United States Patent [19]

Erlebach

[11] **3,925,911**

[45] **Dec. 16, 1975**

[54] **SKI BOOT**

[75] Inventor: **Richard Erlebach,** Kleinwalsertal, Austria

[73] Assignee: **Gertsch AG,** Interlaken, Switzerland

[22] Filed: **Apr. 29, 1974**

[21] Appl. No.: **464,960**

Related U.S. Application Data

[62] Division of Ser. No. 282,548, Aug. 21, 1972, Pat. No. 3,834,723.

[30] **Foreign Application Priority Data**

Aug. 19, 1971 Germany 2141675

[52] **U.S. Cl.** ..... **36/2.5 AL**

[51] **Int. Cl.**[2] **A43B 00/00**

[58] **Field of Search** ..... 36/2.5 R, 2.5 AL, 25, 31, 36/32 R

[56] **References Cited**

UNITED STATES PATENTS

3,609,887	10/1971	Hickmann et al.	36/2.5 AL
3,740,873	6/1973	Sturany	36/2.5 AL
3,785,668	1/1974	Marker	36/2.5 AL

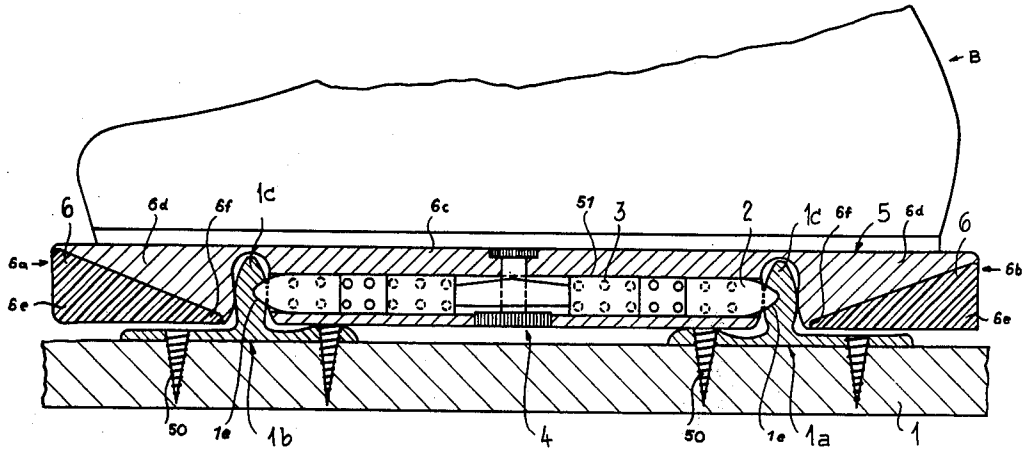
Primary Examiner—Patrick D. Lawson

Attorney, Agent, or Firm—Werner W. Kleeman

[57] **ABSTRACT**

A ski boot wherein the toe portion and the heel portion of the ski boot sole which is essentially of a rigid or stiff construction are formed of elastically compressible material.

