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(54) FIXING DEVICE FOR SNOWBOARDS

(57) This binding comprises two plates (1) fixed onto the snowboard (2), each of the plates (1) having protuberances (11) for slotting tightly into hollow parts (31), integral to the boot soles (3), the protuberances (11) of

the plates (1) and the hollow parts (31) of the boots having lateral orifices (12 and 32) for the assembling of safety clips (13) for holding the boots (3) in the assembly position on the snowboard (2).

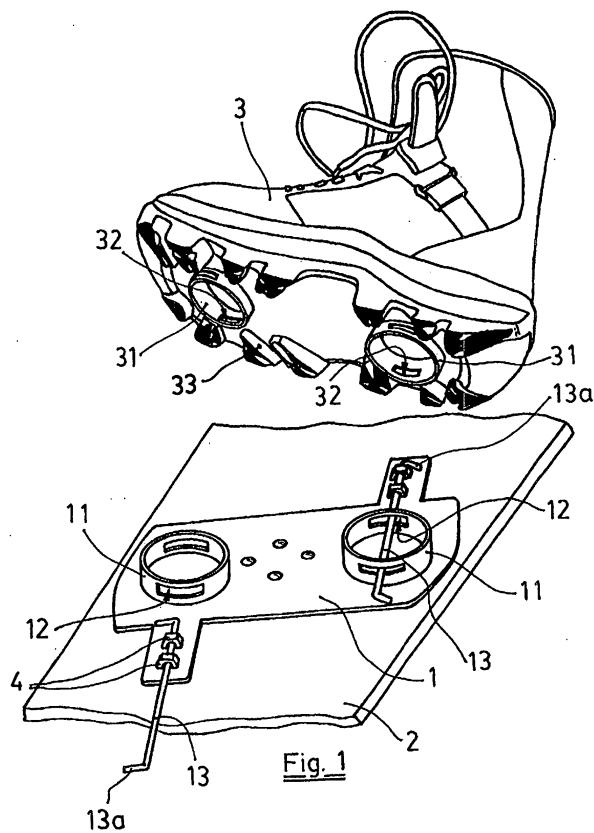


Fig. 1

DescriptionTechnical field of the invention

[0001] As the title indicates, the present invention relates to a binding for snowboards, of the type used for fastening boots onto snowboards.

Background of the invention

[0002] In general, snowboards have bindings similar to those used on skis, or straps which clasp the boots outwardly and are for fastening them to the board.

[0003] In both cases, an exterior fastening of the boots onto the board is achieved, which creates vibration problems in the bindings and the possibility of slight relative movements occurring between the boots and the board with the resulting difficulty in the transmission of force from the boots to the board and in the use of the latter.

Explanation of the invention

[0004] With the aim of providing a solution to the previously described problems, disclosed herein is a binding for snowboards with a new structure and functionality.

[0005] The binding for snowboards object of the present invention presents several constructive distinguishing features aimed at providing greater rigidity to the binding, in such a way that the boots become integral to the snowboard, thus eliminating any type of relative movement and ensuring a proper transmission of force from the boots to the board during use.

[0006] According to the invention this binding comprises two plates fixed onto the snowboard, each of them presenting protuberances for fitting tightly into hollow parts which are integral to the boot soles, in such a way that, once the boots are coupled, they cannot make lateral movements in relation to the board in any direction.

[0007] Both the protuberances of the plates fixed to the board and the hollow parts integral to the boot soles have diametrically opposing lateral orifices for the assembling of safety clips for holding the boots in the assembly position.

[0008] Given that the coupling of the parts and the protuberances prevent, as has been mentioned, the relative movement thereof in a lateral direction, the safety clips' task consists of preventing the boots from moving vertically in relation to the board and separating from the latter.

[0009] In accordance with the invention, the hollow parts integral to the boot soles have a height which is noticeably similar to that of the heels or protuberances of the sole in order to prevent said hollow parts from being unintentionally distorted when walking, which would make the subsequent insertion of the snowboard

plate protuberances in their interior impossible.

