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2,861,310

SKI-BOOT LACING SYSTEM

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Fig. 1

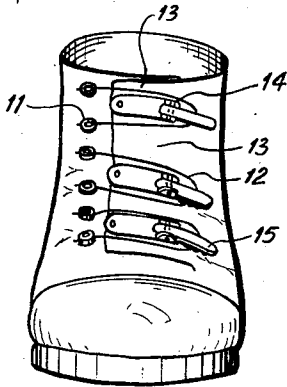


Fig. 2

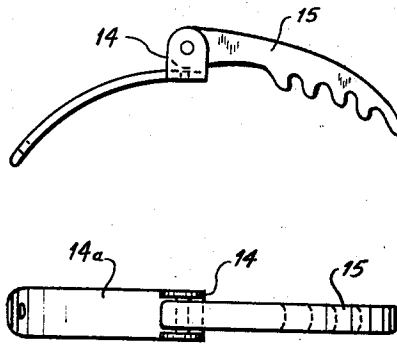


Fig. 3

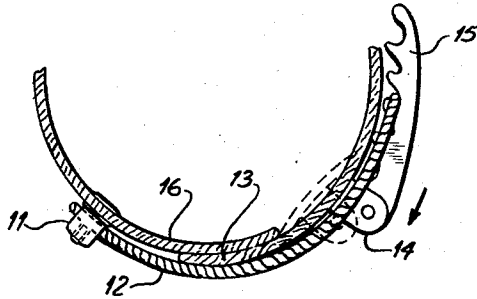


Fig. 4

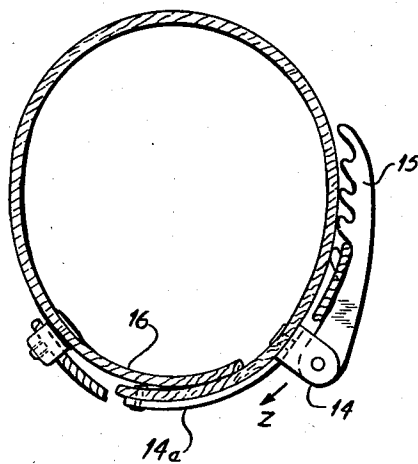


Fig. 5

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SKI-BOOT LACING SYSTEM

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3 Claims. (Cl. 24-69)

The present invention relates to a ski-boot lacing system. When going uphill on skis, the boots must be laced loosely so as not to impair blood circulation in the skier's feet. When the ski-boot is laced tightly, the foot becomes cold and tires far more rapidly than in a comparatively loosely laced boot. On the other hand, downhill runs on skis require the boot to fit tightly around the foot so as to give it optimum support. As a rule it is impossible to tighten the lace of ski-boots prior to the descent principally because the laces are coated with ice, the fingers of the hand of the skier become usually stiff due to cold, and because such a tightening operation is altogether impossible on a steep slope.

It is the object of the present invention to enable the laces of the boot to be tightened to a higher or lesser degree in one or more manipulations. The invention is characterized by the fact that provision of tensioning means enables one to fasten the boot, whereby two ends of each lace loop are attached to one closing flap of the boot and engaged at various lengths by corresponding tensioning means arranged on the opposite closing flap.

A preferred embodiment of the present invention is illustrated by way of example in the enclosed drawing, in which

Fig. 1 shows a front view of a ski-boot provided with tensioning means and lace loops engaged thereby to tighten the boot;

Fig. 2 shows a tensioning member, as seen from the side;

Fig. 3 is a top plan view of the member according to Fig. 2;

Fig. 4 shows the holder of a tensioning member attached without a base plate to a boot, and

Fig. 5 shows in section the holder for a tensioning member with a base plate attached to a boot.

Referring now in greater detail to Figs. 1 to 5, lace loops 12 are attached to anchoring means or eyelets 11, by means of which loops the ski-boot is laced. On the overlapping flat portion 13 of the ski-boot is attached the pivot holder fork 14 with the tensioning buckle 15, the latter having a plurality of recesses (not numbered) on its underface.

