United States Patent [19]

Morgan

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[45] **Mar. 27, 1973**

[54] **SKI BOOT CONSTRUCTION**

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[73] Assignee: **Riddell, Inc.,** Des Plaines, Ill.

[22] Filed: **Feb. 18, 1971**

[21] Appl. No.: **116,405**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 851,936, Aug. 21, 1969, Pat. No. 3,570,148.

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

[51] **Int. Cl.** **A43b 00/00**

[58] **Field of Search** ..... 36/2.5 R, 2.5 AL, 50; 24/68, 24/70

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Primary Examiner—Patrick D. Lawson

Attorney—McDougall, Hersh & Scott

[57] **ABSTRACT**

A ski boot providing securing means for tightening the boot around the foot. The securing means includes a band having its ends secured to boot portions. The ends of the band are threadably attached so that infinite adjustments are possible to accommodate different wearers. The band preferably comprises a spring mounted around a wire or cable whereby a strong, flexible and threadable member is provided.

17 Claims, 22 Drawing Figures

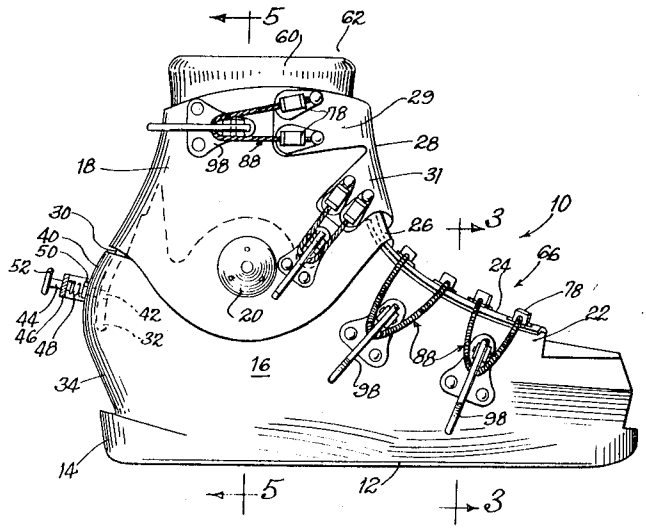

FIG. 1

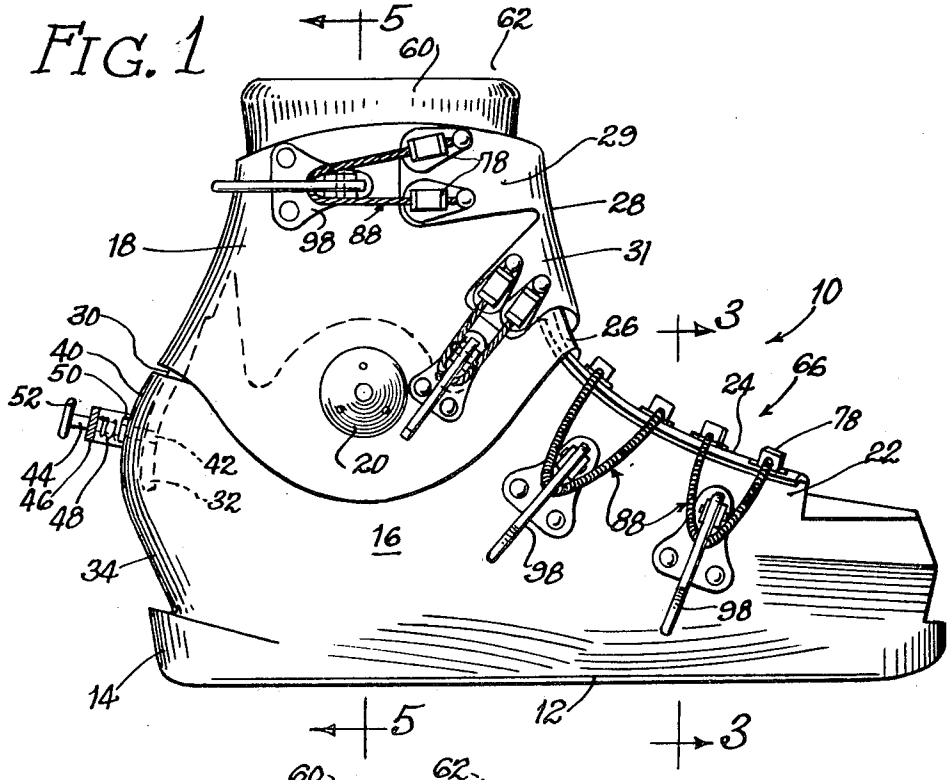

FIG. 2

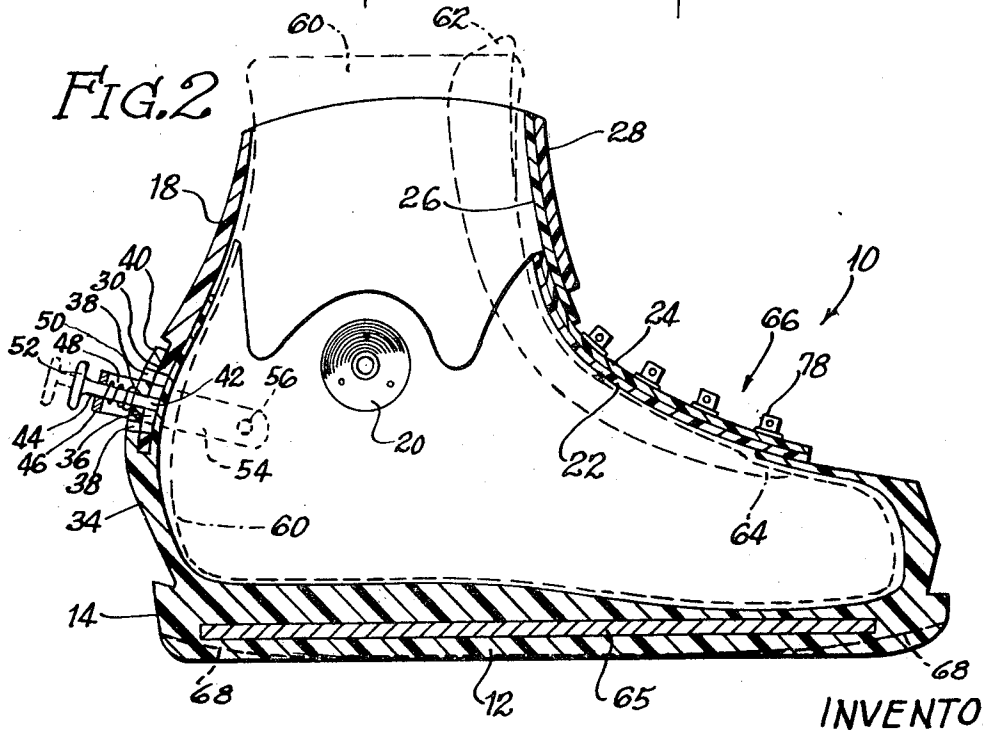

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FIG. 3

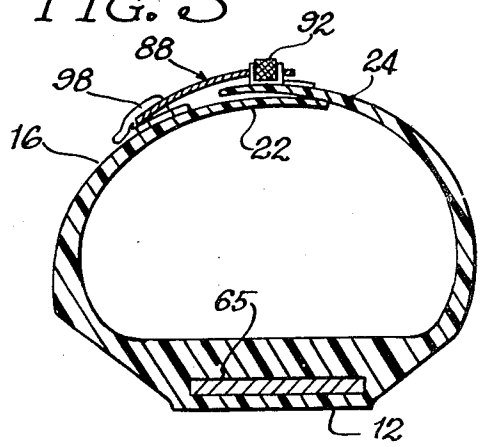


FIG. 4

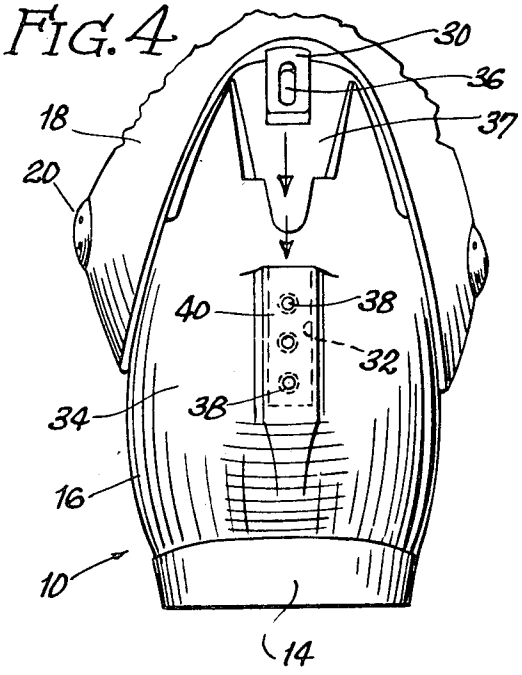


FIG. 5

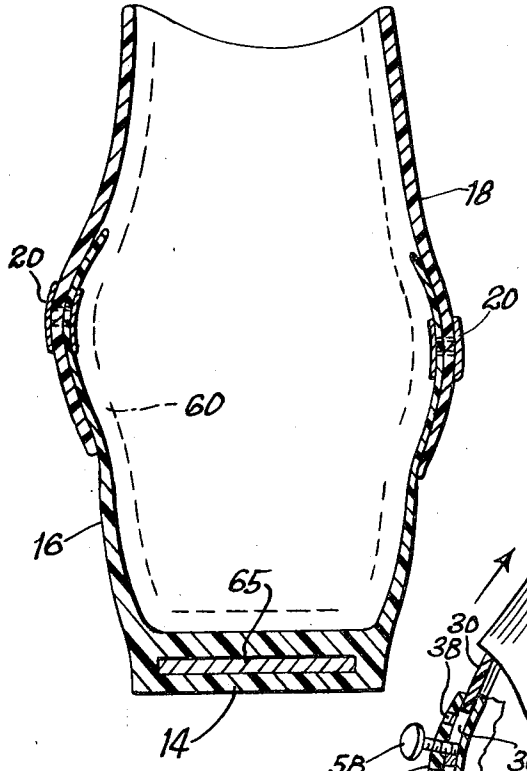


FIG. 6

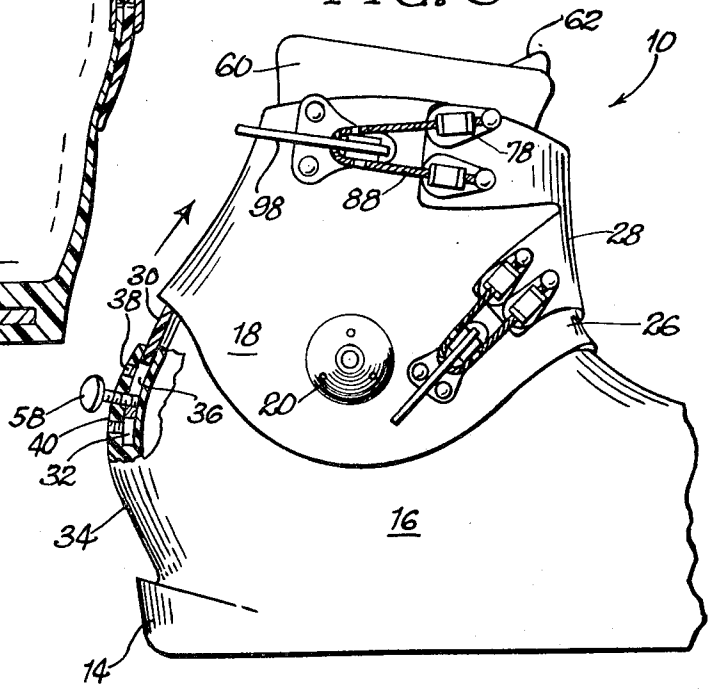


FIG. 7

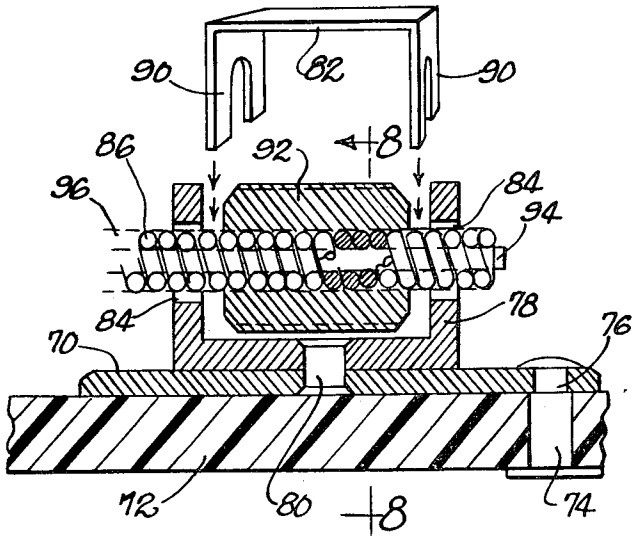


FIG. 8

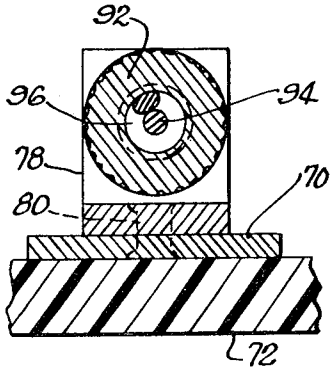
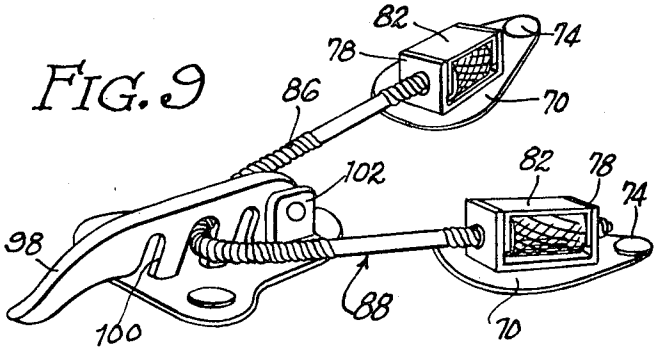