4 Claims, 8 Drawing Figures



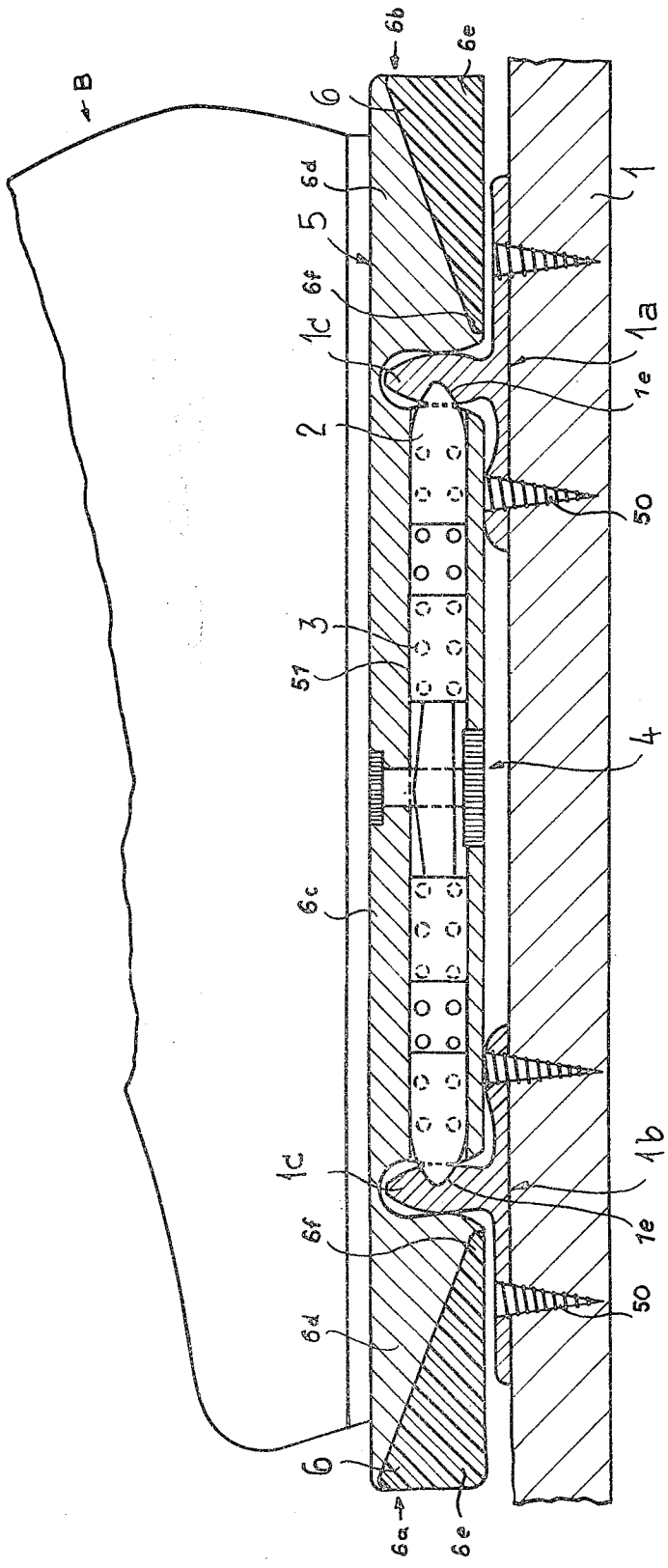


Fig. 1

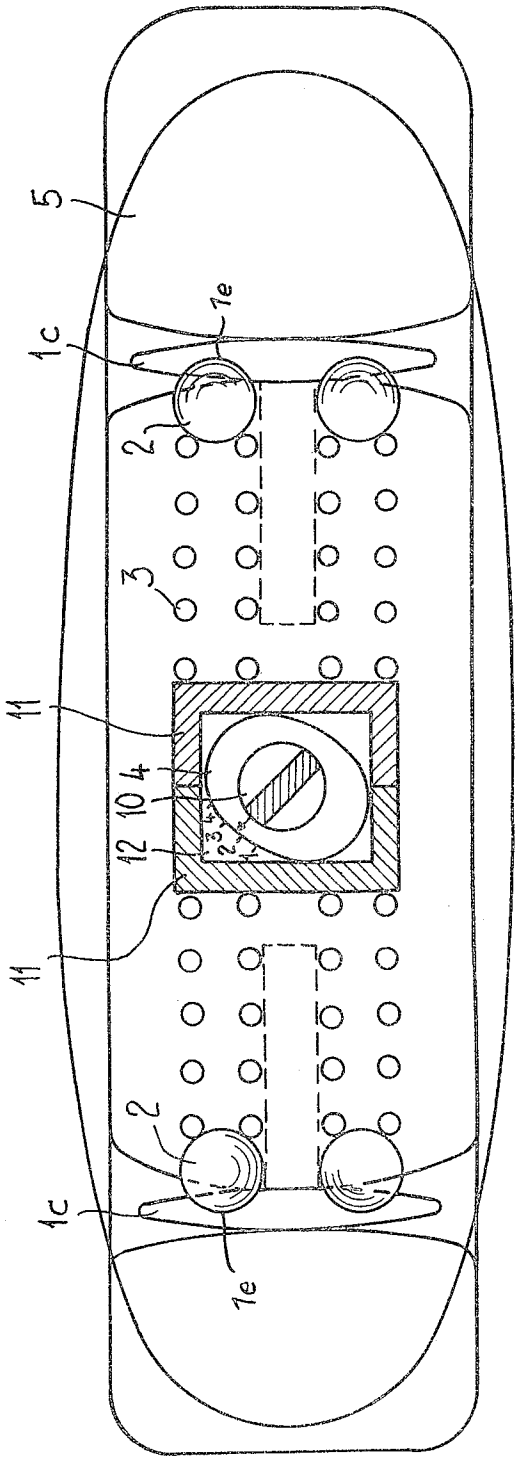


