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ATTACHMENT FOR BOOT TO ADAPT BOOT FOR USE WITH SKI BINDING

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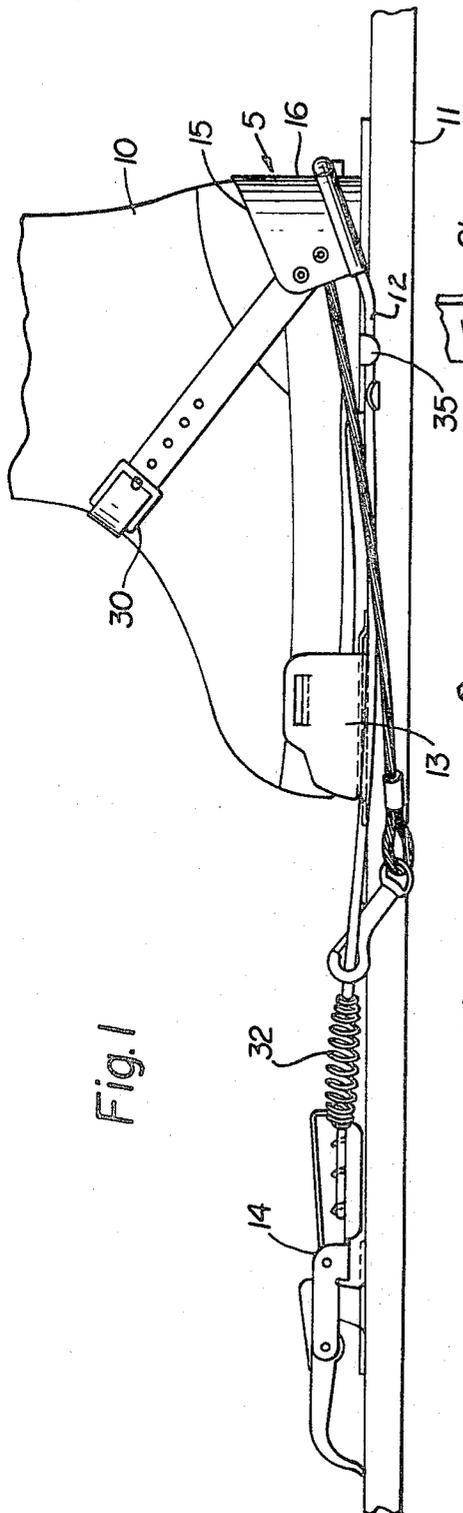


Fig. 1

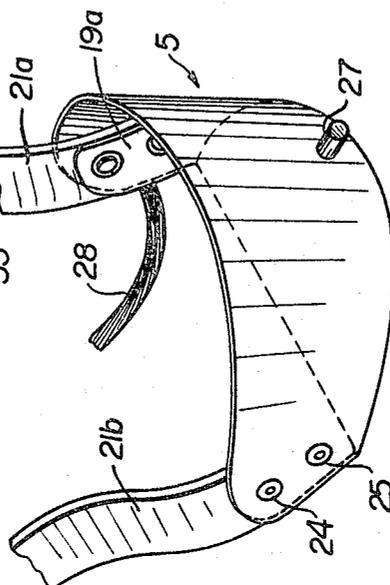


Fig. 3

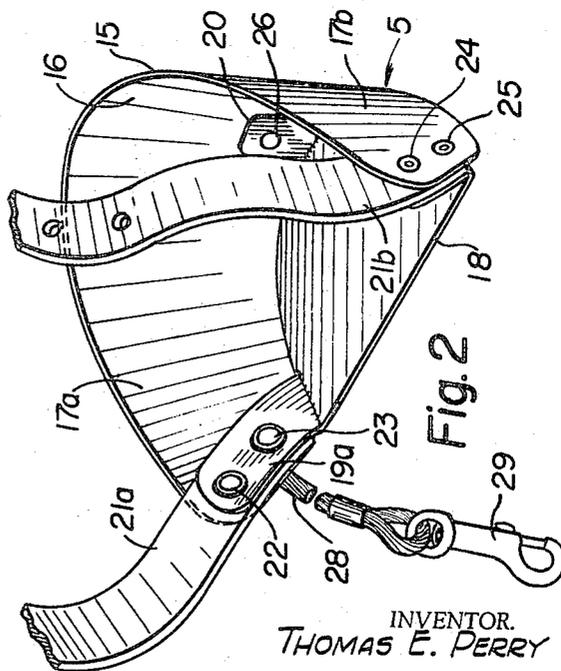


Fig. 2

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**ATTACHMENT FOR BOOT TO ADAPT BOOT FOR  
USE WITH SKI BINDING**

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**ABSTRACT OF THE DISCLOSURE**

A cup-like attachment for a conventional boot to underlie the heel portion of the boot. The attachment is provided with a projection or other means such as a recess to receive the heel attaching part of a ski binding such as a heel cable.

