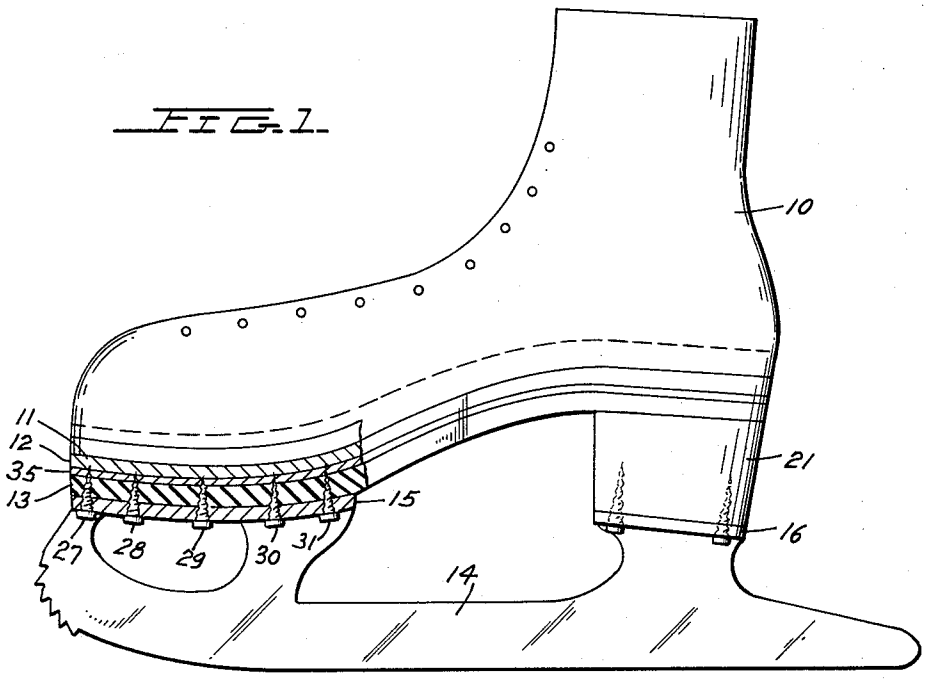
Nov. 24, 1964 S. KARDON 3,158,384

SHOE ATTACHING MEANS FOR ICE SKATE CONSTRUCTION

Filed Feb. 23, 1962

FIG. 1



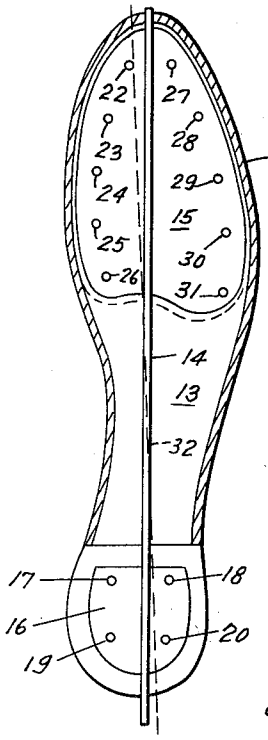


FIG. 2

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SHOE ATTACHING MEANS FOR ICE SKATE CONSTRUCTION

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1 Claim. (Cl. 280—11.3)

My invention relates to ice skates and more specifically relates to a novel adjustable blade securing means for a blade which is threadably secured to the boot by screw means which can be re-positioned to re-position the blade with respect to the boot.

It is well known that the angle an ice skate blade forms with respect to the shoe (the angle with respect to a line drawn along the central major axis of the sole of the shoe will affect the skating of an individual and has to be matched to the individual wearing the skate. This is particularly important in the case of new skaters where an adjustment of this angle to their own particular skating qualities will considerably improve their skating. It is common to use threadable members such as screws to secure the skate blade to a rigid leather sole on the boot. The wearer of the skate may then have the blade removed and re-positioned by professional instructors so that it will better accommodate the wearer's skating qualities.

For the boot to receive the blade by threaded members, however, the outsole of the boot must be of very firm leather which is relatively expensive as compared to ordinary sole material.

Where the ordinary rubber or composition rubber sole has been used for the ice skate boot, and since this material will not firmly secure screw means, it is the practice in the industry to utilize tubular rivets for securing the the blade to the outsole. When rivets are used in this manner, it will be apparent that a re-positioning of the blade with respect to the shoe is impossible because of the obvious difficulties involved in removing the tubular rivets, replugging the holes caused by these rivets and re-riveting the blade.

The present invention permits the securing of an ice skating blade to a boot by threaded members so that it may be adjusted as described above whereby a thin steel plate is positioned with respect to the outsole of the boot so that it will provide a receiving means for the screws which pass from the ice skate blade and through the outsole. Thus, the outsole may now be formed of a rubber or composition rubber sole which is relatively inexpensive and need not serve the function of rigidly receiving the securing screws.