Fig. 2

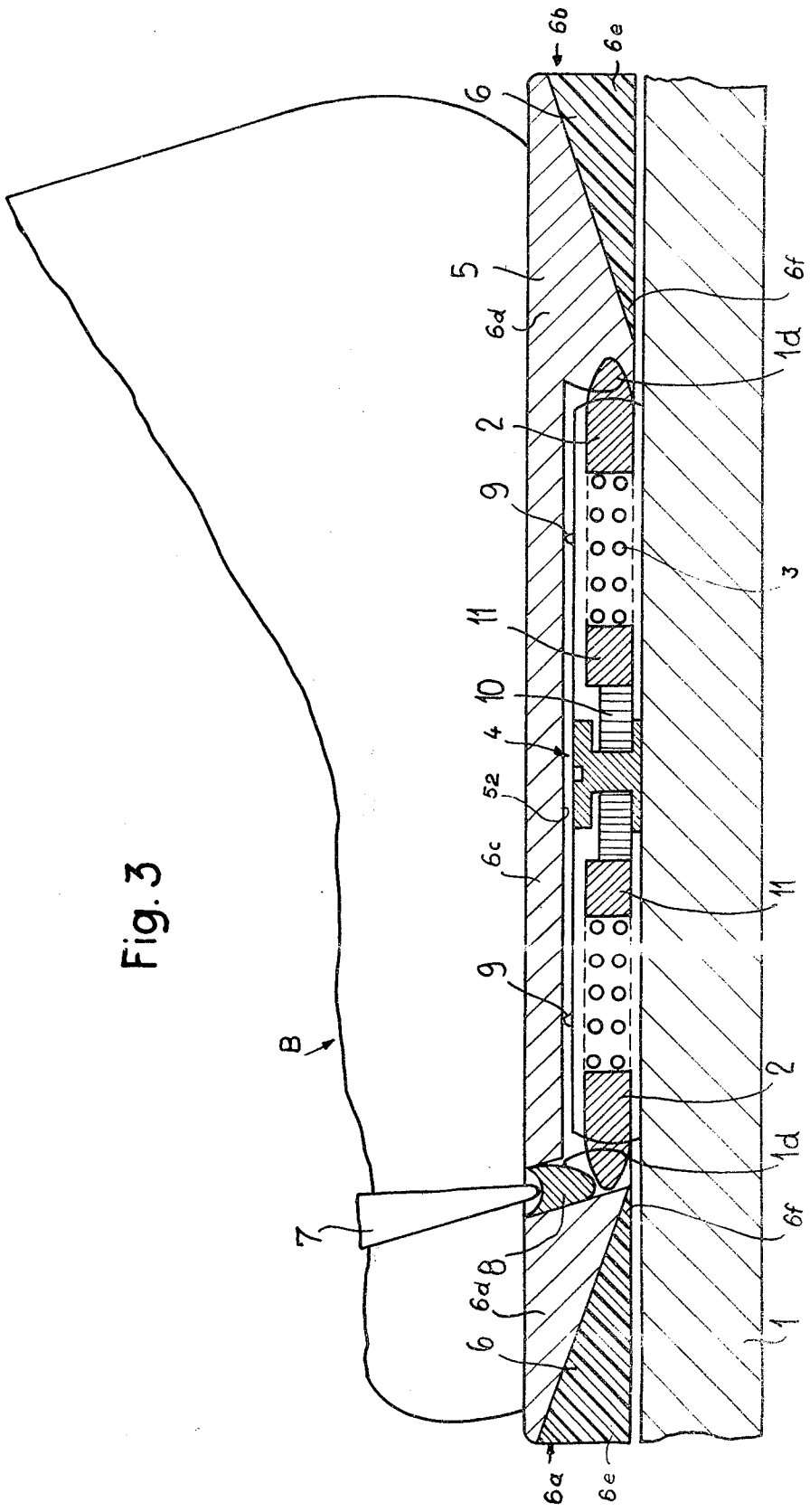
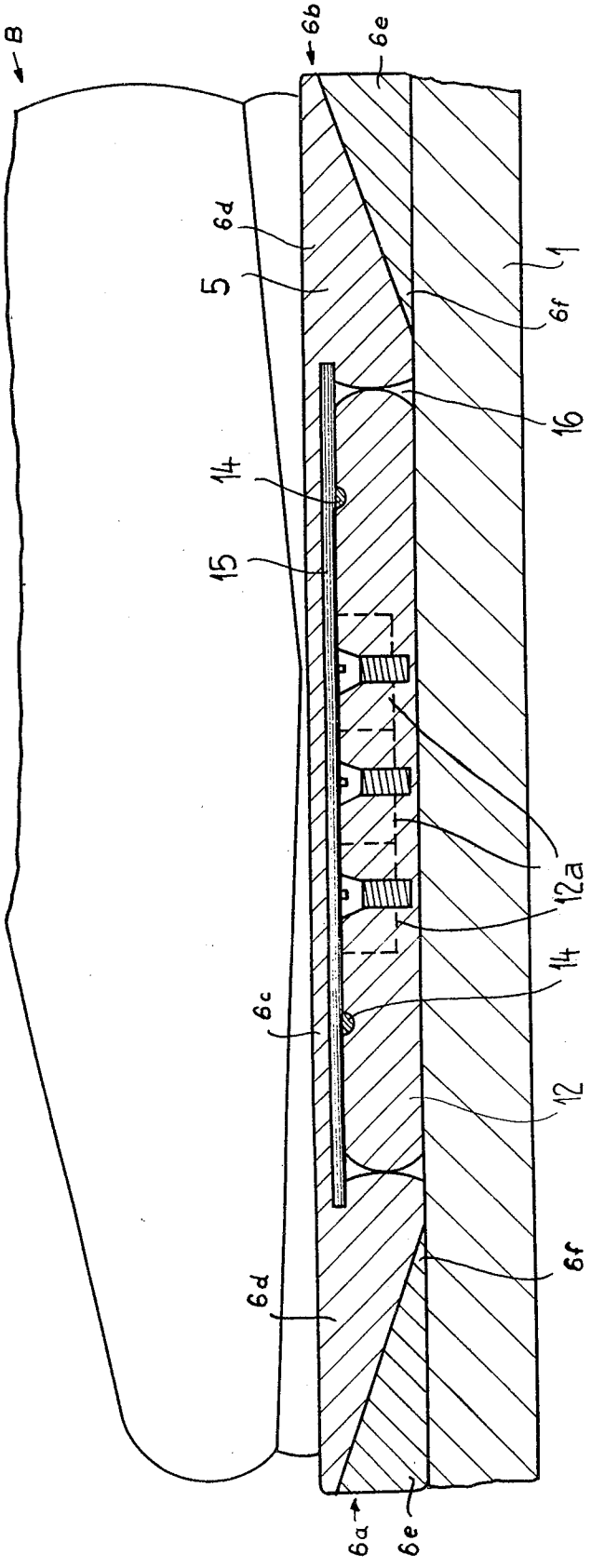


