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Hennig

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[54] **BOOT SCRAPER FOR APPLICATION TO A SKI**

[76] Inventor: **Don B. Hennig,** Roz Box 418, Aldamont, N.Y. 12009

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[51] **Int. Cl.** **A63c 5/06**

[58] **Field of Search** .....280/11.13 T, 11.37 T, 11.37 E, 280/11.13 C, 11.13 D; 15/237, 15/238, 239, 241

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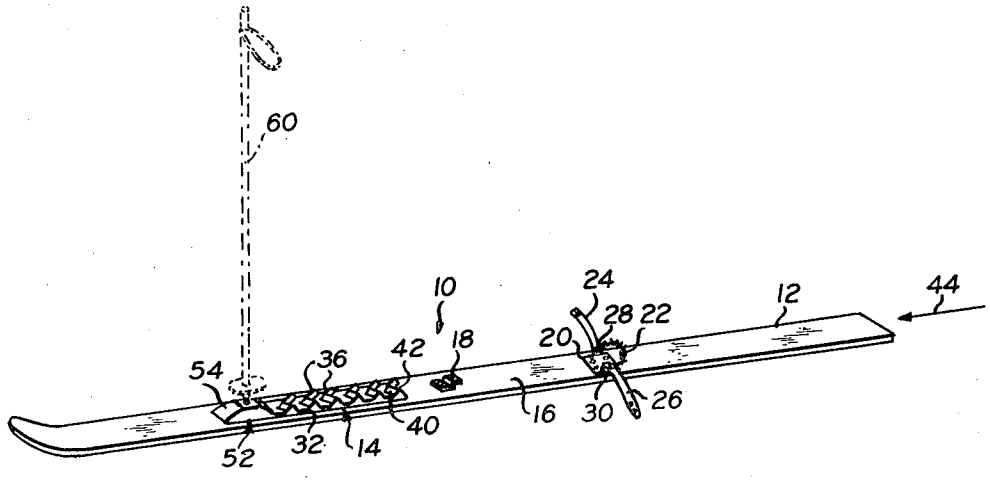
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Primary Examiner—Kenneth H. Betts
Assistant Examiner—David M. Mitchell
Attorney, Agent, or Firm—D. Laurence Padilla

[57] **ABSTRACT**

A boot scraping means for application to a ski includes an elongated member connected to the upper surface of the ski in front of the toe binding. The member is provided with upwardly projecting parts which extend across the ski in several directions relative to the longitudinal axis of the ski. The parts are rigid and are adapted to receive the lower part of a ski boot from substantially any direction in a frictional engagement to thereby dislodge snow from the boot. Control of the ski is provided during use of the boot scraper by an upwardly projecting crown piece having a receptacle large enough to receive a ski pole in a snug engagement. Pressure on the ski pole restrains movement of the ski while the boot is passed over the boot scraper.