In Fig. 4 the holder fork is riveted to the overlapping flap portion 13 without any base plate. The tension of the individual laces 12 pulls the holder forks 14 into the position indicated by dot-dash lines so that the overlapping flap portion 13 is rather pressed into the skier's foot. This portion is upset and forms a bead which abuts the end of the inner flap portion 16 of the boot so that the two flaps cannot slip or slide over one another. Furthermore, an unbearable pressure is exerted on the skier's foot. In order to avoid this disadvantage, a base plate 14a is attached to the pivot carrying fork portion 14 which plate extends by at least twice the length of the distance between the pivot axis of the tensioning lever 15 and the location of the pivot holder fork 14 on the leather, and

is attached to the flap 13 so that it will extend over the instep portion of the boot. When the lacing is tightened, the flap 13 will rest on the flap or tongue 16 of the boot owing to its connection to the base plate 14a, without forming a bead, so that the two portions can easily slide over each other. The pull in the direction of arrow z (Fig. 5) is taken up on the instep by a pressure reduced proportionate to the two lever arms and will therefore not become uncomfortable.

It can thus be seen that there has been provided according to the invention closure means for boot and like structures having overlapping flaps in closed condition of said boot; comprising pairs of anchoring means on one of said flaps, tensioning means opposite said anchoring means and arranged on the other flap, a plurality of separate loop means each terminating in two ends, the ends of each loop means being connected to a respective pair of said anchoring means, each of said tensioning means including a base plate provided at one end thereof with a holder carrying a pivot, and a tension lever arranged for swinging movement on said pivot and swingable to a position away from said base plate in said closed condition, said tension lever being provided with successive recesses at the underface thereof, said loop means being, respectively, engageable with corresponding tension levers in a predetermined recess thereof whereafter said tension levers may be swung to closed condition of said boot, each respective base plate being positioned on said other flap to extend at a level intermediate two anchoring means of each pair thereof, whereby upon engagement of said loop means with said tension levers in said closed condition of said boot, pressure caused by said tension levers on said pivot holders is taken up by the respective base plates which come to lie over the overlapping boot flaps.

Various changes and modifications may be made without departing from the spirit and scope of the present invention and it is intended that such obvious changes and modifications be embraced by the annexed claims.

Having now particularly described and ascertained the nature of said invention and in what manner the same is to be performed, I declare that what I claim is:

1. Closure means for a boot with overlapping flaps in closed position thereof comprising pairs of longitudinally spaced anchoring means on one of said flaps, tensioning means on the other flap, a plurality of separate loop means each terminating in two ends, the ends of each loop means being attached to a respective pair of said anchoring means, each of said tensioning means including a base plate provided at one end thereof with a holder carrying a pivot, and a tension lever arranged for swinging movement on said pivot and swingable to position away from said base plate, said tension lever being provided with successive recesses, said loop means being, respectively, engageable with corresponding tension levers in predetermined recesses thereof for closing said boot, each respective base plate being positioned on said other flap to extend from said pivot toward the anchoring means and to extend at a level intermediate two anchoring means of each pair thereof, whereby upon engagement with said loop means and in closed position of said boot pressure caused by said tension levers on said pivot holders is taken up by the respective base plates which come to lie over the respective overlapping boot flaps.

2. Closure means for a boot with overlapping flaps in closed condition thereof comprising pairs of longitudinally spaced anchoring means on one of said flaps, tensioning means opposite said anchoring means and arranged on the other flap, a plurality of separate loop means each terminating in two ends, the ends of each loop means being connected to a respective pair of said anchoring

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means, each of said tensioning means including a base plate provided at one end thereof with a holder carrying a pivot, and a tension lever arranged for swinging movement on said pivot and swingable to a position away from said base plate in said closed condition, said tension lever being provided with successive recesses at the underface thereof extending transversely of the length of said tension lever, said loop means being, respectively, engageable with corresponding tension levers in selected recesses thereof, whereafter said tension levers may be swung individually to closed condition of said boot, each respective base plate being positioned on said other flap to extend from said pivot toward said anchoring means and to extend at a level intermediate two anchoring means of each pair thereof, whereby upon engagement of said loop means with said tension levers in said closed condition of said boot, pressure caused by said tension levers on said pivot holders is taken up by the respective base plates which come to lie over the overlapping boot flaps.

3. Closure means for a boot, especially for a ski-boot having overlapping flaps in closed position thereof, comprising a plurality of loop means separately anchored on one of said flaps, base plate means on the other flap, tensioning means pivotably supported on said base plate means, said tensioning means including each a pivot spaced from the respective base plate means and further

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including each a lever provided with recesses and arranged for swinging movement on said pivot, each lever being swingable to a position away from the respective base plate means to tension said loop means, said loop means being, respectively, engageable with corresponding recesses of said levers thereby closing said overlapping flaps of said boot, each respective base plate means being positioned to extend from said pivot toward one end of the other flap, whereby in closed position of said boot pressure caused by said levers on said pivots is taken up by the respective base plate means which come to lie over the respective overlapping boot flaps in said closed position.

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