FIG. 9



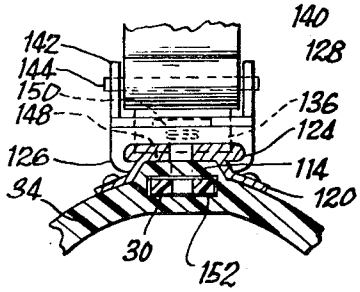


FIG. 10

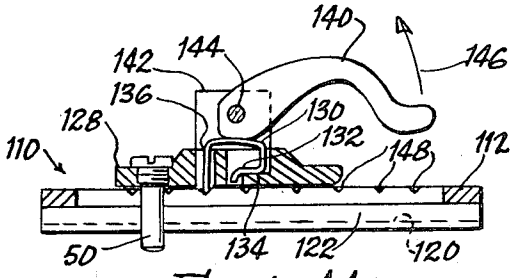


FIG. 11

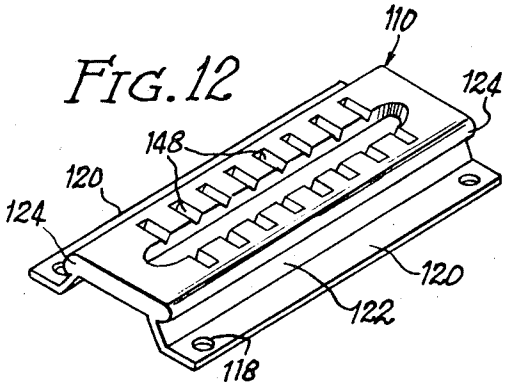


FIG. 12

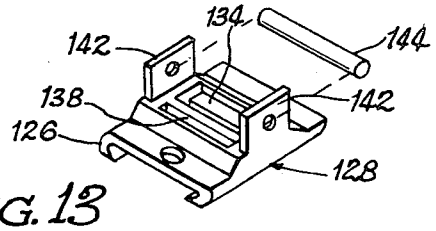


FIG. 13

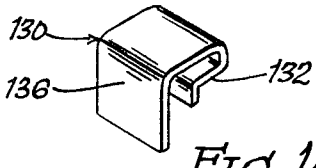


FIG. 14

FIG. 17

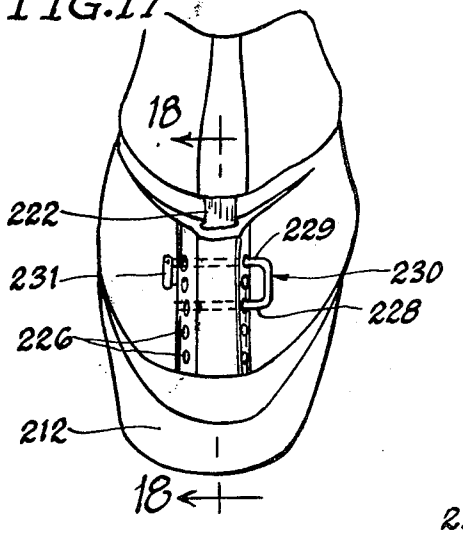


FIG. 15

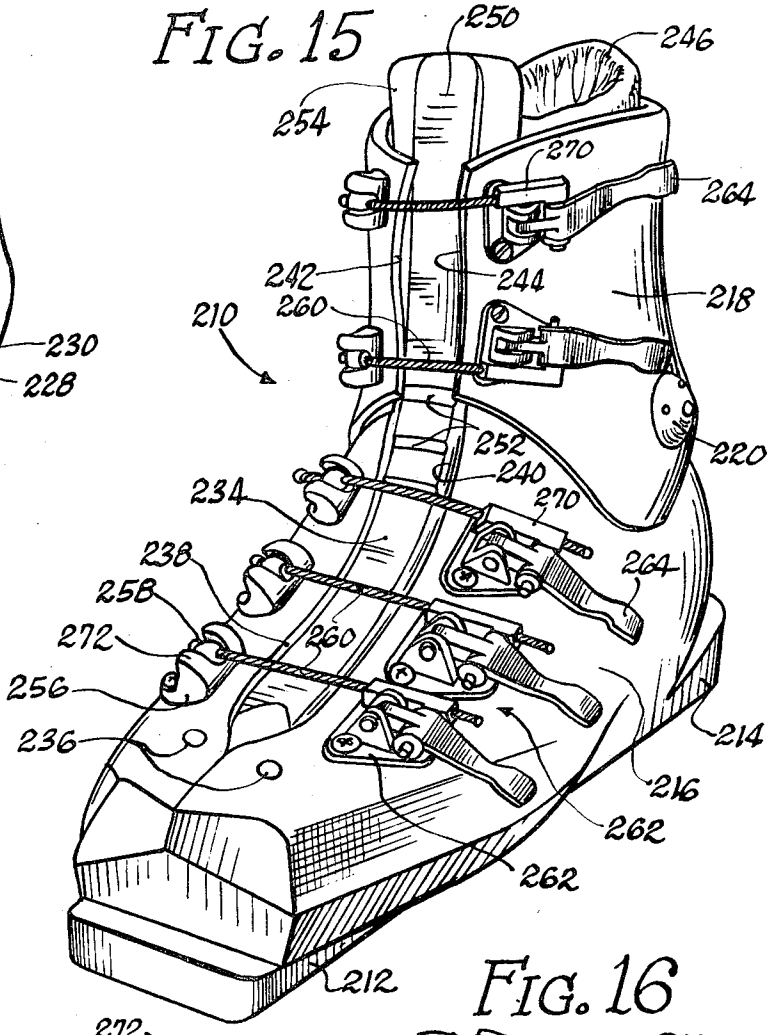


FIG. 18

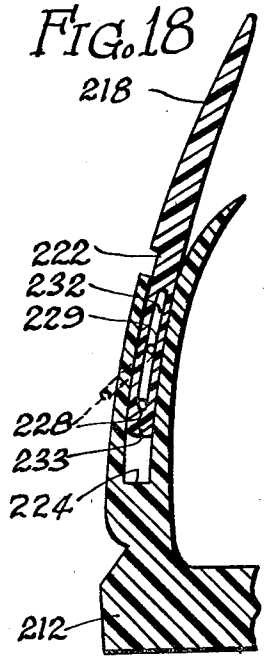
