of the block *d* and its corresponding seat A *b* should be combined with the longitudinal wedge shape (more clearly shown in Fig. 5) in order to obtain the most perfect and rigid connection of the two parts, I do not debar myself from using either the dovetailed or

the wedge shape singly. Should it be preferred, for instance, to form the sides *b* of the seat *A*, as well as the block *d*, of wrought metal, then the dovetail shape shown in Figs. 3 and 4 may be dispensed with, and the longitudinal wedge shape will be sufficient to furnish a firm and rigid connection of the two parts. The sides or bars *b* may in that case have an angular or L-shaped cross-section substituted for their dovetailed form, and will overlap the edges of the block *d*, which is slid in between the laps. In this modified form of the block *d* and its seat, the wedge shape is indispensable.

My improvement is more especially designed for and adapted to the cheaper class of skates, principally used by children; but it may also be applied in the construction of the more complicated varieties of and improvements in both the roller and the ice skates.

I claim as my invention—

1. In a skate, the combination of the bed-plate *A* and bars *b*, for reception of wedge-shaped block *d*, substantially as shown, and for the purpose described.

2. The bed-plate *A*, with beveled side bars, *b*, for reception of wedge-shaped block *d*,

secured to the stock of the skate by means of lugs *e*, substantially as shown and described.

3. The wedge-shaped block *d*, secured to the runner *h*, in combination with bed-plate *A*, with beveled side bars, *b*, substantially as shown, and for the purpose described.

4. The detachable skate-runner *h*, having wedge-shaped blocks *d*, with jaws *j*, adapted to the corresponding beveled side bars, *b*, of the bed-plate *A*, secured by set-screw *f*, projected through the lug *e*, substantially as shown and described.

5. The bed-plate *A*, connected to or forming part of the frame of a skate, for the purpose and substantially as described.

6. The wedge-shaped block *d*, in combination with the bed-plate *A*, for the purpose and substantially as set forth.

7. The set-screw *f*, in combination with the wedge-shaped block *d* and bed-plate *A*, for the purpose and substantially as herein described.

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Witnesses:

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