Accordingly, a primary object of this invention is to provide a novel ice skate assembly in which the blade is adjustably positioned with respect to the boot.

Another object of this invention is to provide a novel ice skate of inexpensive construction which has an adjustably positioned blade.

A further object of this invention is to provide a novel ice skate in which a rubber or composition rubber sole is provided with adapting means for receiving threaded members.

These and other objects of my invention will become apparent from the following description when taken in connection with the drawings in which:

FIGURE 1 shows a side view partially in cross-section of an ice skate formed in accordance with the present invention.

FIGURE 2 shows a bottom view of the ice skate of FIGURE 1.

Referring now to FIGURES 1 and 2, I have illustrated therein a typical boot **10** which has, as shown partially in cross-section, an insole **11**, a midsole or slipsole **12** and

an outsole **13**. The outsole **13** is preferably formed of a rubber or composition rubber well known to those skilled in the art.

The ice skate **14**, is then provided in the usual manner with a front face plate **15** and a rear face plate **16** which are integral parts of blade **14**. The rear face plate **16** has openings therein which receive screws **17, 18, 19** and **20** as best shown in FIGURE 2. The screws **17** through **20** are the usual type of screws such as a wood screw which is threaded into the heel **21** which is secured to the boot **10** in the usual manner.

The front face plate **15** is then typically provided with ten openings wherein each of these openings receives a screw such as screws **22** through **31** best shown in FIGURE 2.

In the past, and where the screws **22** through **31** secure the face plate **15** to outsole **13**, it has been necessary to form outsole **13** of a very rigid and expensive leather. This is done since the outsole **13** serves the main support or securing function for the screws **22** through **31**.

Moreover, by using the screws it becomes possible to alter the angle of the blade **14** to an angle similar to that shown by dotted line **32** to adjust for some undesirable characteristic in a skater's performance. Thus, the screws are loosened and removed and the blade is then re-positioned and the screws are re-secured.

Since the outsole material **13** has been so expensive it is obviously more economical to use the rubber or composition rubber sole. This material, however, is unable to rigidly grasp the securing screws. Thus, the art turned to the use of tubular rivets in place of the screws when rubber soles were used. Since tubular rivets were required, it is obvious as pointed out above that the blade can no longer be adjusted.

In accordance with the present invention, the outsole **13**, is formed of the usual rubber or composition rubber material, and a plate **35** of rigid material such as aluminum or steel is provided between the slipsole **12** and rubber outsole **13**. The aluminum plate **35** can, for example, have a thickness of 0.020" and is held in position between the slipsole **12** and outsole **13** by the sole stitching shown in FIGURE 2 as stitching **36**. The plate **35** can be a flat plate without any openings whatsoever or may have small openings which will easily receive a steel screw.

Thus, after manufacture of the shoe, the blade is secured to the boot in a symmetric manner by threading the screws **22** through **31** into the aluminum plate **12** as illustrated in FIGURE 1. The screws **22** through **31** will be of sufficient size to normally protrude slightly above the top of the plate **35**. Thus, the wearer will not feel the screws since he is protected by at least a substantial portion of the thickness of the insole **11**.

If now it is desired to re-position the blade to a line such as line **32** of FIGURE 2, it is only necessary to remove the various screws, re-position the blade and re-secure the screws with the screws penetrating the plate **12** at new positions.

It will also be noted that in accordance with the invention, that the blade is more securely held to the shoe since there is now a desirable rigid connection between the front face plate **15** and rigid metallic plate **35**.

Although I have described preferred embodiments of my novel invention, many variations and modifications will now be obvious to those skilled in the art, and I prefer therefore to be limited not by the specific disclosure herein but only by the appended claim.

The embdoiments of the invention in which an exclusive privilege or property is claimed are defined as follows:

An ice skate; said ice skate comprising a boot and a

blade; said boot having an insole and an outsole; said blade having a front face plate; said front face plate being secured to the outer surface of said outsole; a plurality of self-tapping threaded members; said front face plate having a plurality of openings therein for receiving respective self-tapping threaded members of said plurality of said self-tapping members; a rigid plate being positioned between said insole and said outsole; said plurality of said self-tapping threaded members extending from said front face plate, through said outsole and into said rigid plate for rigidly securing said blade to said boot; said plate being of relatively thin aluminum; said outsole being of a material characterized in being unable to rigidly retain said self-tapping threaded members; said self-tapping threaded members being removable and reconnectable through said outsole and into said plate to adjust the position of said blade.

References Cited in the file of this patent

UNITED STATES PATENTS

380,508	Munger	Apr. 3, 1888
672,724	Vogt	Apr. 23, 1901
1,094,434	Golden	Apr. 28, 1914
2,177,155	Shapiro	Oct. 24, 1939
2,244,719	Mansfield	June 10, 1941

FOREIGN PATENTS

81,561	Sweden	Sept. 25, 1934
226,898	Great Britain	Jan. 8, 1925