Fig. 3

Fig. 4



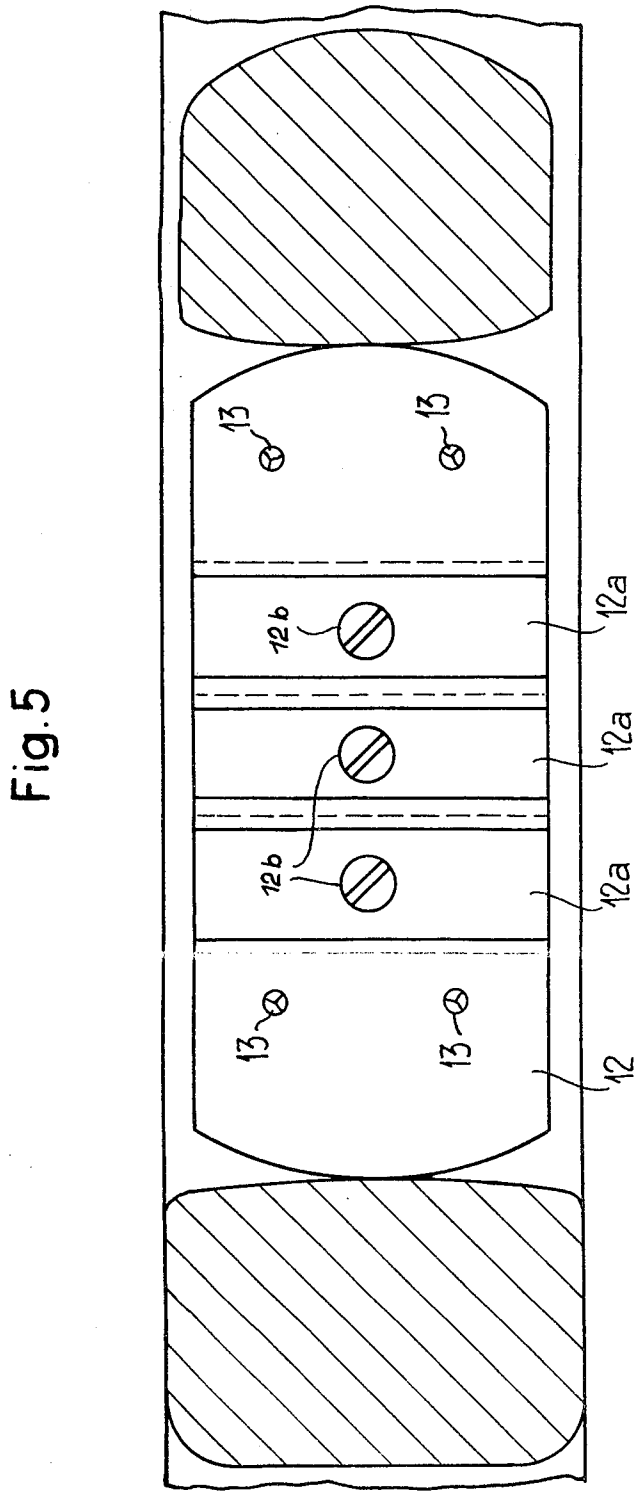


Fig.5

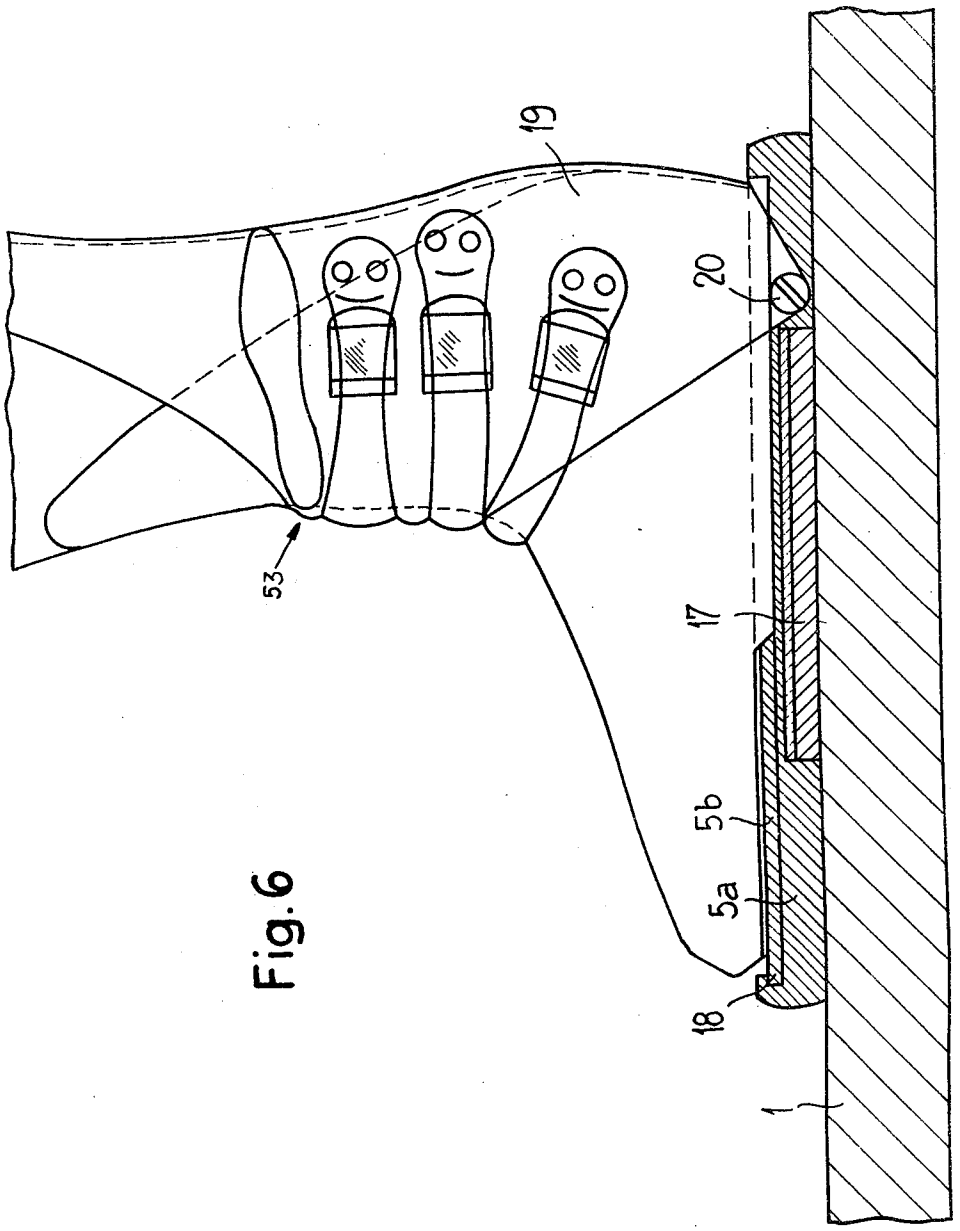
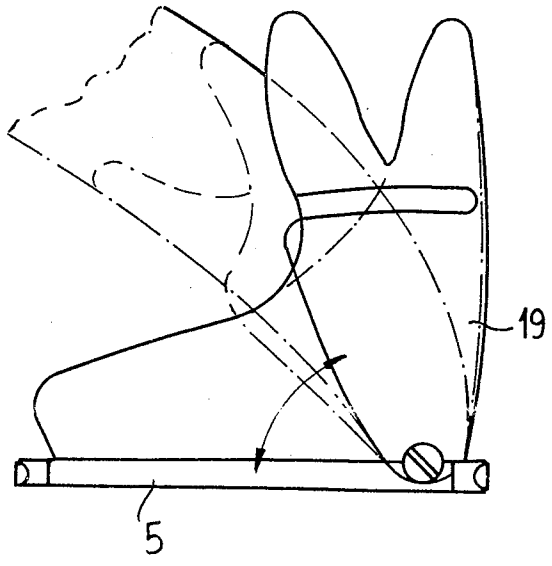