5 Claims, 3 Drawing Figures



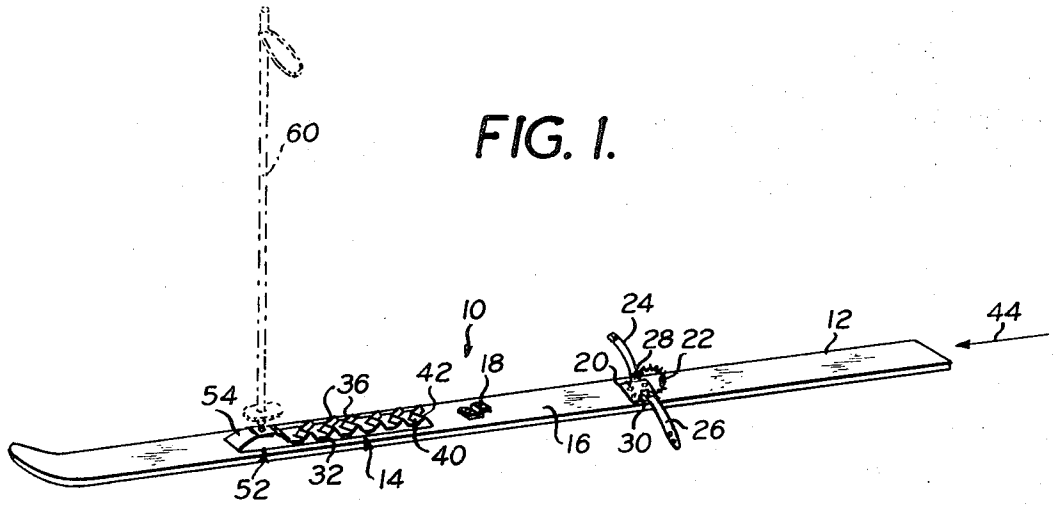


FIG. 1.

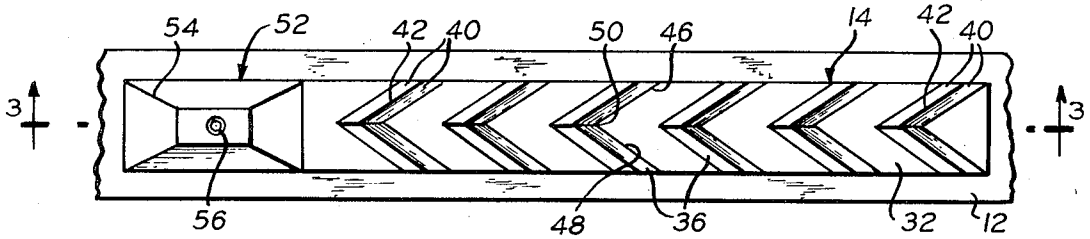


FIG. 2.

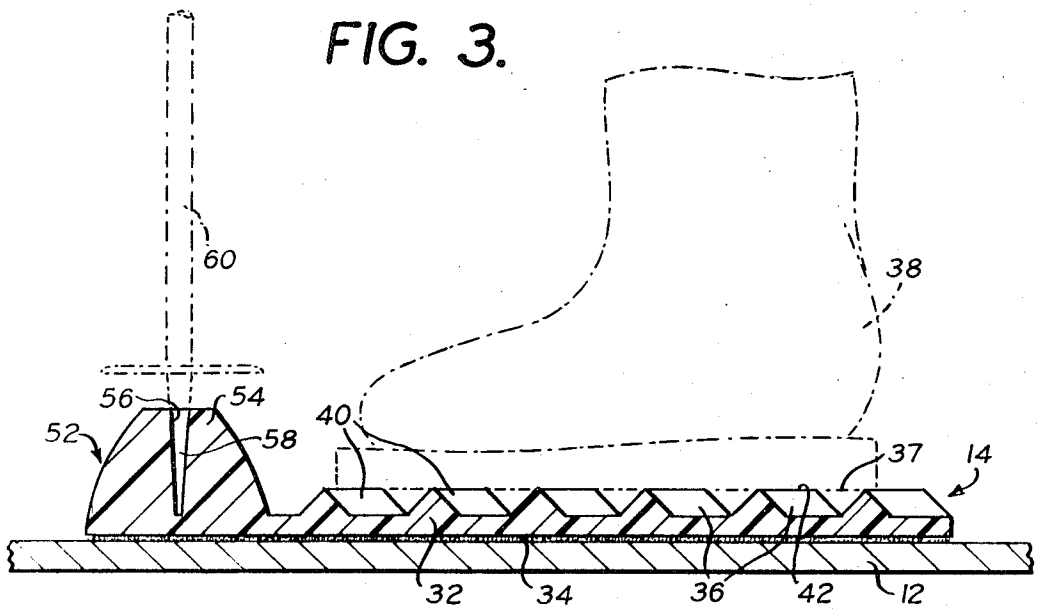


FIG. 3.