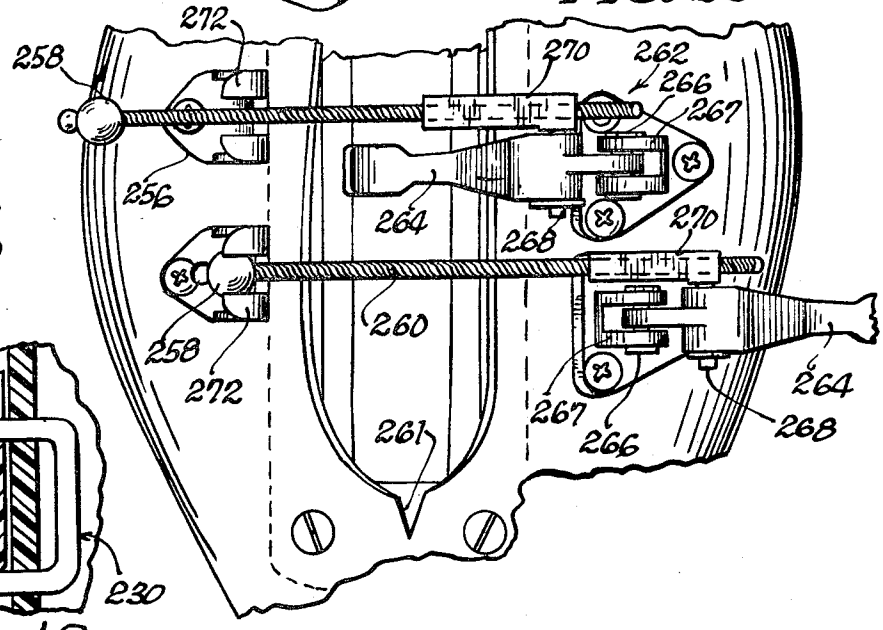


FIG. 16



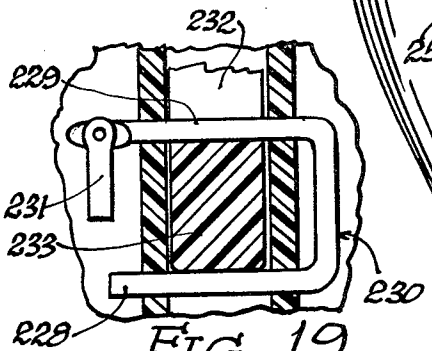


FIG. 19

FIG. 20

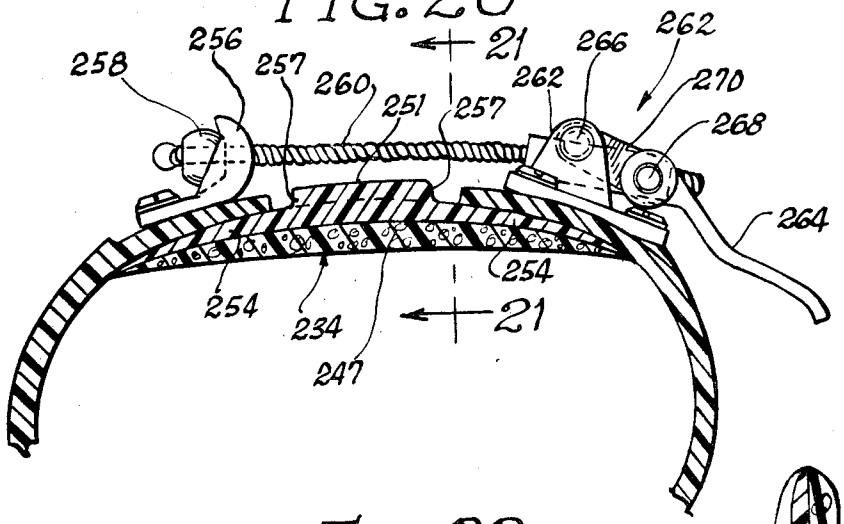


FIG. 22

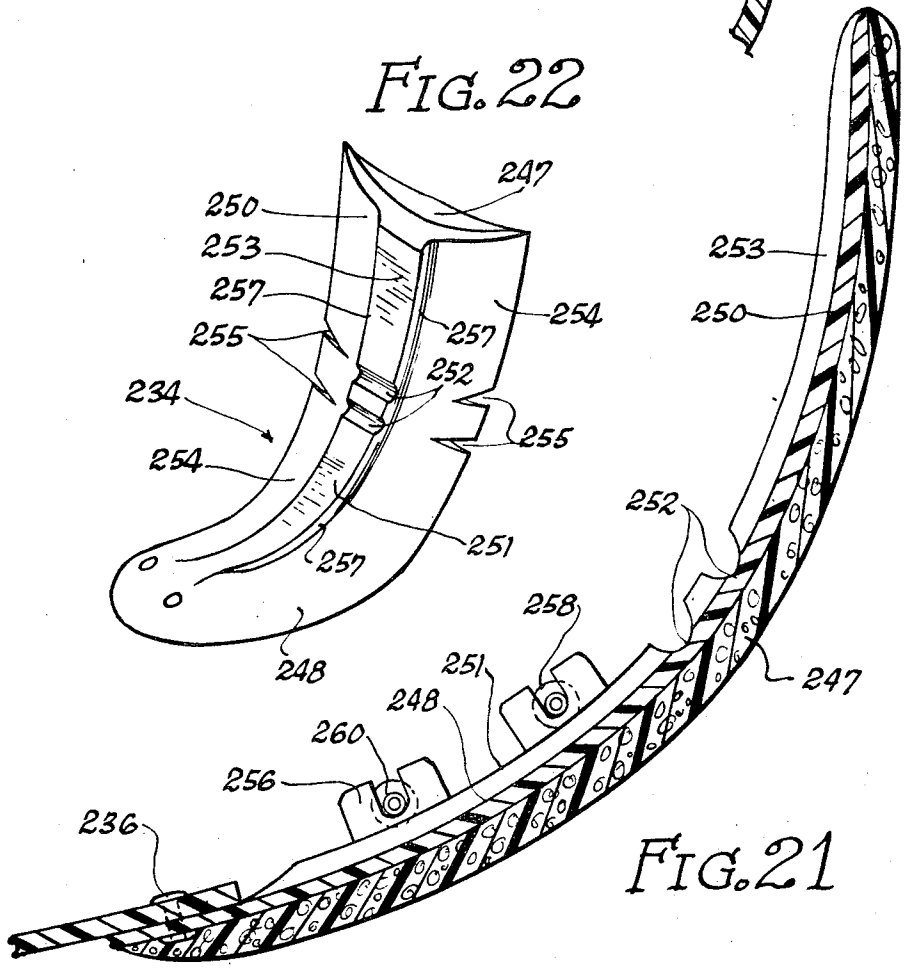


FIG. 21

SKI BOOT CONSTRUCTION

This application is a continuation-in-part of application Ser. No. 851,936, filed on Aug. 21, 1969 now U.S. Pat. No. 3,570,148, issued Mar. 16, 1971.