Fig. 6

Fig. 7



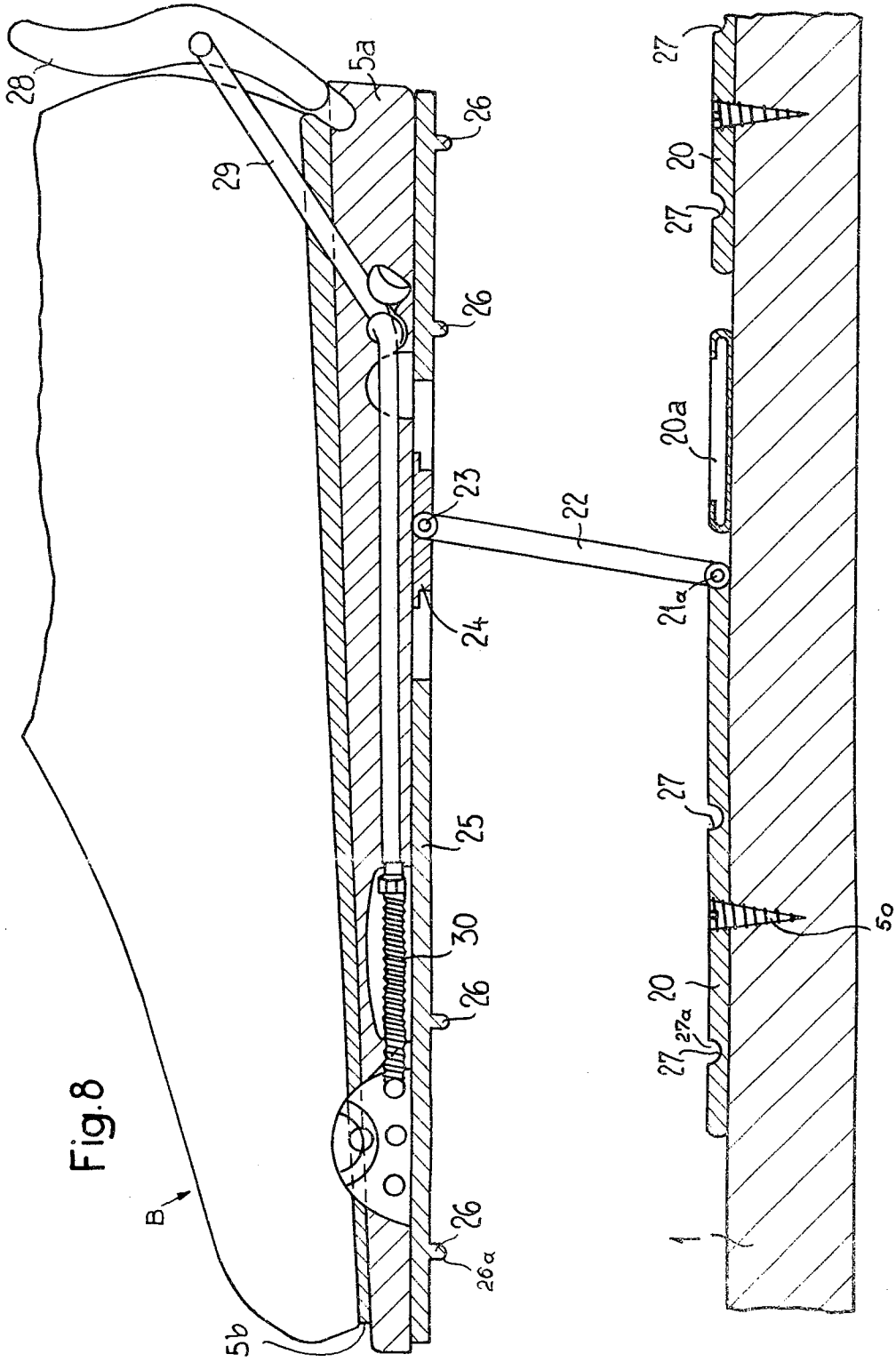

28
5a
29
26
26
23
22
24
25
30
26
26
26a
5b
B
27
20
27
20a
21a
27
50
20
27a
27
1

Fig.8

SKI BOOT

CROSS-REFERENCE TO RELATED CASE

This is a divisional application of my copending commonly assigned United States application Ser. No. 282,548, filed Aug. 21, 1972, now U.S. Pat. No. 3,834,723 granted Sept. 9, 1974 and entitled "Ski Boot And Use Thereof As Part Of A Releasable Ski Binding".

BACKGROUND OF THE INVENTION

The present invention relates to a new and improved construction of ski boot manifested by the features that the toe portion and the heel portion of the ski boot sole which is essentially of a rigid or stiff construction are each formed of an elastically compressible material.

The invention further relates to the use of the aforementioned ski boot as part of a releasable ski binding, commonly referred to in this particular art as a safety ski binding, wherein connection elements which cooperate with one another until exceeding a boundary load have a part thereof arranged at the ski and another part within the ski boot sole. According to the invention, the connection elements are arranged at the region of the rigid intermediate or central portion of the ski boot sole and cooperate with one another through the walking or tread surface of the sole of the ski boot.

Basically, the previously briefly described ski boot affords considerable ease during movement without the skis since the flexible terminal or end portions of the sole render possible a rolling-off of the sole at the ground or other support surface.

Furthermore, the flexible construction of the toe portion and heel portion of the ski boot is of particular significance in conjunction with a safety ski binding of the previously mentioned type.

In particular, the rigid intermediate or central portion of the ski boot sole which contains the components of the ski binding can be maintained the same for each size of ski boot, whereby also the lever arm which is decisive during vertical release of the ski binding remains constant and the ski binding need not be adjusted as a function of the size of the ski boot. Additionally, this lever arm, which otherwise would extend up to the respective front or rear end of the ski boot sole, becomes shorter. It is particularly advantageous to arrange the connection elements or components near the toe and the heel of the ski boot, that is to say, at the respective front and rear edge of the rigid intermediate portion, wherein owing to the flexible construction of the toe and heel during a fall of the skier towards the front or the rear, initially only always the respective front or rear connection elements respond.

The prior art is already familiar with a safety ski binding, as for instance taught in German patent publication 1,803,954, in which the holding elements are designed in the form of supports which are mounted at the ski in front of and behind the ski boot sole. These supports are provided with conical-shaped recesses serving as locking elements in which engage spherical-shaped anchoring elements in the ski boot-holding position, these anchoring elements serving as blocking bodies. The spherical-shaped anchoring elements are each subjected to the prebias of a helical spring, the pre-bias or loading force of which can be adjusted. Instead of using spherical-shaped anchoring elements there can be also employed those designed in the form of cams and provided with impact noses which engage behind holding noses of holding components movable in the lengthwise direction of the ski and, if desired, themselves subjected to a pre-bias. In each case, the anchoring elements extend outwardly from the sides of the ski boot sole. However, it has been found that such type apparatus is unable to satisfy existing requirements not only because of the presence of the protruding anchoring elements, but also owing to frequent disturbances which arise during the release action. Moreover, with such type equipment, especially when skiing in uneven terrain during which the ski tends to flutter, there exists the danger of undesired or premature release of the equipment.

SUMMARY OF THE INVENTION

Now it is a primary object of the present invention to provide an improved construction of ski boot which is comfortable to wear and particularly suitable for walking without skis.

A further important object of the present invention relates to an improved construction of ski boot which, if desired, can be effectively employed as a part of a safety ski binding.

Still a further object of the present invention relates to an improved construction of ski boot which, if desired, can serve as part of a safety ski binding while avoiding the aforementioned drawbacks of the prior art constructions.

A further object of the present invention is to overcome as extensively as possible the type of disturbances indicated above which are present with the prior art constructions.

A further significant object of the present invention is to provide a ski boot construction which can be employed as part of a safety ski binding and which is designed to avoid that any components of the release mechanism of the safety ski binding protrude from the ski boot, since otherwise the danger would exist that upon impacting same with hard objects such could become damaged, and thus when placed into their operable condition no longer carry out reliable release of the ski boot from the ski at the instant when there arises load conditions to which the release mechanism should be responsive.

Since the ski boot sole serves as a treading or walking surface components of the release mechanism which are arranged beneath the ski boot sole normally are not subjected to any damage during walking provided that the support of the ski boot does not just happen to impact at the relevant location against a sharp and hard object. However, even such danger of damage can be effectively safeguarded against by carrying out a special construction and arrangement of the corresponding components of the release mechanism arranged at the ski boot sole.