BOOT SCRAPER FOR APPLICATION TO A SKI

BACKGROUND OF THE INVENTION

1. Field of Invention

This invention relates to an improved boot scraper in combination with a ski and control means for controlling the movement of the ski when the boot scraper is being used.

2. Description of Prior Art

Skiing has fast become one of the world's most popular sports. In almost every country the popularity of this sport gains substantially each year. In the United States, its fast growth has given rise to an important industry which has become highly competitive. Manufacturers of ski related equipment are continuously seeking innovations which will enable them to gain a favorable edge over competitors in the market. Improvements in skis, boots, bindings, poles and other equipment have been the focal point of the manufacturers' attention. As a result, skiing equipment and the sport itself have reached a new level of success.

There is, however, still a need for further improvement in some of the ski equipment now used. For example, it is essential that the skier clean the sole of his boot prior to stepping into his binding so that the boot will not be snow locked to the ski. A clean boot sole facilitates easy locking and unlocking of the boot in step in bindings. A clean boot sole is essential if the boot is to properly release from the binding under emergency conditions. Despite this important need, little commercial success has been attained with an appropriate boot scraper. Part of the difficulty is that a portable boot scraper, which is manually applied to the boot just prior to placing the boot in a binding is cumbersome and awkward to use and so is unacceptable to the average skier. Connecting a boot scraper to the ski itself has also not been successful for several reasons. On the one hand, an appropriate construction which will not interfere with the performance of the ski is required and this presents major problems to the manufacturer. Sophisticated boot scrapers requiring intricate machining operations during their assembly are too uneconomical to manufacture. Furthermore, the boot scraper must be structured and positioned so that a skier can easily clean one boot while the other boot is in its binding. This requirement also presents a difficult problem since the boot scraper must be effective to receive the sole of the boot from almost any direction. In addition, the entire cleaning operation must be comfortable to the skier and therefore control of the ski must be maintained during the cleaning. Thus far, none of the prior art devices have been successful in solving all of these problems.

BRIEF DESCRIPTION OF THE DRAWING

It is the primary object of this invention to provide a boot scraper in combination with a ski which is adapted to receive and clean the lower surface of a ski boot when the boot is moved across the scraper in substantially any direction.

It is another object of this invention to provide control means for use in conjunction with a boot scraper and ski to enable the skier to control the movement of the ski when cleaning a ski boot.

It is still another object of this invention to provide a boot scraper in combination with a ski which is economical to manufacture and assemble.

These and other objects will become apparent from the following description of the invention taken in conjunction with the following drawings, in which:

FIG. 1 is a perspective view of a combination of a ski and boot scraper with a ski pole positioned in the crown section of the boot scraper;

FIG. 2 is a partial top view of the combination of FIG. 1, and specifically of the boot scraper; and

FIG. 3 is a side elevational view of the boot scraper taken on line 3—3 of FIG. 2 and includes a ski pole and a ski boot in operative position relative to the boot scraper.

DETAILED DESCRIPTION OF THE DRAWING

Broadly described the invention comprises in combination with a ski, a boot scraping means which itself comprises a member operatively connected to the upper surface of the ski, and a plurality of rigid parts projecting upwardly from the member. The parts are oriented on the member so as to extend across the member in several directions relative to the longitudinal axis of the ski and are structured to receive and clean the lower surface of a ski boot. With this construction, a ski boot may be scraped against the parts from substantially any direction thus allowing the skier a high degree of mobility while cleaning his boots.

In the preferred form of the invention, the boot scraper comprises an elongated member attached to the upper surface of the ski and extending along the longitudinal axis of the ski. The upwardly projecting parts may be composed of the same material as the member and integrally formed therewith and extend across the member in several of randomly oriented sections but preferably are V-shaped sections extending across the entire width of the member. When a plurality of aligned closely spaced V-sections are positioned on the member the lower surface of a boot is easily brought in contact with any section from any direction and the friction created by passing the boot over the projecting section is sufficient to clean the snow from the boot.

