

[54] **SKI WITH MEANS FOR PREVENTING CROSSING**

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2,455,920 12/1948 Ebbley, Jr. 280/11.37 E
 3,284,091 11/1966 Spier 280/11.13 T
 3,295,860 1/1967 Von Hoven 280/11.37 E X

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[30] **Foreign Application Priority Data**

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

[58] **Field of Search**..... 280/11.37 E, 11.13 T

[56] **References Cited**

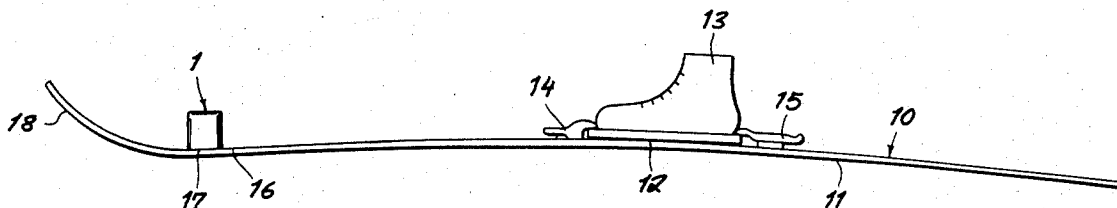
UNITED STATES PATENTS

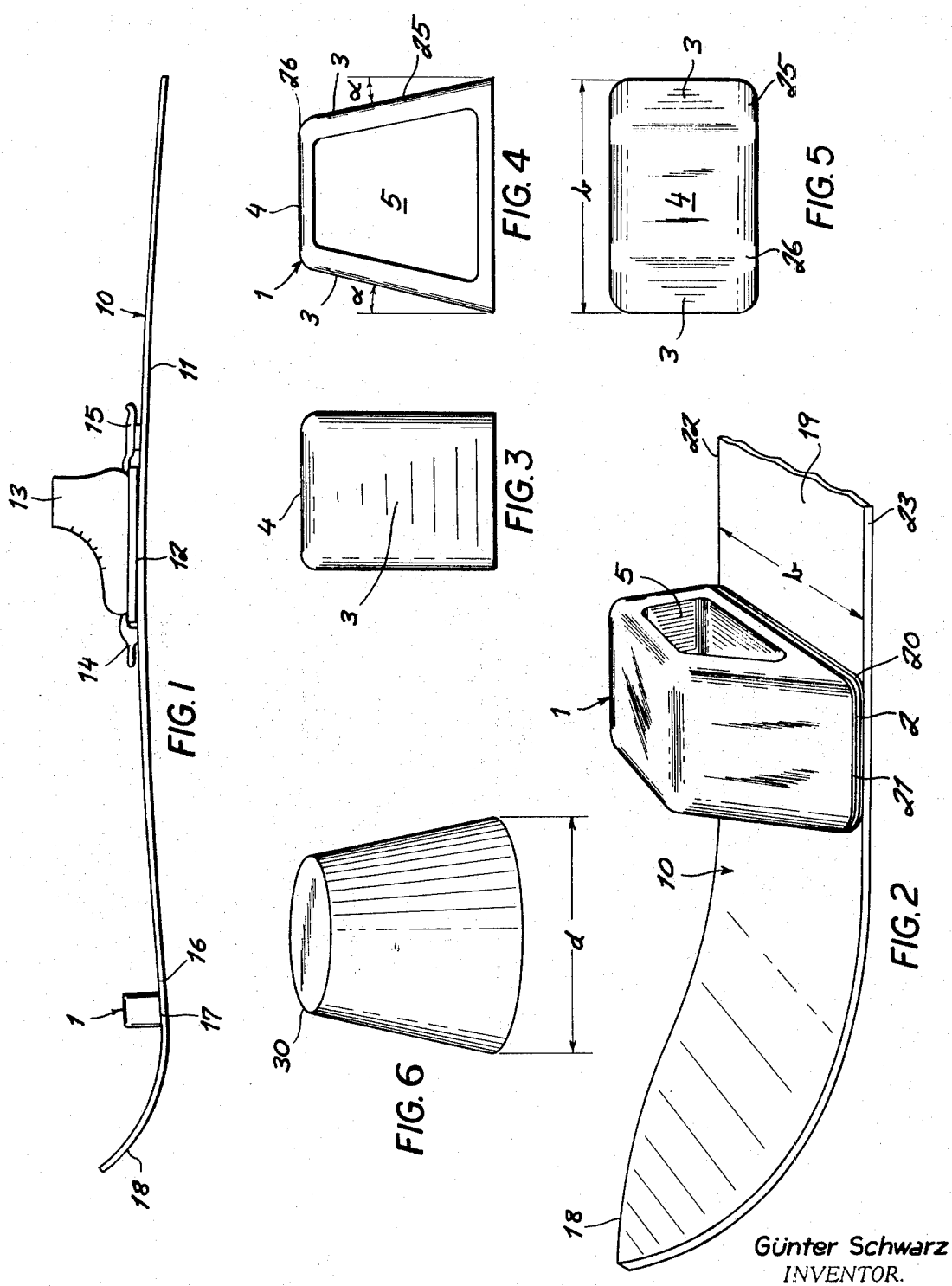
3,148,891 9/1964 Heuvel 280/11.37 E

[57] **ABSTRACT**

A ski is provided with an upstanding member or body at the forward end thereof, at the junction of the upwardly turned tip with the generally horizontal or flat body of the blade, to prevent crossing of the skis in parallel-ski turning, etc. the appliance or member is secured to the ski through a cushion layer with adhesive and has upwardly converging flanks extending from the lateral edges of the blade.

1 Claim, 6 Drawing Figures





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BY

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SKI WITH MEANS FOR PREVENTING CROSSING FIELD OF THE INVENTION

My present invention relates to a ski and, more particularly, to a ski blade provided with an appliance or member at the front end thereof to prevent or restrict crossing of the skis in use.

BACKGROUND OF THE INVENTION

In general, skis comprise generally flat or horizontal blades having upwardly turned tips at the front ends thereof, foot, sole or tread plates or regions, at which a pair of ski boots can be affixed by toe and heel clamps and bindings of various sorts to retain the boots of the skier on the blade.

In many ski positions, especially for turning in deep snow, the skis are brought together in substantially parallel relationship and are swung in the direction in which the skier intends to travel. As will be apparent subsequently, one of the major problems arising even with experienced skiers, is the crossover of the skis during such turns. To avoid this drawback, the skier must be exceptionally well trained or experienced and must maintain care in bringing the ski blades into parallel relationship. It has not been possible heretofore, to my knowledge, to provide a simple and effective means for preventing cross-over of a pair of skis under such circumstances.

OBJECTS OF THE INVENTION

It is, therefore, the principal object of the present invention to provide a ski or pair of skis wherein the aforementioned disadvantages can be obviated.

It is also an object of this invention to provide an improved ski adapted to prevent crossover, especially during turns in deep snow or under similar conditions.

Yet another object of the invention is to provide a ski which will increase skiing versatility and permit new skiing positions or techniques which have hitherto been precluded by the nature of the ski.

It is also an object of the invention to provide low-cost effective means adaptable to existing ski blades with a minimum of structural alterations, to facilitate turns in deep snow.