This invention relates to improvements in ski boots and more particularly to a ski boot construction which can be manufactured with maximum efficiency while still providing highly satisfactory performance characteristics.

Ski boot constructions are commonly produced as heavy, relatively awkward, and highly expensive structures. The weight, complexity and expense results because the boots are subjected to high stress conditions during use and, therefore, must be extremely durable to provide satisfactory use and protection for the skier.

Because of the nature of ski boots, it has been difficult to provide boots which are useful for a wide range of skiing ability. For example, beginning skiers find it extremely difficult to wear a boot which is rigid whereas experts desire a boot which provides very little freedom for pivoting about the ankle joint. Manufacturers, therefore, find it necessary to provide ski boots designed for particular classes of skiers, or skiers simply use boots which are not best suited for their skills.

In order to provide some economy in manufacturing ski boots, boots have been made without taking the best fitting contours into consideration. Latch mechanisms which have been used for the boots have also been unsatisfactory from the standpoint of providing a desirable degree of adjustment to provide the best fit.

It is a general object of this invention to provide a ski boot construction which combines certain unique features resulting in a ski boot which is substantially improved over prior constructions from the standpoint of ease of manufacture and use, and from the standpoint of versatility in that the boot can be adjusted for use by beginners as well as more experienced skiers.

It is a further object of this invention to provide a ski boot which can be efficiently manufactured while still having the most desirable contours for proper fit and which can be provided with latch means having a high degree of adjustability to also improve fitting characteristics.

These and other objects of this invention will appear hereinafter and for purposes of illustration, but not of limitation, specific embodiments of the invention are shown in the accompanying drawings in which:

FIG. 1 is a side elevation of a ski boot characterized by the features of this invention;

FIG. 2 is a vertical sectional view of the ski boot;

FIG. 3 is a cross-sectional view taken about the line 3—3 of FIG. 1;

FIG. 4 is a fragmentary rear elevational view;

FIG. 5 is a cross-sectional view taken about the line 5—5 of FIG. 1;

FIG. 6 is a fragmentary side elevation partly cut away illustrating the ankle section in an extended position;

FIG. 7 is an enlarged fragmentary, sectional detailed view illustrating latch means utilized fro the ski boot;

FIG. 8 is a cross-sectional view taken about the line 8—8 of FIG. 7;

FIG. 9 is a perspective view of the latch construction;

FIG. 10 is a fragmentary sectional view illustrating an alternative limiting device;

FIG. 11 is a sectional side elevational view of the limiting device;

FIGS. 12 through 14 are perspective views illustrating components of the limiting device;

FIG. 15 is perspective view of an alternative form of boot construction;

FIG. 16 is an enlarged fragmentary plan view illustrating securing means for the boot construction illustrated in FIG. 15;

FIG. 17 is an enlarged fragmentary rear elevation illustrating a pivot limiting device for the boot construction;

FIG. 18 is an enlarged vertical sectional view taken about the line 18—18 of FIG. 17;

FIG. 19 is a fragmentary, sectional view of the tongue end;

FIG. 20 is a horizontal fragmentary sectional view illustrating the securing means shown in FIG. 16;

FIG. 21 is a transverse sectional view illustrating the tongue structure of the ski boot of FIG. 15; and,

FIG. 22 is a perspective view of the tongue.

The invention generally relates to a latching arrangement which can be used in conjunction with various ski boot constructions. The latching construction generally involves the use of a band which is strong and flexible and having its ends secured to ski boot portions. The band preferably comprises a coil spring fit around a flexible cable or wire. The coil spring provides threads so that the band can be adjusted to provide the correct amount of holding force.

The constructions illustrated in FIGS. 1–14 in the drawings comprise a ski boot 10 defining a sole portion 12 and a heel portion 14. The upper portion of the shoe is divided into a main body 16 and an ankle section 18.

The ankle section is pivotally connected to the body 16 by means of rivets 20. The body section 16 includes flaps 22 and 24 which overlap to provide a closure. The ankle section includes an inner flap 26 and an outer flap 28 which is divided into two sections 29 and 31. It will be noted that the lower end of the flap 26 extends over the upper end of the flap 24 so that a seal is provided all along the front of the boot.

The ankle section 18 is provided with a downwardly extending tongue 30 which is received in a slot 32 defined by the back wall 34 of the body section 16. In the embodiment of FIGS. 1 and 2, the tongue 30 defines an elongated opening 36, and this opening is positioned opposite holes 38 defined in the wall section 40 of the back wall 34. These holes are adapted to receive the end 42 of pin 44. The pin is mounted in a bracket 46 which is attached to the body 16. A spring 48 extends between the bracket and a shoulder 50 on the pin to normally urge the end 42 into the opening 36 defined by the tongue. The handle 52 of the pin is provided so that the pin can be pulled outwardly to release the pin from the opening 38 in which it is received.

As best shown in FIG. 4, the back wall 34 of the body section 16 defines a substantially V-shaped cut-out portion 37. This cut-out portion is provided to accommodate the tendency of this section of the back wall to squeeze together in response to forward motion of the tibia-fibula "shin."

The bracket 46 is attached to the body 16 by means of opposed arms 54 which extend around the sides of the body. The arms may be riveted to the body at 56 to provide a pivotal connection whereby the pin 44 can be

moved into engagement with a different hole **38**. The position of the pin **44** determines the degree of allowable movement of the ankle section. Thus, the location of the pin in the lower hole **38** would substantially lock the tongue **30**, and thereby restrict movement of the ankle section. The upper hole **38** will provide a degree of freedom corresponding with the length of the opening **36** in the tongue. An intermediate position is provided for the pin **44**, and it will be appreciated that the number of positions for adjustment as well as the size of the opening **36** can be varied.

In the embodiment shown in FIG. **6**, the holes **38** are threaded, and a threaded pin **58** is provided. The extent of allowable movement is then controlled depending upon which of the threaded holes **38** is employed.

A preferred arrangement for a limiting device is shown in FIGS. **10** through **14**. This limiting device includes a mounting bracket **110** having a central portion **112** dimensioned to fit snugly against the enlarged portion **114** defined by the back wall **34** of the boot. Openings **118** are defined by the flanges **120** provided on the legs **122** of the bracket. These openings provide means for securing the bracket to the boot.

The central portion **112** of the bracket defines outwardly extending shoulders **124** which are received in the grooves defined by the arms **126** of sliding bracket **128**. The bracket **128** carries a spring **130** having an inturned portion **132** which rests in the seat **134** defined by the bracket. A downwardly extending leg **136** of the spring extends through a slot **138**. The end of the leg **136**, therefore, extends into contact with the upper surface of the central portion **112** defined by the stationary bracket **110**.