In order to assist the skier while the boot cleaning is being carried out, a control means for controlling the movement of the ski during the cleaning operation is also provided. Preferably, the control means comprises a crown piece extending upwardly from the ski and defining a receptacle which is adapted to receive a ski pole in snug engagement with the crown piece. The snug engagement is such as to provide resistance to lateral movement of the ski pole. Movement of the ski is thereby controlled since the crown piece is securely connected to the ski and in the preferred embodiment, it forms a part of the boot scraper itself.

Referring now to the drawing and specifically FIG. 1, there is shown the combination of the invention generally designated by the numberal **10** of a ski **12** and a boot scraping means **14.** The ski **12** may be any conventional ski of uniform length and width. As with most skis, the ski **12** is equipped with a boot binding connected to the upper surface **16** and comprising a toe-receiving element **18,** a heel receiving element **20,** a heel encircling spring element **22** and straps **24** and **26** for extension around the ski boot, the straps being secured to the plate **20** by means of ears **28** and **30.** It will

be understood that the showing of the boot-receiving means is illustrative only and forms no part of this invention. Any boot-receiving means would be satisfactory and the illustration is intended primarily to show the position of the boot scraping means **14.**

As illustrated best in FIGS. **1–3,** the boot scraping means **14** comprises an elongated member **32** which is secured to the upper surface **16** of ski **12** by means of a suitable bonding material **34** (FIG. **3**). Any suitable pressure sensitive adhesive may be used for the bonding material **34** and it may be in the form of a pad cut to size with an exposed adhesive layer on its upper and lower faces similar to the pad illustrated and described in U.S. Pat. No. 3,284,091. Alternatively, the member **32** may be secured to the ski **12** by means of bolts (not shown) or other typical securing means.

The member **32** includes a plurality of upwardly projecting parts designated by the numeral **36.** The parts **36** are rigid and are preferably formed as an integral portion of member **32.** These parts **36** receive the lower surface **37** of a boot **38** to dislodge any snow on the underside of the boot. To assist in dislodging the snow, the parts **36** are typically provided with tapered sides **40** which form an easily accessible vertex junction **42** over which the sole **37** of boot **38** may readily be moved in frictional engagement. As illustrated, the parts **36** are positioned crosswise of the member **32** but extend thereacross in several directions relative to the direction of the longitudinal axis of the ski **12** (illustrated by the arrow **44** in FIG. **1**). With this construction, the boot **38** may be passed across the junctions **42** in any direction and dislodging of the snow will be easily effected. This enables a skier to readily clean one boot while the other boot is in the binding of the other ski.

A preferred structure of the invention is shown best in FIG. **2.** There the parts **36** extend across the entire width of the member **32** which is shown extending across substantially the entire width of ski **12** and each part **36** includes a first section **46** and a second section **48.** These sections intersect at a position **50** at about the midpoint of the ski **12.** As such, the parts **36** are V-shaped, and the sections **46** and **48** extend across the member **32** in different directions relative to the direction of the longitudinal axis of the ski. A plurality of such V-shaped parts **36** are aligned and evenly spaced along the length of the ski **12** in sufficient quantity to provide a number of boot scraping surfaces thus permitting the boot scraping means to be used conveniently by the skier.

To assist the skier in controlling the movement of the ski during the boot scraping operation, a control means **52** is provided. The control means **52** is preferably formed as a part of boot scraping means **14** but may be separated therefrom. As shown best in FIGS. **2** and **3,** the control means **52** comprises an upwardly projecting crown piece **54** which defines a receptacle **56** adapted to receive the tapered lower section **58** of a ski pole **60** in a snug engagement. The engagement of section **58** in receptacle **56** is one in which substantially no lateral movement of the pole **60** is permitted, thus allowing the skier to control the movement of the ski when scraping his boot by holding the ski firmly in place with the ski pole. With this structure, the skier does not have to bend over during the use of the scraping means and may easily clean one shoe while the other is bound to another ski.