As a result, a further advantage is realized in that during the clamping or holding position at the ski practically no holding components are subjected to access and impact of other objects, since the ski boot sole itself practically affords a dampening protection for the components of the release mechanism housed in the ski boot sole.

Additionally, as a still further notable advantage there is realized the effect that the components of the equipment retaining the ski boot are arranged in close neighboring relationship and no longer at large distances which are determined by the length of the boot

sole, so that during elastic deformation of the ski, especially when skiing over uneven or hilly terrain, also there practically does not occur any change in the spacing between the relevant holding and anchoring components.

Finally, the possibility of accommodating the release mechanism within the ski boot sole affords new possibilities for special arrangements and construction of the individual components thereof, something which previously was not possible owing to the extensively unprotected position thereof at the ski. It is indeed already known to the art from German Patent Publication 1,929,800 to design the ski boot sole as a two-part member and to provide both parts of the sole with a releasing mechanism and a catching mechanism so that in case of the occurrence of the release action the ski boot releases with its upper part from the lower part, however cannot move too far particularly owing to the construction of the catching mechanism as a windable catching cable. Due to this construction there is, however, only solved the problem of avoiding the use of catching mechanism components located externally of the ski boot. Yet, the lower sole plate is connected with the ski by means of a slide connection. Use is also made with this invention to the extent possible of the prior art teaching of placing the release mechanism as closely as possible to the endangered leg.

Apart from the one constructional embodiment of the invention wherein the holding components are constructed as locking elements and the anchoring elements as blocking bodies, the inventive teachings can be also realized in that the holding components are constructed and used as blocking bodies and the anchoring elements as locking elements. Accordingly, the actual release mechanism can be mounted either directly at the ski or, however, installed at the ski boot sole. An advantage of the invention also resides in the fact that certain basic adjustments can be more or less standardized and need no longer be adjusted from case to case as a function of the size of the ski boot or sole. Thus, it is particularly advantageous to install the actual release mechanism in the ski boot sole, so that the skier, during shifting his weight from one ski to the other, always experiences the same release conditions when the relevant skis possess the same holding components and anchoring elements and in the same spatial arrangement. Since one aspect of this development resides in the feature of employing more or less single-piece, for instance molded ski boots which are relatively expensive, it is possible to insure through mounting of the release mechanism in the particularly stiff or rigid ski boot sole that it is no longer necessary to provide each ski with a special expensive binding which possesses the release mechanism if it is desired to alternately use a number of pair of skis.

Within the framework of the invention it is recommended to be able to adjust the boundary load of all locking elements by means of a common adjustment device. Such can be rendered accessible from the underside of the soles, the sides of the soles and also from the top of the ski.

It should be understood that the invention also permits use of spherical-type blocking bodies which in particular can be pre-biased by springs. Special and particularly advantageous constructions of these components will be considered in greater detail hereinafter in conjunction with the description of the drawings.

The release mechanism can be also provided with permanent magnets which retain the blocking bodies in their position or respectively at the locking elements. Permanent magnets serving for securing ski boots to the ski are already known to the art, as evidenced for instance by Swiss patent 321,915 and U.S. Pat. No. 2,276,826. In this regard it is also recommended to employ exchangeable permanent magnets, so that in each instance, as a function of the desired boundary loads, different strength permanent magnets can be utilized. The effectiveness of permanent magnets becomes particularly great if there is employed as the locking elements ferromagnetic plates.

As already indicated above it is basically recommended to arrange the blocking bodies and locking elements in such a manner that the effective center point of the boundary loads of all blocking bodies is approximately located at the extension of the axis of the leg. In many instances it is however completely acceptable to arrange such effective center point approximately in front of the actual extended leg axis.

In order to be able to release the equipment without difficulty and to detach the ski it is recommended to render the release mechanism releasable by the action of an actuation element, for instance the tip of a ski pole.

It should be understood that in any case the ski boot should be designed as rigidly as possible at the parts cooperating with the release mechanism, as such is anyway the case for the present most extensively employed ski boots. Owing to the fact that the holding components and the anchoring elements no longer engage at the front and rear at the ski boot sole it is possible in particular, according to a further embodiment of the invention, to construct the heel of the sole and under circumstances however also the toe of the sole, from less rigid, especially elastically compressible material, such as soft rubber, foamed material or the like. One advantage of such measure resides in the fact that the skier can walk much better with the ski boots when not attached to the skis than if the ski boot heel portion is completely rigid as was previously the case.

In the event that the ski boot is provided with a double-sole then it is recommended, according to a further embodiment of the invention, to have the release mechanism effective between the lower sole portion and the ski and to ensure that the lower sole portion possesses at the rear a receiving mechanism, in particular a type of gaiter in which there can be guidingly inserted the ski boot upper.

The advantage of this measure resides in the fact that the lower sole portion with the corresponding parts of the release mechanism can be released from the upper sole portion and the therewith fixedly connected ski boot upper, so that the skier after release of the upper sole portion and the ski boot upper from the receiving mechanism can walk about without the lower sole portion. Also in this way the skier is considerably less bothered during walking than when using prior conventional heavy ski boots. The receiving mechanism itself need not be equipped with a corresponding release mechanism, rather can provide a fixed connection between the lower and upper sole portions when placed at the ski, since upon reaching and exceeding the boundary load the release mechanism between the ski and the lower sole portion becomes effective.

The use of a gaiter also improves striding or stepping-out during skiing, especially if such are articulated to

the sides of the lower sole portion and pivotable about a pivot axis extending approximately transverse to the axis of the sole.

