

May 24, 1949.

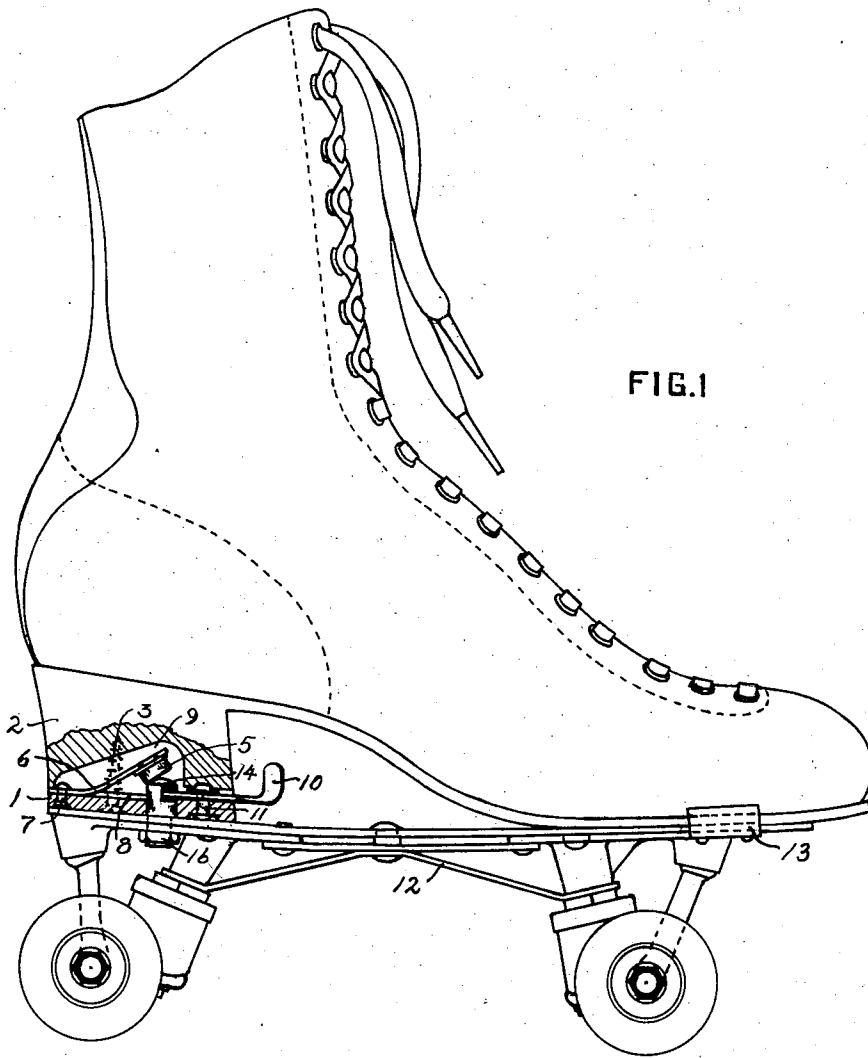
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2,470,840

SHOE HEEL PLATE AND SKATE FASTENING MEANS

Filed Oct. 8, 1945

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

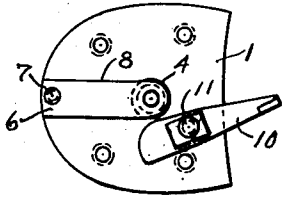


FIG. 2

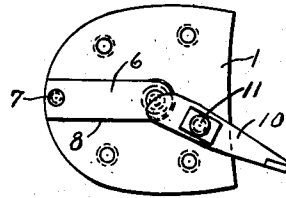


FIG. 3

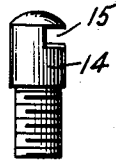


FIG. 9

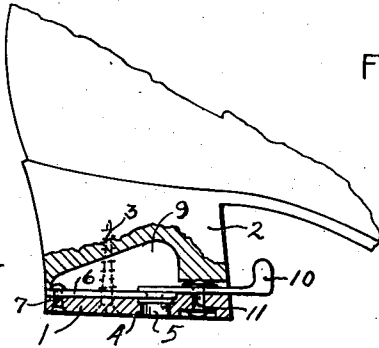


FIG. 4

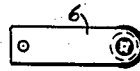


FIG. 5

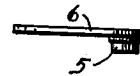


FIG. 6

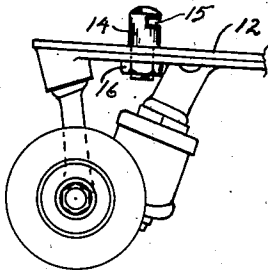


FIG. 7

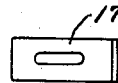


FIG. 10

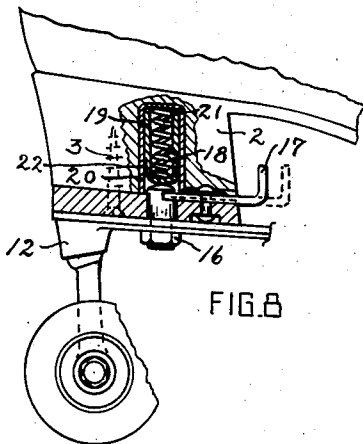


FIG. 8

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2,470,840

SHOE HEEL PLATE AND SKATE FASTENING MEANS

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5 Claims. (Cl. 280—11.30)

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This invention has for its primary object the provision of simple, inexpensive and efficient means for fastening a skate to the heel of a shoe. A further object is the provision of a protective plate to be secured upon a shoe heel and having means associated therewith for engagement with a member projecting from a skate or other device to be attached to a shoe. A still further object is to provide a heel plate having an opening to receive a stud projecting from a skate and having means acting to hold the stud while it is in the opening, and to close the opening when the stud is removed.