While the dimensions of the boot scraping means may vary, best results are achieved if a large snow removing area is included. Thus, it is highly preferable to extend the member **32** across substantially the entire width of the ski and to elongate the member so that the entire length of the boot can be clean with one action. In one typical example, a width of 2 ½ inches and a length of 13 inches has been found to be operationally quite successful. An additional 5 inches in length is included for the crown piece **52.** The parts **36** project upwardly from the ½ inch thick base portion of the member approximately 3/4 inch while the crown piece rises 3 inches above the base portion. With these dimensions, at least six V-shaped sections may be aligned along the member to provide a large surface area for snow removal.

The member **32** and particularly the projecting parts **36** may be composed of any suitable material which is strong and yet slightly flexible. The flexibility is desirable in order that the boot scraping means may accommodate the flexing of the ski during use conditions. For this purpose, the scraping means is molded from any suitable plastic such as acrylonitrile butadiene styrene. Other suitable comparable materials such as a hard neoprene are also satisfactory.

Although the illustrated and described embodiment of the invention is preferred for best results, many modifications may be made without departing from the scope of the invention. For example, the parts **36** may be randomly positioned on the member **32.** In addition, the crown piece **52** may be separately positioned on the ski, even at a different location than the scraping means. The scraping means itself may be located at any convenient location on the ski either before or after the toe and heel binding mechanism. Other departures are also apparent and may readily be made to enhance the operational value of the boot scraper.

From the foregoing, it will be appreciated that the boot scraping means of the invention is economical to manufacture and assemble, easy to use by the skier, provides control of the ski during use, and enables a skier to clean his boot from any direction relative to the scraping means. As such, it provides a highly attractive combination of advantageous characteristics and solves many of the problems still outstanding in this art.

What is claimed is:

1. In combination with a ski, boot scraping means comprising a unitary member operatively connected to the upper surface of said ski, said member having a width dimension substantially equivalent to that of said ski and having a plurality of rigid parts projecting upwardly therefrom, said parts being oriented on said member in at least two directions relative to the longitudinal extension of said ski thereby being adapted to receive and clean the lower surface of a ski boot when said boot is moved across said parts in substantially any direction, and control means operatively connected to said member and adapted to receive the tip of a ski pole in a snug engagement, said control means providing resistance to lateral and axial movement of said engaged ski pole thereby to control said ski when said boot scraping means is in use.

2. The combination of claim **1,** in which said control means comprises a crown piece extending upwardly from the upper surface of said member and defining a receptacle therein, said receptacle being adapted to re-

ceive the tip of a ski pole in snug engagement with said crown piece.

3. In combination with a ski, boot scraping means operatively connected to said ski and adapted to receive and clean the lower surface of a ski boot when said surface is moved on said means, and control means operatively connected to said ski and adapted to receive the tip of a ski pole in a snug, releasable engagement thereby providing resistance to lateral and axial movement of said engaged ski pole whereby the movement of said ski is controlled during the movement of said ski boot on said boot scraping means, in which said control means is operatively connected to said boot scraping means and in which said control means comprises a crown piece extending upwardly from said ski and defining a receptacle therein, said receptacle being adapted to receive a ski pole in snug engagement with said crown piece.

4. The combination of claim 3, in which said boot scraping means comprises an elongated member positioned on the upper surface of said ski and having a plurality of rigid parts projecting upwardly from said member, at least some of said parts having first and second sections extending across the width of said member in at least two directions relative to the longitudinal axis of said ski, said first and second sections of each of said parts intersecting at some position on said member.

5. The combination of claim 4, in which substantially all of said parts are V-shaped, each of said parts being aligned and spaced on said member along the longitudinal axis of said ski.

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