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LAMINATED SKI HAVING MULTIPLE CORE ELEMENTS WITH
INDIVIDUAL GLASS FIBER WRAPPINGS
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Fig. 1

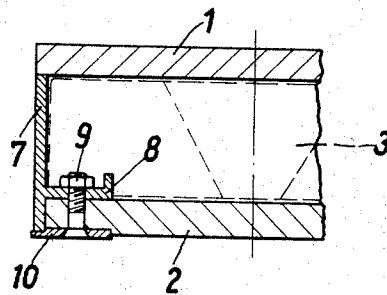
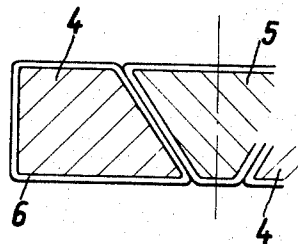


Fig. 2



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LAMINATED SKI HAVING MULTIPLE CORE ELEMENTS WITH INDIVIDUAL GLASS FIBER WRAPPINGS

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4 Claims. (Cl. 280—11.13)

ABSTRACT OF THE DISCLOSURE

A ski with a core covered at the top and at the bottom with a coat of plastic material, wood or metal, and at the sides with a side cover.

Background of the invention

Core skis have been known wherein the core is made of wood which is covered on all sides by a coat of plastic material.

Furthermore core skis have been known wherein the core is formed by longitudinal ribs of glass laminate.

Such known core skis have the disadvantage that they show a relatively high flexural stiffness resulting from the ski being in the form of a compact support involving a relatively high moment of inertia.

It is an object of the invention to provide a core ski which processes a substantially greater elasticity in regard to flexing in the longitudinal direction.

This problem is solved in that both top and bottom covers are formed as supporting straps that are in supporting relation merely through webs extending transverse to the longitudinal axis of the ski.

With such a design practically no thrust forces are transferred between the two straps with the result that substantially merely their individual moments of inertia are employed to take up the load. A ski of this type has a sensibly greater elasticity of resilience, at a comparable cross sectional height, which results in increased skiing safety, improved adaptation to uneven ground and easier management of the skis.

A particularly favorable solution is provided if the webs are formed by longitudinal winding of a thread of fiber glass, helically around a core that extends parallel to the ski axis, wherein the webs are connected by means of adhesion to the inner sides of the straps.

In this connection a plurality of adjacent core strips may be provided wherein each thereof is covered with threads of fiber glass and abuts with the laterally adjacent strips via transverse areas. It has been found that it is particularly effective to arrange three core strips wherein the middle strip has a somewhat V-shaped tapered configuration (trapezoidal) in downward direction. By using several core strips thus wound with glass fiber it is possible to improve the resistance of the ski against torsional forces.

The core material is suitably made of foam material whereby the ski becomes relatively light on the one hand, and on the other a sufficiently resilient filler body is obtained which is firm for carrying the skier and ensures adequate (sufficient) stability for the threads of fiber glass to perform their supporting effect.

For covering the ski at its sides it is advantageous to use a cover strip of plastic material that is uninterrupted in the longitudinal direction and which may be screwed or riveted to the inner side of the ski bottom strap by means of a web. In case steel edges are used this side cover makes it possible to keep the thereby involved stiffness at a low level if the steel edge is connected with the ski bottom strap by means of the fixing screws or fixing

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rivets of the side cover. This means that thereby the steel edges are practically screwed to the bottom straps via an elastic washer with the result that the steel edges are slidable to a certain degree with respect to the bottom straps thereby taking into consideration the different coefficients of expansion.

The webs connecting the top and the bottom laminae of the ski may advantageously be formed by a folded and zig-zag-shaped band of plastic material that extends longitudinally to the ski which, using general terminology, provides a three dimensional truss structure.

The invention will be described in more detail hereinafter with the help of schematic drawings of an embodiment of the invention, wherein:

FIG. 1 is a cross sectional half showing the inventive core ski, wherein the core is not shown, and

FIG. 2 is a cross sectional view through the core of the ski according to FIG. 1.

The ski according to the invention is composed of a top lamina 1 and a bottom lamina 2 receiving between each other core 3 that is indicated by dashes. As it is indicated in FIG. 2 in more detail, this core 3 consists of three bands 4 and 5 of foam material wherein each thereof is covered by helical windings of threads 6 of fiber glass. These threads of fiber glass are at the top and at the bottom connected to straps 1 and 2 of the ski by means of an adhesive. Thereby the transmission of thrust forces between the two straps 1 and 2 is markedly reduced to produce a total moment of inertia that is not much larger than the total of the two individual moments of inertia of the two straps.

In order to cover the sides of the core there is provided a cover ridge 7 supported on the upper side of the bottom strap by means of an inwardly directed web 8 and being adapted for connection to the bottom strap for example by means of screws 9. It is a suitable measure to simultaneously employ these screws for mounting uninterrupted steel edges 10 such that these edges are connected with the bottom strap via an elastic intermediate body, i.e. web 8 of plastic material, and thus assuring that they are slidable to a certain degree with respect to the bottom strap. The web of plastic material may additionally be in adhesive connection with the straps and the core.

What is claimed is:

1. A ski comprising:

an upper lamina forming the upper face of the ski and a bottom lamina forming the surface for sliding;
a composite core fastened between these laminae consisting of a plurality of longitudinally extending strips of soft material each separately covered by transversely wound threads of glass fibers;
all elements of the ski being fastened together by adhesive whereby all strips of the core are fastened to upper and bottom laminae by said adhesive material.

2. A ski according to claim 1, wherein the core is formed of three longitudinal strips, consisting of soft material and extending longitudinally the length of the ski, said longitudinal strips being each covered with transversely wound threads of glass fiber, and said strips being of trapezoidal cross section each abutting with the adjacent strip via inclined surfaces, the middle strip tapering in approximately symmetrical V-fashion toward the bottom lamina of the ski.

3. A ski comprising:

an upper lamina forming the upper face of the ski and a bottom lamina forming the surface for sliding;
a composite core fastened between these laminae consisting of a plurality of longitudinally extending strips of soft material each separately covered by transversely wound threads of glass fibers;

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all elements of the ski being fastened together by adhesive whereby all strips of the core are fastened to said upper and bottom laminae by said adhesive material, said ski having cover ridges abutting against the underside of the upper lamina and so that the lower face of said ridges rests on steel edges connected to the bottom lamina, the cover strips protruding laterally from said lamina and possessing a horizontal web overlapping the bottom lamina at the level of the upper face thereof, the said horizontal web being fastened to the lower lamina and the associated steel edge.

4. A ski comprising a plastic upper lamina forming the upper cover of the ski and a plastic bottom lamina forming the sliding surface:

a core consisting of a soft material, and being arranged between these laminae, said core consisting of three longitudinally extending adjacent strips, each being covered by transversely wound threads of glass fibers and abutting the adjacent strip via inclined surfaces, the middle strip being tapered approximately in V-fashion towards the bottom lamina; and

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a plastic cover arranged at the sides of the core, all elements of the ski being rigidly connected by an adhesive.

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