[0010] The plates fixed to the board present means for the securing of the safety clips which are aligned with the orifices of the protuberances, the former being assembled with the possibility of longitudinal movement between two end positions.

[0011] The safety clips are composed of rods which have stops at their ends that delimit their movement between two end positions, it being possible for the means for securing the rods to be conformed by lugs or bridges with an inner orifice of sufficient width for the aforementioned rods to move through their interior.

[0012] The characteristics disclosed of the binding for snowboards of the present invention significantly reduce the vibration occurring in the systems disclosed up to the present day and, moreover, enhance the transmission of the boot's energy to the binding, thus easing the turns, thanks to a reduction in the need to use the snowboard edges thereof.

Brief description of the drawings**[0013]**

25 Fig. 1 shows a perspective view of one of the plates fixed onto a portion of the snowboard and of the boot to be coupled onto the former.

Fig. 2 shows a close-up, vertically sectioned, of the binding of one of the tubular protuberances with one of the tubular parts of the boot, both being held in said position by the corresponding safety clip.

Detailed description of the drawings

35 **[0014]** The binding object of this invention comprises two plates (1) fixed onto the snowboard (2), each of the plates (1) having tubular protuberances (11) to be tightly coupled with hollow parts (31) integral to the boot sole (3). In particular, in Fig.1 either of said plates (1) can be observed.

[0015] The coupling or slotting of the tubular protuberances (11) into the interior of the tubular parts (31), as shown in Fig. 2, prevents the boot (3) from being able to move laterally in relation to the corresponding plate (1).

[0016] Clearly, the slotting of the parts could be the other way round, that is, the tubular parts (31) are inserted into the tubular protuberances (12) without affecting the nature of the invention.

[0017] The tubular protuberances (11) and the hollow parts (31) have respectively diametrically opposed lateral orifices (12 and 32) and are arranged facing one another in the coupling position to allow the safety clips (13) to pass through their interior, which are to prevent the uncoupling of the tubular protuberances (11) and the hollow parts (31) when the binding is in use.

[0018] As can be observed in the attached figures, the safety clips are composed of rods assembled with the

possibility of longitudinal movement on lugs (14) integral to the plates (1); said safety clips (13) having end stops (13a) to delimit the longitudinal movement of said safety clips (13) from the coupling position represented in Fig. 2 to an uncoupling position in which the hollow parts (31) of the boot can be freed from the tubular protuberances (11) of the plate (1).

[0019] Alternatively, the safety clips can consist of clasping elements activated by a spring, or similar, arranged either in the tubular protuberances (11) or in the hollow parts (31) so that they couple to orifices arranged in the complementary part.

[0020] In Fig. 1 it can be appreciated how the tubular parts (31) integral to the boot sole (3) have a height which is noticeably similar to that of the heels or protuberances (33) of the boot sole (3). The purpose of this characteristic is to prevent said hollow parts (31) from being distorted, for example, when walking on the ground, which would prevent their subsequent coupling with the tubular protuberances (11) of the plate (1).

[0021] The possibility has been envisaged that both the hollow parts (31) as well as the tubular protuberances (11) be provided with a recess in order to ease their slotting together. Alternatively, the recess can be arranged in one of the parts only.

[0022] The nature of the invention having been described sufficiently, as well as a preferred embodiment, it is herein pointed out for all purposes that the materials, shape, size and arrangement of the elements described can be modified, provided that it does not entail an alteration in the essential characteristics of the invention, which are hereinafter claimed.

Claims

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1. Binding for snowboards, of the type used for fastening boots (3) onto snowboards (2), **characterised in that** it comprises two plates (1) fixed onto the snowboard, each of the plates (1) being provided with protuberances (11) for slotting tightly into hollow parts (31), integral to the boot soles (3), the protuberances (11) of the plates (1) and the hollow parts (31) of the boots having lateral orifices (12 and 32) for the assembling of safety clips (13) for holding the boots (3) in the assembly position on the board (1).