A locking handle **140** is pivotally connected to the upstanding arms **142** of the movable bracket **128** by means of a pin **144**. As best shown in FIG. **11**, the handle defines a cam surface in the area of the spring **130** and in the position shown, the leg **136** is being forced downwardly. By raising the handle in the direction of the arrow **146**, the pressure on the spring will be gradually relieved. The central portion **112** of the bracket **110** defines a plurality of V-shaped grooves **148** which receive the end of the leg **136** for locking the sliding bracket in position relative to the stationary bracket.

The movable bracket **128** carries a pin **150** which is adapted to extend into the opening **36** defined by the tongue **30**. In this embodiment, the tongue **30** extends into the opening **152** defined by the enlarged portion **114** in the back wall of the boot.

In the preferred form of the invention, the body **16** comprises a single molded piece of polyurethane. The molding operation can be efficiently carried out, particularly since the flaps **22** and **24** can be integrally molded. The ankle section **18** including the flaps **26** and **28** and tongue **30** can also be molded as a single piece with material such as polyurethane. The assembly operation for these two pieces merely involves the attachment of the latch hardware, the rivets **20** for achieving pivoting, and the pin mechanism.

The interior contours of the molded pieces **16** and **18** can be determined by considering the matural foot contours. Thus, the design of these pieces permits efficient production without sacrificing the natural interior contours. The entire interior may be lined with a cushion **60** having a tongue portion **62** attached at **64**. This cushion is also designed so that the natural shape of the foot will be accommodated.

The boot design also takes into consideration the malleolus or ankle bone position since the pivot axis for the ankle section **18** substantially corresponds with this bone position. This is particularly apparent when considering FIGS. **5** and **6**. It will be noted in this connection that the pivot axis is different on the opposite sides of the boot. The rivet **20** on the outside of the boot is positioned in accordance with the position of the lateral malleolus while the rivet **20** on the inside is positioned in accordance with the position of the medial malleolus. These positions can be calculated for a given boot size in accordance with known anatomical standards.

Although the material employed for the boot is relatively stiff, it is desirable to provide additional stiffening means **65** in the sole of the boot. This stiffening means may consist of a piece of wood, metal or plastic molded integrally with the boot and dimensioned to extend adjacent the exterior surfaces on the molded part.

Because of the thickness of the sole **12** and the relative stiffness of polyurethane, particularly if the stiffener **65** is utilized, bending of the boot in the top or vamp area **66** cannot be easily achieved. In a modified form of the invention, the sole **12** defines a radius bottom as shown at **68**. This provides a rocker affect which is desirable particularly because of the stiffness of the shoe and to provide proper functioning of the safety bindings. Thus, if the shoe sole were flat, pivoting movement relative to the ski would take place at the front edge and, this fulcrum point is not satisfactory for achieving release of the bindings at a proper stress level.

FIGS. **7** through **9** illustrate an improved latch construction employed for securing the flaps **24** and **28** relative to the shoe body when these flaps are in overlapping relationship with the underlying flaps **22** and **26**. The latching mechanisms are particularly useful with the boot construction of this invention; however, these mechanisms have definite utility with respect to boot constructions of other designs.

The latch arrangement comprises a plate **70** which is riveted to a shoe section **72** comprising a portion of one of the flaps **24** or **28**. The rivet **74** includes a reduced diameter portion **76** which permits pivotal movement of the plate **70**.

Holding brackets are formed by means of U-shaped members **78** secured by the rivets **80** to plates **70**. Corresponding U-shaped members **82** are adapted to be received within the walls of the members **78**. Openings **84** are defined by the walls of the member **78** for receiving the ends **86** of securing bands **88**. The bifurcated side walls **90** of the U-shaped member **82** provide openings permitting location of this member within the member **78**. A weld or other suitable securing arrangement may be provided for holding the members **78** and **82** together.

The bracket arrangement provides open side walls whereby nuts **92** fitted around the ends **86** of the bands may be rotated with the fingers. In the embodiment illustrated, the bands are formed by means of a centrally located wire **94** and a coil **96** extending along the length of the wire. The outer periphery of the cable

provides a thread for interfitting with the internal threads of the nuts **92**.

The loop provided by the bands **88** is adapted to be held by means of a lever **98**. The lever defines teeth **100** which are engaged by the loop in the band. After engagement with the loop, the lever is pivoted about the mounting **102** thereby locking the loop in position. The nuts **92** can be rotated for fine adjustment of the band prior to pivoting of the lever to the locked position. This provides a highly suitable arrangement for achieving a snug and comfortable attachment of the flaps on each boot. Thereafter, the wearer adjusts the limiting device with the position usually depending upon skiing experience. Thus, a beginner usually requires a larger degree of freedom, and this can be accomplished by inserting the pin **44** or **58** in the upper hole or by eliminating use of the pin altogether whereby the tongue will be free to move in the slot **32**. In the case of a more experienced skier, an intermediate to lower hole would be utilized.

Irrespective of the amount of pivoting allowable, the pivoting action will take place about the axis of the rivet **20** which provides a natural pivot position from the standpoint of the ankle joint of the wearer. In addition to the control provided for pivotal movement, the construction provides a high degree of lateral stability. The use of molded polyurethane and the design of the overlapping portions of the body **16** and ankle section **18** are important in this regard.

FIG. **15** illustrates a ski boot construction **210** comprising an alternative form of the invention. This boot includes a sole portion **212**, a heel **214** and an upper divided into a main body portion **216** and an ankle section **218**. The ankle section is pivotally connected at **220** in the manner previously described.

A limiting arrangement for determining the extent of allowable pivotal movement is illustrated in FIGS. **17** and **18**. As in the previously described arrangement, this limiting arrangement includes a tongue **222** attached to the ankle section which is received within a pocket **224** formed in the main body of the boot. A plurality of openings **226** are formed in the main body and are aligned on either side of the pocket to permit the insertion of the arms **228** and **229** of clip **230**. As in the previously described embodiments, the position of the clip will determine the extent of allowable pivotal movement. A slot **232** is formed in the tongue to receive the arms of the pin. The arm **229** is provided with a pivoting end portion **231** whereby the clip can be locked in place after it is properly positioned.

The clip **230** is designed to accomplished all of the advantages previously described with reference to the limiting means. Thus, by inserting the arm **229** so that only this arm extends through slot **232** with the arm **228** being exposed outside the rear wall of the boot (as shown in dotted lines in FIG. **18**), a limiting arrangement as previously described is achieved. When the clip is inserted as shown in solid line in FIG. **18**, a distinct limiting arrangement is achieved since pivoting movement is allowed but to a lesser extent. Thus, in this position the arm **229** limits downward movement of the tongue while the arm **228** limits upward movement.