This invention pertains to ski equipment and more particularly to an attachment which permits a person to use skis equipped with cable or other bindings without the necessity for wearing specialized ski boots.

In skiing, one problem which is present is that of securing the skier's foot to the ski. To overcome this problem, the skier conventionally wears specialized ski boots. A variety of forms of ski bindings are employed to clamp these ski boots to the skis. One of the more common types of binding is a so-called cable binding.

With a cable binding, a tensioning mechanism is provided forward of the skier's foot. A cable extends rearwardly from the tensioning mechanism on either side of the position occupied by the ski boot. Cable holding devices are secured to the sides of the ski to maintain the cable in the desired position. The cable extends upwardly from these holding devices over a portion of the heel of the ski boot. When the cable is tensioned, it is forced into a specially provided recess at the rear of the boot. This action forces the boot forwardly against a suitable toe piece and the heel of the boot is forced against the ski.

In the past, the beginning skier has had no choice but to either purchase an expensive pair of boots before he even knows whether he will like the sport, or to rent boots. With children, the problem has been that if the child is equipped with a properly fitted boot, it will last no more than one season because of the child's growth. The present invention permits the child or beginner, for the first time, to wear conventional overshoes and at the same time ski with cable or other similar bindings which firmly attach the boot to the ski.

With the present invention, a cup-like attachment is attached to the wearer's conventional boot to overlie the heel portion of the boot. The attachment is preferably equipped with a projection, although it may be equipped with a recess, to receive the heel attaching part of the ski binding such as the described cable.

The present invention not only overcomes all of the problems discussed above, but has other advantages as well. For example, prior constructions only permitted the use of ski bindings having a relatively fixed shallow angle of attachment. While it is desirable to increase the downward pressure of the cable bindings by providing a steeper angle of attachment, the angle has in the past been limited by ski boot constructions. To nullify such a restriction, the present invention utilizes a projection rather than a recess and the projection is adaptable to most any angle of binding attachment. Thus, in addition to being adaptable with an ordinary boot, the attachment also permits greater hold-down pressures with cable bindings.

Accordingly, the principal objects of the invention are to provide a novel and improved cable-to-boot connection

and a heel attachment which permits the skier to use conventional boots.

These objects and a fuller understanding of the invention may be had by referring to the following description and claims, taken in conjunction with the drawings, in which:

FIGURE 1 is a side elevational view of the novel attachment as it is used to secure a conventional boot to a ski;

FIGURE 2 is a frontal perspective view of the heel attachment revealing the inner construction of the attachment; and,

FIGURE 3 is a rear perspective view showing the support upon which a ski binding rests.

As shown in FIGURE 1, an ordinary boot is designated by the numeral 10, and a ski is designated by the numeral 11. The ski 11 includes a cable binding 12 and a binding release 14. The toe portion of the boot 10 is secured to the ski by a suitable toe piece 13. In FIGURE 1 a heel attachment shown generally at 5 is secured to the boot 10, and the combination of the boot 10 and heel attachment 5 are secured in position on the ski 11. FIGURES 2 and 3 show the construction of the heel attachment 5 in detail.

A curved counter member 15 is adapted to engage the counter portion of the boot 10. The counter member 15 has a rear portion 16 and two side portions 17a, b. A heel plate 18 is attached to the counter member 15. The heel plate 18 includes two side brackets 19a, b, extending upwardly from its sides and a rear bracket 20 extending upwardly from its rear portion.

Two straps 21a, b are attached to the side portions 17a, b of the counter member. The straps 21a, b are secured to the side portions 17a, b of the counter member by means of rivets 22, 23, 24, 25. In a particular embodiment of this invention, the brackets 19a, b are also secured to the side portions 17a, b by means of the rivets 22, 23, 24, 25. The rear bracket 20 is secured to the rear portion 16 of the counter member 15 by means of a rivet 26. Although a particular means of attaching the heel plate 18 to the counter member 15 has been described above, the invention is not to be limited to that construction, since the heel plate 18 may be integrally or otherwise attached to the counter member 15.