According to a further embodiment of this construction of the invention it is recommended to connect the upper sole portion with the lower sole portion through the agency of a lever mechanism in the manner of a hinge, and thus to employ in particular holding magnets which function as a release mechanism with appropriate ferromagnetic plates. Also in this case an embodiment of such type construction will be explained more fully in conjunction with the description of the drawings to follow.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood and objects other than those set forth above, will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein like reference numerals have been generally employed throughout for the same or analogous components, and wherein:

FIG. **1** is a vertical fragmentary sectional view through a ski boot containing an integrated releasable or safety ski binding designed according to the teachings of the present invention;

FIG. **2** is a horizontal cross-sectional view through a slightly modified embodiment of ski boot from that depicted in FIG. **1**;

FIG. **3** is a vertical fragmentary sectional view through a variant construction of ski boot from that shown in FIG. **1** and which depicts a kinematic reversal of the components depicted in FIG. **1**;

FIG. **4** is a vertical view, partly in section, through a further embodiment of the invention employing magnetically effective holding components;

FIG. **5** is a top view of part of the construction depicted in FIG. **4**;

FIG. **6** illustrates a vertical sectional view of a double-sole ski boot designed according to the teachings of the present invention;

FIG. **7** schematically illustrates details of the arrangement of FIG. **6** and specifically only the ski boot with the receiving device in two different traveling or walking positions; and

FIG. **8** is a schematic fragmentary front view and a partial sectional view through a different embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Describing now the drawings and initially considering the exemplary embodiment of inventive ski boot B advantageously designed as part of a safety or releasable ski binding as depicted in FIG. **1**, it is to be understood that holding members or parts **1***a* and **1***b* are connected through the agency of suitable fastening means, such as screws **50** at the ski **1**. These holding members **1***a* and **1***b* are provided with approximately vertically upstanding locking elements **1***c* having recesses **1***e* with which partially engage spherical shaped or conical-shaped blocking or arresting bodies **2** in a locking position for retaining the ski boot B at the ski **1**. In the arrangement of FIG. **1** the blocking bodies **2** are of substantially conical-shaped configuration, whereas in the modified version of FIG. **2** to be discussed shortly hereinafter these blocking bodies **2** are in the form of spherical-shaped members or balls. In either case, the blocking bodies or body members **2** are pre-biased by resilient means, such as helical springs **3** which, in turn, are appropriately adjustable by means of an adjustment device **4** as concerns their tensioning or clamping force. The adjustment device **4** is accessible from the underface of the sole **5** of the ski boot B, yet is advantageously rearwardly inset from the underside or walking or tread surface of the boot sole **5** to such an extent that during walking there is practically not possible any automatic unintentional re-adjustment of such adjustment device **4**. By suitably rotating the adjustment device **4** it is possible, as indicated above, to appropriately pre-bias the loading springs **3** as is well known in this particular art. Now the sole **5** of the ski boot B is provided at the toe portion **6***a* and the heel portion **6***b* with soft elastic compressible portions or sections **6** formed, for instance, from soft rubber or soft plastic. These soft elastic compressible portions **6** define the terminal or end portions of the ski boot sole **5**, the intermediate or central portion **6***c* of which ski boot sole **5** is formed of any suitable conventional rigid sole material, such as a rigid plastic. Hence, it is to be understood that the ski boot sole **5** comprises an essentially plate-shaped rigid support portion which at the region of the toe portion **6***a* and the heel portion **6***b* of the ski boot B upwardly tapers to define respective wedge-shaped portions **6***d*. Moreover, the toe portion **6***a* and the heel portion **6***b* of the sole are also in the form of wedges **6***e* formed of elastically or elastic compressible material wherein the respective cutting edge or apex **6***f* confront one another as clearly shown in FIG. **1**. As a result, one advantage thus realized is that walking with the ski boot B is rendered considerably less difficult than if there were used a ski boot sole which was completely rigid throughout. The biasing springs **3** and the blocking body members **2** are suitably mounted at the sole **5**, for instance in recesses **51** of the specially shaped or injection molded soles. A further advantage realized by virtue of the previously described arrangement is that, assuming a fall of the skier towards the front, the elastically compressible material **6***e* at the toe portion **6***a* of the ski boot B is initially compressed, with the result that the locking element **1***c* and blocking element **2** at the region of the toe portion of the boot acts as a pivot for the other intercooperating locking element **1***c* and blocking element **2** at the rear of the boot. Hence, the lever arm decisive for vertical release of the binding which extends between the front and rear locking and blocking elements just considered remains constant so that the binding need not be adjusted as a function of the size of the boot. Also as previously explained this lever arm is shorter than would be otherwise the case if the elastically compressible material were not provided. The same observations hold true during backward fall of the skier, whereby in this case now the rear intercooperating blocking and locking elements serve as the pivot point for such release action.

Although in many instances it is completely satisfactory to employ in each case only one blocking body member **2** at the front and rear of the ski boot B, the effective center point of which is only slightly located in front of the extended leg axis and the spacing of which is considerably less than the length of the sole **5**, nonetheless the security and exact response, especially with a design corresponding to the construction of ski boot as depicted in FIG. **2**, is considerably increased in that at the front and rear there engages in each case a pair of blocking body members **2** with the locking elements

1c.

Now with the modified version of ski boot construction as depicted in FIG. 3 and in contrast to the design of FIG. 1, the adjustment mechanism 4 with the springs 3, the blocking bodies 2 and the associated supports or mountings are fixedly arranged at the upper or top surface of the ski 1, whereas the locking elements here indicated by reference character 1*d*, are mounted at the ski boot sole 5. In other words, this embodiment of ski boot is intended to indicate that the components of FIG. 1 can be reversed as far as their arrangement is concerned. It should be further understood that the sole 5 is provided with a sufficiently hard and wear-resistant material at least at the region of the locking elements 1*d* in the event that such are not designed as additional elements and inserted into the ski boot sole 5. The stepping-out or removal of the ski boot B from the ski 1 is simplified in that the release mechanism can be disengaged at least at one side, here for instance at the front side, in that for example a ski pole tip 7 can be pressed against a release element 8 accessible from externally of the ski boot B. The parts of the binding arranged at the ski according to the embodiment of FIGS. 1–3 can be adhesively bonded with the ski 1 in the event that a threadable connection is not desired.

Additionally, it is advantageous for the embodiment according to FIG. 3 to support the ski boot sole 5 at raised portions or projections 9 in order that the front toe portion 6*a* and heel portion 6*b* of the ski boot sole 5 does not bear at all upon the top surface or face of the ski 1.

The adjustment mechanism 4 accessible according to the embodiment of FIG. 3 from the top of the ski 1 is provided with a cam nut member 10 or equivalent device mounted between two bearing or holding jaws 11, so that as a function of the position of the cam member 10 or a suitable cam disk relative to a scale 12 the spacing of both holding jaws 11 and thus the pre-bias of the blocking bodies 2 can be desirably altered. A similar type adjustment mechanism 4, although arranged at the ski boot sole, has been shown in the embodiment of FIG. 2.