Additional versatility is achieved when the clip is positioned as shown in FIG. **19**. In this instance, the arms **228** and **229** confine the end portion **233** of the tongue. Accordingly, the tongue is restricted against movement in either direction. The position at which the tongue is held and, accordingly, the position of the ankle section with respect to the body section can be varied depending upon the location of the clip.

As best illustrated in FIGS. **20** and **21**, the ski boot structure includes a tongue **234** which is attached at the toe section of the boot by means of fasteners **236**. This tongue spans a gap defined between the opposing edges **238** and **240** of the ski boot body section **216**. The ankle section **218** includes a similar gap defined between the opposing edges **242** and **244**. A cushioned liner **246** is situated within the boot, and this liner preferably completely encloses the wearer's foot. A sponge backing **247** may be applied to the tongue to complement the liner.

The ski boot body preferably comprises a single molded piece of relatively stiff material, for example, a stiff polyurethane. The ankle section may be formed of the same material, however, a different material, which may be either a softer or stiffer plastic, could be used in this area. The tongue **234** comprises a molded plastic piece having a foot section **248** and an ankle section **250**. The foot section of the tongue is located over the top of the foot and it includes a central raised portion **251** which fits in the gap between the edges **238** and **240**. The ankle section **250** of the tongue is situated adjacent the front of the ankle and it includes a raised portion **253** situated between the edges **242** and **244**. The area of the tongue between the stiffeners is preferably relatively flexible and grooves **252** and darts **255** may be employed to increase the flexibility.

It will be noted when considering FIGS. **15** and **20** that the portions **251** and **253** of the tongue **234** define sides **254** and edges **257** which provide a sealing arrangement in combination with the opposing portions of the main body and ankle sections of the boot. As will be explained, this overlapping relationship cooperates with the securing means for the boot to create a closure which will prevent any moisture from entering from outside the boot.

The securing means of the invention are preferably associated with both the main body portion **216** and ankle section **218**. It will be appreciated that the number of these members will depend on the size of the boot, cost factors, etc. The particular design illustrated can thus be varied considerably depending upon requirements.

The securing means include latch portions provided by the bifurcated members **256**. These latch members are adapted to removably receive the balls **258** secured to the bands **260** which extend over the boot. The opposite ends of the bands **260** are attached to assemblies **262**.

Each of the assemblies comprises a lever arm **264** pivotally connected at **266** to a bracket **267**. These arms are each provided with an intermediate bore for receiving pivot pins **268**. These pivot pins are attached to internally threaded members **270** whereby the members **270** are adapted to pivot relative to the lever arms.

The bands **260** should be flexible in nature and capable of resisting tensile forces whereby the bands can be held taut between the members **256** and **262**. These characteristics, plus the provision of external threads are best achieved with the design illustrated in FIG. **7**

wherein an internal cable or wire is surrounded by a coil spring. This arrangement provides the necessary tensile strength and flexibility with the turns of the coil providing the threaded exterior. The opposite ends of the coil spring are fastened to the internal cable to maintain the desired relationship.

In the use of the structure illustrated, the lever arms **264** are located in the open position shown at the top of FIG. **16** whereby the balls **258** are released from engagement with the latch member **256**. In this condition, the user can readily pull the ski boot onto his foot. It will be noted that the tongue **234** can be pivoted outwardly from between the opposing boot and ankle portions to increase the size of the access opening for insertion of the foot.

Once the foot is in place, the balls **258** are located on the seats provided by the latch members **256** with the bands **260** extending between the arms **272** of the latch members. The levers **264** are then pivoted to the closed position shown at the bottom of FIG. **16**. It will be noted that this pivoting movement moves the axis of the pins **268** from one side of the lever axis to the other. Depending upon the position of the band **260** relative to its associated threaded member **270**, the movement of the lever from the open to the closed position will draw a latch member **256** toward the bracket **262**. This will, of course, bring the edges **238** and **240** closer together in the main body portion **216** while the edges **242** and **244** will be drawn closer together in the ankle section **218** when latching occurs in the respective areas. A V-shaped cut-out portion **261** is provided in the foot section to prevent buckling when closing occurs.

In the initial use of a ski boot, the position of the bands **260** relative to the members **270** will have to be adjusted. This can be accomplished by simply releasing the lever arm which will loosen an associated band whereby the band can be easily rotated to either shorten or lengthen the portion of the band between the members **256** and **262**. Even after the boot has been worn for a period of time, the securing means can be very simply adjusted by releasing the various lever arms and, in this connection, all of the bands are adjustable independent of each other which permits selective and fast adjustment.

The rotation of a band within a member **270** readily moves the band inwardly and outwardly as desired. It will be appreciated that additional adjustment could be accomplished by rotating the balls **258** to move the balls along the band; however, this arrangement is not a necessary feature. The fact that the bands are flexible causes them to conform to the curvature of the foot whereby the bands do not "cut" into the foot during use.

The tongue and boot design, coupled with the design of the securing means provides an ideal arrangement for providing a completely comfortable fit while completely sealing the interior of the shoe. In the locked position, the opposing boot and ankle sections are maintained in tight engagement with the tongue portions **254**. It will be noted that the portions **254** have a substantial width to allow for various positions of the boot edges without disturbing the sealing relationship.

It will be understood that various changes and modifications may be made in the above described construction which provide the characteristics of this invention without departing from the spirit thereof particularly as defined in the following claims.

That which is claimed is:

1. A ski boot including a sole and heel portion and an upper portion, said upper portion including a pivotally connected ankle section, the ski boot body comprising a main body formed of a first single molded piece, said first molded piece including said sole and heel portion and part of said upper portion, said ankle section comprising a second single molded piece completing the upper portion of the boot, the top area of said main body including integrally molded flaps adapted to be bent into overlapping relationship, said ankle section also including integrally molded flaps adapted to be bent into overlapping relationship, and including adjustable securing means for the respective flaps, said securing means comprising a band having its ends attached to one flap portion with a loop defined by the band extending beyond the overlapping edge of said one flap portion, holding means attached to the boot adjacent said overlapping edge, said loop being engageable by said holding means, said band comprising a threaded member, means for attaching the ends of the band to said holding means comprising rotatable nuts receiving the band thereby permitting movement of the ends of the band relative to said holding means, said nuts being mounted on a plate which is pivotally attached to the associated flap, and including a movement limiting device associated with said upper portion for determining the extent of allowable pivotal movement of said ankle section, and means associated with said limiting device for adjusting the allowable extent of pivotal movement whereby the limiting device can be set to provide substantial freedom of movement or to substantially reduce the capacity for movement.

2. A ski boot in accordance with claim **1** wherein said holding means comprises a lever defining a plurality of teeth, the loop in said band being first engaged with one of said teeth, said lever then being pivoted into a locked position, and said ends of the band then being adjusted to complete the securing operation.