SUMMARY OF THE INVENTION

These objects and others which will become apparent hereinafter, are attained with a ski which comprises a blade having the usual elongated and generally flat body with an upturned tip merging with the body at the front end of the blade. According to the invention, an upstanding member or body is fixed to an upper surface of the blade at the front end thereof, preferably at the point of transition or merger of the upwardly curved tip with the flat body, the upstanding member serving to limit crossing of a pair of skis when the latter are held in parallel relationship. The member or appliance extends substantially over the entire width of the blade and tapers upwardly and inwardly from the lateral edges thereof. The term "lateral edges", as used herein, is intended to identify the two longitudinally extending edges flanking the flat surface of the blade over the entire length thereof.

According to a more specific feature of the invention, the body is frustoconical or frustopyramidal and has a trapezoidal cross-section transverse to the longitudinal direction of the ski or the longitudinal axis

thereof, the upwardly converging legs of the trapezoidal terminating substantially at the lateral edges of the blade. The broad base of the trapezoidal, therefore, may be formed by the upper surface of the blade and, in any event, is of a length equal to the transverse width of the blade. Advantageously, the upstanding member or body is formed with a throughgoing opening in the longitudinal direction to prevent accumulation of snow ahead of this body. The frustoconical configuration, moreover, provides a leading face which is inclined to the vertical rearwardly and hence also serves to shed snow which otherwise might tend to accumulate.

According to still another feature of this invention, a cushion layer of flexible material is interposed between the upstanding member or body and the upper surface of the blade to permit flexure of the latter in the usual manner without interference by the body. The cushion layer is preferably composed of an elastomeric material (e.g. a rubber) which is resilient as well as flexible and may be provided with an adhesive coating to which the base of the upstanding member or body is adhesively secured. It has been found to be desirable to provide the cushion layer with two adhesive faces, one of which is secured to the upper surface of the blade while the other is bonded to the underside or base of the upstanding member.

As previously noted, the member may have a pair of upwardly convergent lateral flanks, reaching downwardly to, or extending upwardly and inwardly from, the lateral edge of the blade, these flanks being inclined at identical angles to the vertical. Furthermore, the upper face of the body or member is preferably flat and substantially parallel to the surface of the blade to which it is secured to restrict the possibility of injury. When the upstanding member is generally prismatic, the edges and corners thereof are rounded or beveled.