In the accompanying drawings forming a part of the specification and illustrating a preferred embodiment of my invention, Figure 1 is a side elevation, with parts in section, showing the fastening means in position to secure a roller skate to a shoe; Fig. 2 is a plan view looking from the top of the heel plate with the locking lever in inoperative position; Fig. 3 is a similar view with the locking lever swung across the top of the closure member; Fig. 4 is a fragmentary elevation with parts in section showing the lever and closure member in the same position as in Fig. 3; Figs. 5 and 6 are plan and side views respectively of the spring actuated closure member; Fig. 7 is a fragmentary side elevation of a roller skate detached from a shoe; Fig. 8 is an elevation with parts in section and parts broken away of a heel and skate secured together with a modified form of latch and a modified form of spring actuated closure member; Fig. 9 is a side elevation of the stud shown in Figs. 1, 7, and 8; and Fig. 10 is a plan view of the sliding latch shown in Fig. 8.

In the embodiment of the invention shown in Fig. 1, a shoe heel plate 1, preferably made of a suitable plastic material or of a light metal or light alloy, is secured to the shoe heel 2 as by screws 3. Near its center, the plate 1 has an opening 4, which, as illustrated in Fig. 4, may be closed by a closure member 5 carried at the end of a spring 6, the other end of the spring being secured to the heel plate by a rivet 7. The spring 6 will preferably lie in a recess 8 provided in the top of the plate so that its top will lie substantially flush with the upper surface of the plate. The heel 2 will be hollowed out to form a cavity 9 of a size to permit upward swinging movement of the spring 6. A lever 10 held on the plate by a pivot 11 can swing from the position shown in Fig. 2 across the top of the spring to the position shown in Figs. 3 and 4 to hold the closure member 5 in tight contact with the wall of the opening 4 to prevent dirt

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from entering the opening or the cavity 9 above it if the shoes are used for walking without skates.

The skates 12 will have metal clips 13 on opposite sides of the toe to engage the side edges and the top of the sole of the shoe, and these clips will be fitted to the sole in such manner that when the toe is slid into tight engagement between them, a stud 14 secured to the heel part of the skate to project above its upper surface, will be exactly opposite the opening 4.

With the lever 10 swung to the unlocking position of Fig. 2, pressure of the stud 14 against the member 5 will bend the spring 6 upward into the cavity 9. The stud is formed with a slot 15 in one side adjacent to the lever 10 and is of a length such that when the top of the skate engages the bottom of the plate, the slot 15 will lie in the plane of the end of the lever. By swinging the end of the lever into the slot 15, the stud will be held in firm engagement with the plate. A nut 16 engages the threaded end of the stud to fasten it to the skate.

A sliding latch 17 such as that shown in Figs. 8 and 10 may be slid into the slot 15, as an alternative fastener in place of the pivoted latch 10, and after the stud is withdrawn, the same latch may slide into a notch 18 formed in the side of the tubular plunger 19 which slides in a cylindrical guide 20 embedded in the heel. A helical spring 21 will act to thrust the plunger outward until a shoulder 22 on the plunger engages the rim of the opening 4. The end of the plunger should then be flush with the lower surface of the heel plate and the notch 18 opposite the end of the latch 17.

The many advantages of the present device over those now commonly used will be evident to those familiar with the art.

The closure members prevent clogging of the hole in the plate and of the cavity of the heel above the plate by sand, mud, or pebbles which is a frequent occurrence with holes left open in heels. The latching devices move entirely out of contact with the studs to permit easy removal of the skates without requiring careful manipulation and experiment to bring parts into registration.

A skate can also be brought quickly into position for attachment without the use of keys or wrenches. When the shoes are used for walking, the heel plates protect the leather or wood of the heels from wear that may interfere with attachment of the skates, and a worn or damaged heel plate can easily be replaced.

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It will be understood that the invention is not limited to the exact details of construction or arrangement herein shown for purpose of illustration, and that may changes and variations may be made in the form, size, design and relative positions of the parts without departure from the scope of what is claimed.

I claim:

1. A plate adapted for attachment to the heel of a shoe, the plate having an opening formed therein for the reception of a securing member movable into the opening from the outside surface of the plate, a closure member mounted for movement into the opening from the inside surface of the plate and a latch carried by the plate and adapted for engagement alternatively with the closure member or the securing member to prevent withdrawal of either from the opening.

2. A structure as in claim 1 in which the closure member is actuated by a spring to move it into the opening when the securing member is withdrawn.

3. In combination, a skate having a stud projecting from the upper surface of the heel portion, a shoe heel having a plate secured thereto, the plate being provided with an opening to receive the stud when the skate and heel plate are brought together, a closure member for the opening in the plate, the stud having a groove formed in the side thereof, the plate having a

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latch movable into engagement with the groove in the stud to hold the skate upon the heel, and a spring to move the closure member into the opening in the plate when the stud is withdrawn from the plate.

4. A structure as in claim 3 in which the closure member is engageable by the latch to hold the member in the opening.

5. A shoe heel having a plate secured to the bottom thereof, the plate being formed with an opening therethrough, a latch carried by the plate and movable across a portion of the opening and a closure member movable from the heel outwardly into the opening and provided with a notch to receive the latch.

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