As shown in FIGURE 3, a hold-down member 27 projects from the rear of the counter member 16. In a particular embodiment of the invention, the hold-down portion 27 is a pin provided by the shaft of the rivet 26 which secured the bracket 20 to the rear portion 16 of the counter member 16.

A safety cable 28 is attached to the counter member 15. In this particular embodiment of the invention, the safety cable 28 is secured between the bracket 19a and the side portion 17a of the counter member 15. A suitable fastener 29 is attached to the end of the safety cable 28, and may be secured to the cable binding 12. The fastener 29 is used to secure the ski to the heel attachment in the event that the boot 10 should become otherwise unattached from the ski 11. This is to prevent the ski from getting free from the user and endangering other skiers.

In use, the heel attachment may be used with almost any conventional boot 10. In some cases it may be necessary to have a relatively small heel attachment adaptable to boots in the smaller size range and a relatively large heel attachment adaptable to boots in the larger size range. The heel attachment is placed on the boot 10 in such a way that the counter member 16 engages the counter portion of the boot 10 and the heel plate engages the heel of the boot 10. The heel attachment is then secured

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to the boot 10 by means of straps 17a, b placed around the front of the boot 10. A buckle 30 is adapted to couple the ends of the straps 17a, b.

With the toe of the boot 10 secured by the toe piece 13 and heel attachment in proper position on the ski 11, the cable binding 12 is then placed in position to engage the counter member 15 and overlie the hold-down member 27. The binding release 14 is then placed in closed position, as shown in FIGURE 1, to secure the boot 10 to the ski and cause a cable spring 32 to bias the cable and therefore bias the attachment 5 against the ski.

The particular ski 11 shown in FIGURE 1 has a relatively fixed angle of binding attachment which is controlled by the position of cable holding devices 35, only one of which is shown. Because the hold down member 27 is a projection, different angles of binding attachment may be utilized to increase the pressure applied to the heel.

Although the invention has been described with a certain degree of particularity, it is understood that the present disclosure of the preferred form is made only by way of example and that numerous changes in the details of construction may be resorted to without departing from the spirit and the scope of the invention as hereinafter claimed.

What is claimed is:

1. A heel attachment for enabling an ordinary boot to be used as a ski boot comprising:

- (a) a counter member for engaging the rear heel portion of a boot, said counter member having two side portions and a rear portion;
- (b) a heel plate attached to and projecting transversely from the counter member such that the counter portion and heel plate together define a semi cup-like configuration with the heel plate adapted to underlie and the counter portion to abut the sides of the heel of an attached boot;
- (c) a strap attached to the side portions of the counter member and adapted to overlie a boot whereby the device may be removably secured to a boot; and,
- (d) a hold down projecting from the rear face of the counter member whereby a cable binding may engage the hold down and counter member in securing the heel portion of a boot to a ski.

2. The device of claim 1 wherein the hold-down is a pin.

3. The device of claim 1 wherein:

- (a) said heel plate has two side portions and a rear portion;
- (b) said heel plate includes a bracket extending up-

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wards from the rear portion and a bracket extending upwards from each side portion whereby the heel plate is secured to the counter member; and,

- (c) said strap is also attached to the brackets turning upwards from the side portions of the heel plate whereby the device may be secured to a boot.

4. The device of claim 3 wherein the hold down is the shaft of a rivet.

5. The device of claim 4 wherein the rivet secures the bracket extending upwards from the rear portion of the heel plate to the rear portion of the counter member.

6. The device of claim 3 wherein said securing means comprises:

- (a) a first strap attached to the counter member in forward oblique alignment with the heel plate;
- (b) a second strap attached to the counter member in forward oblique alignment with the heel plate; and,
- (c) a coupling means for joining the unattached ends of the straps whereby the device may be secured to a boot.

7. In combination:

- (a) a boot including toe and heel sections;
- (b) a cup-like heel attachment having a heel plate under the heel section and a counter portion adjacent sides of the heel section, said attachment also including:
  - (i) means removably securing the attachment to the boot;
  - (ii) a hold-down portion near said heel section; and,
- (c) a ski and binding assembly secured to said boot, said assembly including toe-binding means connecting the toe of the boot to the ski and heel-binding means overlying said hold-down portion and biasing said attachment against the ski.

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