Continuing, according to the embodiment of FIGS. 4 and 5 there are screw or threadably connected to the top of the ski 1 a number of plate-shaped magnets, especially permanent magnets 12, 12*a*. In this connection the permanent magnet 12, for instance, consists of an approximately flat, substantially U-shaped unit, in the intermediate space of which there can be inserted the additional small plate-shaped permanent magnets 12*a*. Depending upon the desired release force the permanent magnet 12 and the permanent magnets 12*a* can be threadably disconnected or exchanged by others. Each leg of the permanent magnet 12 possesses, for instance, a holding force of 35 kilograms, the outer ones of the three plate-shaped permanent magnets 12*a* possess a holding force of, for instance, 20 kilograms and the intermediate plate-shaped holding magnet 12*a* a holding force of, for instance, 15 kilograms. While the permanent magnet 12 is directly threadably connected to the ski 1 the plate-shaped permanent magnets 12*a* are threadably connected through the U-shaped permanent magnet 12 as indicated by the screws 12*b*. This permanent magnet 12 possesses at each of its free external sides two approximately semispherical-shaped recesses 13 designed as locking elements for approximately semispherical-shaped raised portions serving as blocking bodies 14 located at the underside of a ferromagnetic plate 15 which forms the upper boundary of a hollow compartment 16 located at the ski boot sole 5. The permanent magnets 12 and 12*a* and the ferromagnetic plate 15 function as a release mechanism and the locking elements 13 and blocking body members 14 serve as adjustment aids. The ferromagnetic plate 15 is, for instance, formed as a thin steel plate.

According to the embodiment of the invention as depicted in FIGS. 6 and 7 the release mechanism 17 which is partially mounted at the ski 1, and which here has only been schematically indicated, engages in a hollow portion at the lower sole part 5*a*. This is designed such that the upper, extensively thinner and also elastically flexible sole part 5*b* can be pushed at the front into a recess 18 and at the rear can be fixedly clamped by means of a gaiter 19 serving as a receiving device or mechanism. This gaiter 19 is hingedly connected at both sides by screws 20, which also can be designed as continuous threaded bolts, with the lower sole portion 5*a*, so that the gaiter 19 can be pivoted about this horizontally extending pivot axis, as particularly well seen by referring to FIG. 7. In FIG. 7 there is shown by full-lines the position where the gaiter 19 practically protrudes vertically from the ski 1, whereas by means of the broken lines there is depicted the position in which the lower ankle of the skier, relative to the ski 1 and the sole 5, which in this instance for the sake of simplicity has been shown as a one-piece or integral structure, extends at an angle essentially deviating from 90°. It should be understood that the boot upper 53 is elastically bendable to such an extent that this position can be realized.

According to the embodiment of FIG. 8 a pair of permanent magnets 20 and an additional exchangeable permanent magnet 20*a* are threadably connected by the screws 50 or otherwise suitably exchangeably secured to the ski 1. Additionally, there is located at the top of the ski a hinge arrangement 21*a* with a hinge joint 21, this hinge arrangement being operatively connected through the agency of a lever 22 having a further hinge joint 23 with a rotatable or pivotal plate 24 which can be inserted from below into the lower sole portion 5*a*. The lower sole portion 5*a* is additionally provided at the underside with a ferromagnetic plate 25, the cam-shaped raised portions 26*a* of which serving as blocking bodies 26 can be inserted into suitable recesses 27*a* of the permanent magnets 20 serving as locking elements 27 when the lower sole portion 5*a* is placed against the permanent magnets 20 and 20*a* respectively. Additionally, the lower sole portion 5*a* is provided with a receiving device or mechanism by means of which the upper sole portion 5*b* can be connected with the lower sole portion 5*a*. This receiving device has only been schematically illustrated, but will be understood to comprise a clamping bracket or release lever 28, a cable traction means 29 and an adjustment mechanism 30 and defines a frame-like structure into which there can be inserted the upper sole portion 5*b*. In the event that the skier wishes to step out of the ski 1 then it is only necessary to rearwardly and downwardly press the release lever or bracket 28, so that such skier can climb out of the frame-shaped structure by means of the boot upper and the upper sole portion 5*b*, and therefore, can step out of the lower sole portion 5*a* which remains attached with the ski 1 via the previously mentioned components. The ski boot B is thus considerably less heavy since it need only comprise a relatively thin and therefore also light sole. Nonetheless

there is insured that in the clamped position there is afforded a fixed connection between the ski boot B and the ski **1** although such boot raises from the ski **1** and the permanent magnets **20** and **20***a* and falls forwardly by means of the lower sole portion **5***a* upon reaching or exceeding the adjusted boundary load. The lever **22** in this case functions as a catch mechanism. It should be understood that it can be designed to be elastic. It can be composed of a number of individual components and retained together by means of elastic elements, for instance springs. The structure according to FIG. **8** is exceptionally well-suited as a ski binding for downhill and cross-country skiing.

The lower face of the sole can be also covered during walking with a cover plate in order to protect the release mechanism and other parts arranged in the sole during walking or treading without skis.

For a great many fields of application it is advantageous, for instance, according to the construction of FIG. **6**, to build the release mechanism at the top of the ski or, in fact, partially in the ski itself in that it can be, for instance, threaded to the ski with four screws or already partially embedded in such ski during fabrication thereof.

It is recommended to arrange the release mechanism in such a manner that the locking elements and blocking bodies are located at the front portion of the release mechanism at the center of the ski between the end of the ski and the ski tip while not taking into account the upwardly bent ski tip portion.

While there is shown and described present preferred embodiments of the invention, it is to be distinctly understood that the invention is not limited thereto, but may be otherwise variously embodied and practiced within the scope of the following claims.

What is claimed is:

1. A ski boot embodying a ski boot sole having a toe portion and a heel portion and an intermediate sole portion formed of essentially rigid material arranged between said toe portion and said heel portion, said toe portion and said heel portion of said ski boot sole being formed of an elastically compressible material.

2. A ski boot embodying a ski boot sole having a toe portion and a heel portion and an intermediate sole portion formed of essentially rigid material arranged between said toe portion and said heel portion, said toe portion and said heel portion of said ski boot sole being formed of an elastically compressible material, said ski boot sole comprising an essentially plate-shaped rigid support portion which at the region of said toe portion and said heel portion upwardly tapers to define respective wedge-shaped portions, said heel portion and said toe portion of the ski boot sole being in the form of wedges formed of said elastically compressible material, each of said wedges having a cutting edge and said cutting edges confronting one another.

3. The ski boot as defined in claim **1**, wherein said ski boot constitutes an outer ski boot.

4. The ski boot as defined in claim **1**, wherein said toe portion and said heel portion which are each formed of an elastically compressible material provide a rolling-off action at the ground both at the toe portion and the heel portion during walking with the ski boot.

* * * * *