3. In a ski boot having opposed sections which are opened for insertion of the foot and having securing means for securing said sections after the boot is in place on the foot of the wearer, the improvement wherein said securing means comprise a band having its ends attached to one section with a loop defined by the band extending to the other section, holding means attached to said other section for engaging said loop, the ends of said bands being threaded, and wherein the means attaching the ends of said band comprise rotatable nuts mounted on said one section and receiving the ends of said band thereby permitting relative movement of the ends of the band, and including a plate for mounting said nuts, said plate being pivotally attached to the associated section.

4. A ski boot in accordance with claim **3** wherein said holding means comprises a lever defining a plurality of teeth, the loop in said band being first engaged with one of said teeth, said lever then being pivoted into a locked position, and said ends of the band being thereafter adjusted to complete the securing operation.

5. In a ski boot having opposed portions which are opened for insertion of the foot and having securing

means for securing said portions after the boot is in place on the foot of the wearer, the improvement wherein said securing means comprise a band extending between said portions, holding means attached to each of said portions with the ends of said band being secured thereto, at least one of said ends defining a threaded surface and internally threaded means associated with at least one of said holding means for receiving aid threaded end whereby the relative positions of said ends can be adjusted, said internally threaded member comprising a nut carried by said one end with the position of said nut on said end being adjustable, one of said holding means comprising a bifurcated member adapted to releasibly hold said nut, sand means for drawing said band taut between said holding means.

6. A ski boot in accordance with claim 5 wherein the other end of said band opposite said threaded end is releasibly held by a holding means.

7. A ski boot in accordance with claim 6 including a tongue secured to said boot, the edges of said opposed sections being located in spaced apart relationship with said tongue being located between said portions, said portions overlapping the sides of said tongue whereby the edges of said portions are drawn closer together when said band is drawn taut whereby a seal is created between said portions and said tongue.

8. A ski boot in accordance with claim 7 including an ankle section having opposed portions defining edged located in spaced-apart relationship, said tongue extending between said ankle portions, and wherein additional securing means are attached to said ankle portions.

9. In a ski boot having opposed portions which are opened for insertion of the foot and having securing means for securing said portions after the boot is in place on the foot of the wearer, the improvement wherein said securing means comprise a band extending between said portions, holding means attached to each of said portions with the ends of said band being secured thereto, at least one of said ends defining a threaded surface and internally threaded means associated with at least one of said holding means for receiving said threaded end whereby the relative positions of said ends can be adjusted, said one holding means comprising a lever member, and an internally threaded member pivotally connected to said lever member for receiving said threaded end, and means for drawing said band taut between said holding means.

10. A ski boot in accordance with claim 9 wherein the pivot axis for said internally threaded member is located at an intermediate point on said lever arm whereby the pivot axis of said internally threaded member will change from one side to the other of the axis of said lever member during pivoting of the lever member.

11. In a ski boot including a sole and heel portion and an upper portion, said upper portion including a pivotally connected ankle section, a movement limiting device associated with said upper portion for determining the extent of allowable pivotal movement of said ankle section, and means associated with said limiting device for adjusting the allowable extent of pivotal movement whereby the limiting device can be set to provide substantial freedom of movement or to substantially reduce the capacity for movement, said limiting device comprising a tongue extending downwardly from said ankle section, a receiving area for said tongue defined by the adjacent upper portion, said tongue being movable relative to said receiving area, and adjustable means for limiting the extent of movement of said tongue relative to the receiving area, the improvement wherein said limiting device comprises a clip, said clip having spaced apart arms, a slot defined by said tongue for receiving at least one of said arms, openings defined by said receiving area whereby at least one of said arms is adapted to pass through at least one opening for receipt of said one arm within said slot whereby movement of the tongue relative to the receiving area will bring the portions of the slot into engagement with the arm whereby the arm serves to limit movement of the tongue.

12. A ski boot in accordance with claim 11 wherein both arms of the clip are simultaneously received within said slot with one of said arms limiting movement of the tongue in one direction and with the other arm limiting movement of the tongue in the opposite direction.

13. A ski boot in accordance with claim 12 wherein one of said arms is received within said slot with the other arm being located outside the receiving area whereby only said one arm serves to limit movement of the tongue.

14. A ski boot in accordance with claim 13 wherein said tongue defines a wall portion at the bottom end of said slot, one of the arms of said clip being received in said slot adjacent said wall portion and the other arm of said clip being located on the opposite side of said wall portion whereby said wall portion is confined by the arms so that the clip restricts movement of the tongue relative to the receiving area in either direction.

15. In a ski boot having opposed portions which are opened for insertion of the foot and having securing means for securing said portions after the boot is in place on the foot of the wearer, the improvement wherein said securing means comprise a band extending between said portions, holding means attached to each of said portions with the ends of said band being secured thereto, at least one of said ends defining a threaded surface and internally threaded means associated with at least one of said holding means for receiving said threaded end whereby the relative positions of said ends can be adjusted, the other end of said band opposite said threaded end being releasibly held by the other holding means, said other holding means comprising a bifurcated member, and including an enlarged head attached to said other end adapted to be releasibly engaged by said bifurcated member to thereby hold said other end in position when said band is drawing taut between said holding means, and means for drawing said band taut between said holding means.

16. In a ski boot having opposed portions which are opened for insertion of the foot and having securing means for securing said portions after the boot is in place on the foot of the wearer, the improvement wherein said securing means comprise a band extending between said portions, holding means attached to each of said portions with the ends of said band being secured thereto, at least one of said ends defining a threaded surface and internally threaded means as-

sociated with at least one of said holding means for receiving said threaded end whereby the relative positions of said ends can be adjusted, means for drawing said band taut between said holding means, a tongue secured to said boot, the edges of said opposed portions being located in spaced apart relationship with said tongue being located between said portions, said portions overlapping the sides of said tongue whereby the edges of said portions are drawn closer together when said band is drawn taut whereby a seal is created between said portions and said tongue, an ankle section having opposed portions defining edges located in spaced-apart relationship, said tongue extending between said ankle portions, and wherein additional securing means are attached to said ankle portions, and wherein said tongue comprises an elongated main body portion, a first stiffener associated with said body portion for overlying the foot of the wearer, and a second stiffener associated with said body portion for overlying the ankle of the wearer, and a flexible area of said body portion located between said stiffeners.

17. In a ski boot having opposed portions which are opened for insertion of the foot and having securing means for securing said portions after the boot is in place on the foot of the wearer, the improvement wherein said securing means comprise a band extending between said portions, said band comprising an internal member of high tensile strength, and a coil spring surrounding said internal member, the turns of said coil spring providing a threaded structure, holding means attached to each of said portions with the ends of said band being secured thereto, internally threaded means associated with at least one of said holding means for receiving one threaded end of said band whereby the relative positions of said ends can be adjusted, and means for drawing said band taut between said holding means.

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