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2. Binding, according to the preceding claim, **characterised in that** the hollow parts (31) of the sole have a height which is noticeably similar to that of the heels or protuberances (33) of the boot sole (3).

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3. Binding, according to the preceding claims, **characterised in that** the plates (1) have, aligned with the orifices (12) of the tubular protuberances (11), means for securing the safety clips (13), the former being assembled with the possibility of longitudinal

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movement between two end positions.

4. Binding, according to the preceding claims, **characterised in that** the safety clips (13) are made up of rods which are provided, at their ends, with stops (13a) for holding in end positions.

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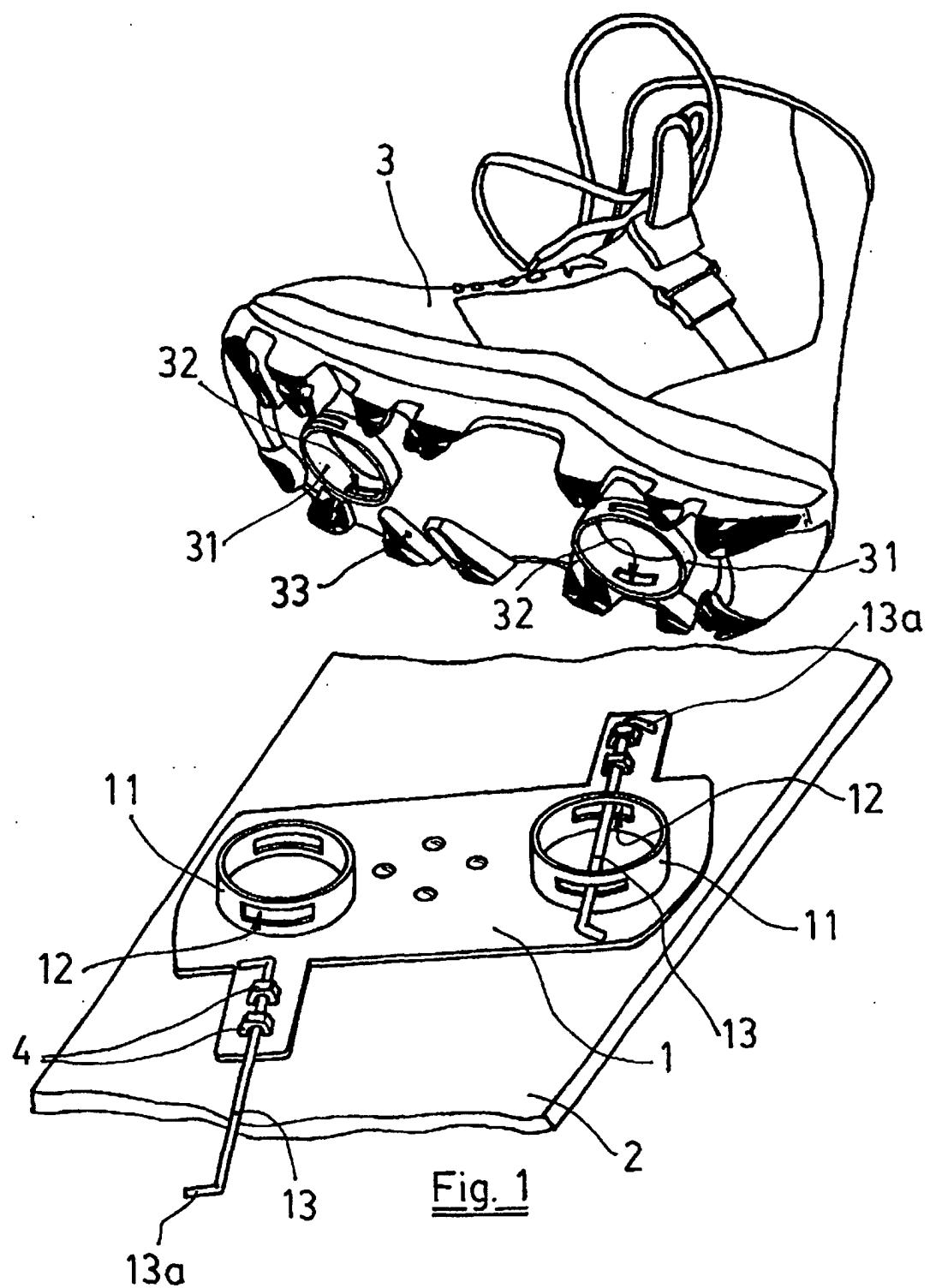
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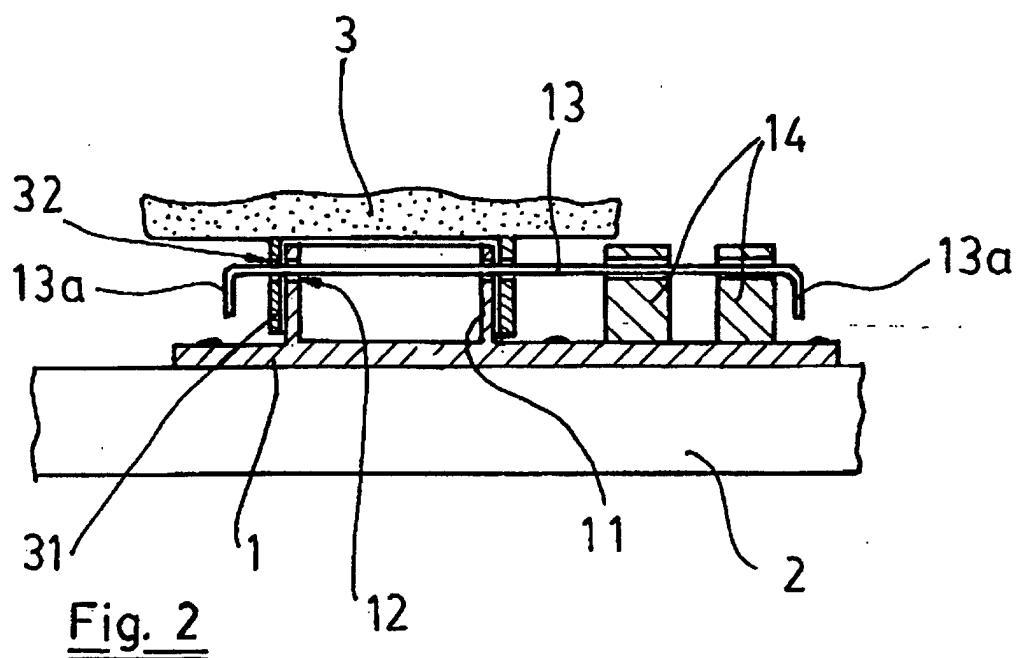
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INTERNATIONAL SEARCH REPORT

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PCT/ ES02 / 00478

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁷ A63C 9/086, A43B 5/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷ A63C, A43B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SPANISH DOCUMENTS OF PATENTS AND UTILITY MODELS

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI, PAJ, ECLA, UCLA, OEPMPAT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5595396 A (BOURDEAU) 21.01.1997, See the whole document	1, 3-4
Y	FR 2782654 A (TILLON) 03.03.2000, see page 2, line 8-page 4, line 5, figures	1-4
Y	US 5906058 A (RENCH et al.) 25.05.1999, See column 8, lines 9-23, 40-57, column 10, line 15-column 13, line 11, figures 4 A, 6B, 12-20	1-4
A	US 4021056 A (OAKES) 03.05.1977, see claim 1, figures	1-3

 Further documents are listed in the continuation of Box C. See patent family annex.

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Date of the actual completion of the international search (27.11.2002)	Date of mailing of the international search report 04.12.02
Name and mailing address of the ISA/ S.P.T.O.	Authorized officer
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No	
PCT/ ES02 / 00478	

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