DESCRIPTION OF THE DRAWING

The above and other objects, features and advantages of the present invention will become more readily apparent from the following description, reference being made to the accompanying drawing in which:

FIG. 1 is a side-elevational view of a ski embodying the present invention;

FIG. 2 is a perspective detail view drawn to an enlarged scale, illustrating the front end of the ski of FIG. 1;

FIG. 3 is a side-elevational view of the appliance or member used with the ski of FIG. 1;

FIG. 4 is a front view of this member;

FIG. 5 is a top view of the member; and

FIG. 6 is a perspective view of yet another member according to the present invention.

SPECIFIC DESCRIPTION

In FIGS. 1 and 2, a ski 10 according to the invention has been illustrated and is shown to comprise a blade 11 which is generally flat and has a tread portion 12 accommodating a ski boot 13. A toe clamp 14 and a heel clamp 15 form parts of a conventional automatic release ski binding for the boot 13. The blade 11 is generally flat or horizontal and includes a flat portion 16 which merges at 17 into an upwardly curved tip 18 at the front end of the ski.

According to the present invention, a frustopyramidal body 1 of generally prismatic configuration is mounted on the front end of the ski and has a trapezoi-

dal, transverse cross-section, as best shown in FIGS. 2 and 4. The body 1 is located at 17 rearwardly of the tip 18 at the region in which this tip merges with the flat body 16 of the ski. A cushion layer 2 is interposed between the body 1 and the upper surface 19 of the ski to which the body is secured, thereby preventing the body from deleteriously affecting the flexure of the ski. The layer 2 is composed of foam rubber or a foam synthetic resin (e.g. polyurethane) and may have pressure-sensitive adhesive layers 20 and 21 on its lower and upper faces for bonding to the surface 19 and to the base of body 1 respectively. The cushion layer 2 is coextensive with the base or underside of member 1 and hence extends across the full width b of the blade like this member.

The flanks 3 of the upstanding member are inclined inwardly and upwardly from the lateral edges 22 and 23 of the ski blade with the identical angles α to the vertical. The body 1 is composed of a rigid material, e.g. a synthetic resin such as nylon, or a light metal such as aluminum, mangesium, or an alloy of aluminum or magnesium.

Referring to FIGS. 3 - 5, it can be seen that the body 1 has a rectangular base whose long side is substantially identical in length to the width b of the blade in the region at which the body is fastened thereto. The angles of inclination α , moreover, may range from 5° to 15° and preferably are each about 10° . The height should be $0.8b$ to $1.2b$. The fact that the angles of inclination are identical on both lateral flanks, has the advantage that either ski may be secured arbitrarily to the right or left boot as is permitted with modern ski bindings. The upper face 4 of the body 1 is flat and is parallel to the surface 19 to avoid injury to a skier falling forward.

The body 1 is, moreover, provided with a large, generally trapezoidal opening 5 extending through the body in the longitudinal direction of the ski to lighten the body and prevent the accumulation of snow ahead of the latter, the opening 5 forming a passage through which snow can move during a ski run. The edges 25 and corners 26 of the body are highly rounded or beveled to eliminate any sharp corners or edges which might injure the wearer.

In FIG. 6, there is shown a modification in which the body 30 is of frustroconical configuration with a base

diameter d corresponding to the width of the ski. This body is not provided with an opening since the conical surface itself facilitates the shedding of snow.

The appliances of FIGS. 1 - 5 and of FIG. 6 facilitate, as noted earlier, the skiing procedure and admit of new modes of skiing which have not been possible heretofore. Until now, the parallel position of the skis during swinging turns has required that the upland ski be held back slightly behind the downland ski. Since the normal skiing process consists of traverses between alternate right and left-hand turns of this type, first one ski then the other must lead or lag. The lead or lag of the skis is required to prevent crossing during the turn and to maintain the parallel relationship. When both legs are in line, there has been, heretofore, a significant possibility that the skis will cross. With the system of the present invention, however, the legs may be pressed together and the skis maintained parallel without the danger that the front end of one ski will cross over the front end of the other.

The improvement described and illustrated is believed to admit of many modifications within the ability of persons skilled in the art, all such modifications being considered within the spirit and scope of the invention except as limited by the appended claims.

I claim:

1. A ski comprising:

a blade having an elongated generally flat body with an upturned tip merging with said body at a front end of the blade;

a unitary generally trapezoidally prismatic upstanding member fixed to an upper surface of said blade at said front end for limiting crossing of a pair of skis and having rounded edges, said member having a rectangular large base extending substantially over the full width of said blade, a rectangular small base parallel to said large base, and a pair of rectangular lateral flanks converging upwardly and inwardly from the lateral edges of said blade, said member being provided with an isosceles trapezoidal throughgoing opening in the longitudinal direction of the blade, and a cushion layer of a flexible material interposed between and adhesively secured to said surface and said member.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,761,106 ✓

Dated 25 September 1973

Inventor(s) Günter SCHWARZ

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

In the heading read the first name of the inventor as

--Günter--

Signed and sealed this 12th day of March 1974.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents