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(54) **Multi-purpose skate**

(57) A multi-purpose skate comprising a skate body and a skating device, the bottom of the skate body has a front and a rear fixing seat, the two fixing seats both have several longitudinally extending engaging structures, and each has at least a transverse first hole. The skating device can be one with rollers for an inline roller skate, one with a metallic blade, or one with a ski, and is provided on its top with a front and a rear positioning

portion; the two positioning portions at least each has a transverse second hole. When the positioning portions are respectively connected with the engaging structures on the bottom of the skate body, locking members are extended through the first and the second holes to combine the fixing seats together with the positioning portions; the skate body and the skating device thus can be detached after removing the locking members.

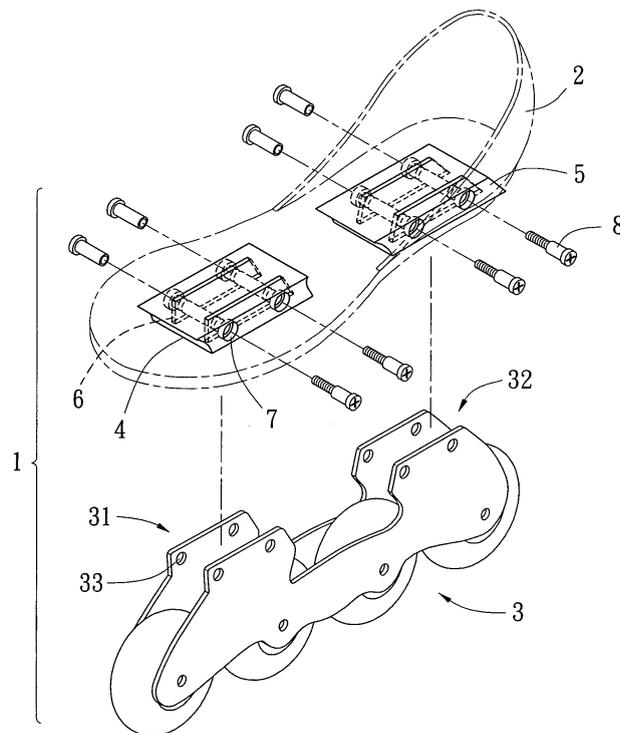


Fig. 1

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a multi-purpose skate, and more particularly to a skate in which the body of the skate and a skating device are fixed together by using locking structures, and after releasing the locking structures, the skating device can be changed fast to make a skate of different sporting usage.

2. Description of the Prior Art

[0002] Skates have different designs depending on different functions; particularly for those sporting skates (such as skates, roller skates), skates are devised only for a single usage for the purpose of stability and safety. For those people fond of various skating sports, not only expenditures are quite large for buying different skates for skating sports, but also the spaces for storing skates are wasting.

[0003] Hence, in order to save expenditures and wasted spaces, various skates have been developed, such as is shown in Fig. 7, wherein mainly a metal blade is detachably assembled at the front and rear ends of the sole of the ice skate by means of a couple of screw connecting means "a" extendible from the top to the bottom. The structure of the ice skate is simple, however the mode of assembling to separately connect the skate with the metal blade using screws a2 may render the screw connecting means "a" loose and drop because of up and down vibrations induced during skating on an uneven ground.

[0004] The above stated screw connecting means "a" provide clamping forces from above and below, and during skating, and a user exerts a vertical pressure and a transverse shearing force as well on the screw connecting means "a", so that it has worried safety for only a front and a rear screw a2 are practically used on the skate for fixing in the vertical direction.

[0005] In view of this, to get rid of the above defects by using a multi-purpose skate not only can have various skating devices changed fast according to the demand of a user, but also can make firm connecting of a skating device with the body of the skate to assure safety. The inventor of the present invention developed the present invention based on his experience of years and nonstop study and improvement.

SUMMARY OF THE INVENTION

[0006] The primary objective of the present invention is to provide a multi-purpose skate, by providing longitudinal engaging structures between the bottom of the body of the skate and the top of a skating device, and by providing a transverse locking member to lock the body of

the skate together with the skating device, firm combination of the body of the skate with the skating device can thus be assured; and after releasing the locking member, the body of the skate and the skating device can be detached for fast changing for any of various skating devices.

[0007] In order to obtain the objective stated above, the multi-purpose skate provided in the present invention comprises a body of the skate and a skating device. The bottom of the body of the skate is provided with a front and a rear fixing seat, the two fixing seats both have a plurality of longitudinally extending engaging structures, and are provided at least each with a transverse first hole. The skating device can be one with rollers for an inline roller skate, one with a metallic blade, or one with a ski, and is provided on its top with a front positioning portion and a rear positioning portion for respectively connecting with the engaging structures on the bottom of the skate body. The two positioning portions are provided at least each with a transverse second hole, so that locking members can be extended through the first and the second holes to combine the fixing seats together with the positioning portions; the skate body and the skating device thus can be detached after removing the locking members.

[0008] The present invention will be apparent after reading the detailed description of the preferred embodiment thereof in reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

Fig. 1 is an exploded perspective view showing the elements of an embodiment of the present invention; Fig. 2 is a side view of the embodiment of the present invention before assembling;

Fig. 3 is a side view of the embodiment partially in sectional view of the present invention after assembling;

Fig. 4 is a front view of the embodiment partially in sectional view of the present invention after assembling;

Fig. 5 is a perspective view showing the appearance of the embodiment of the present invention wherein a skating device is a metallic blade;

Fig. 6 is a perspective view showing the appearance of the embodiment of the present invention wherein a skating device is a ski; and

Fig. 7 is an exploded perspective view showing a combination structure of a conventional skate with a metallic blade.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0010] Referring firstly to Figs. 1, 2 depicting a pre-

ferred embodiment of the multi-purpose skate of the present invention, the skate comprises a skate body 2 and a skating device 3.

[0011] The bottom of the skate body 2 is provided with a front fixing seat 4 and a rear fixing seat 5, the two fixing seats 4, 5 both are rectangular, and respectively protrude out of the bottom of the skate body 2. The bottoms of the two fixing seats 4, 5 are provided each with two upwardly extending elongate recesses spaced away to form engaging structures 6. And the front and the rear fixing seats 4, 5 are provided on their lateral sides with transverse first holes 7 spaced away from each other and allocated transversely.

[0012] The skating device 3 is a skating device with rollers for an inline roller skate; two mutually parallel flat plates extend upwards respectively at a front and a rear half part on the top of the skating device 3 to form a front and a rear positioning portion 31, 32. The two positioning portions 31, 32 can be respectively inserted into the engaging structures 6 on the two fixing seats 4, 5 of the skate body 2, and more, two transverse second holes 33 are provided respectively on the flat plates of the two positioning portions 31, 32.

[0013] Referring to Figs. 1, 3 and 4, when the rear positioning portions 31, 32 on the top of the skating device 3 are inserted upwards and connected respectively the engaging structures 6 of the skate body 2, the second holes 33 on the front and the rear positioning portions 31, 32 are coaxial with the transverse first holes 7 on the front and the rear fixing seats 4, 5 of the skate body 2. After four locking members 8 are extended through, the fixing seats 4, 5 and the positioning portions 31, 32 are locked together. And after releasing the four locking members 8, the skate body 2 and the skating device 3 can be detached. In this embodiment, the four locking members 8 are bolts; while in practicing, they can also be snap catches or other similar members.

[0014] The above stated engaging structures 6 on the front and the rear fixing seats 4, 5 of the skate body 2 can also be flat plates protruding downwards, while the front and the rear positioning portions 31, 32 of the skate body 2 can be recesses extending downwards (not shown), and the goal that the skate body 2 and the skating device 3 are connected with each other can also be achieved.

[0015] Moreover, the skating device 3 can be one with rollers for an inline roller skate, one with a metallic blade, or one with a ski or some other similar skating structure (as shown in Figs. 5, 6). By connecting of the fixing seats 4, 5, the positioning portions 31, 32 and the locking members 8, the skate body 2 and the skating device 3 are connected with each other firmly without the phenomenon of loosening and dropping off. After releasing the locking members 8, a user can flexibly make various assembling in pursuant of different purposes.

[0016] The present invention thereby has the following advantages:

1. By providing longitudinal engaging structures between the bottom of the skate body and the top of the skating device, and by providing a transverse locking member to lock the skate body together with the skating device, not only no loosening and dropping off may occur by causing from up and down vibration in use, but also firm combination of the skate body with the skating device can be assured.

2. After releasing the locking member, the body of the skate and the skating device of the present invention can be detached for fast changing for any of various skating devices, thus the present invention is quite flexible.

3. The skating device of the present invention can be separated from the skate body for storing individually; this can largely save the storing space, and can be convenient for carrying.

[0017] In conclusion, according to the description disclosed above, the present invention surely can get the expected object thereof to provide a multi-purpose skate that not only can have various skating devices changed fast according to the demand of a user, but also can make firm connecting of a skating device with the skate body to assure safety.

Claims

1. A multi-purpose skate, comprising:

a skate body, a bottom of said skate body is provided with a front and a rear fixing seat, said two fixing seats both have a plurality of longitudinally extending engaging structures and are provided at least each with a transverse first hole; and

a skating device provided on its top with a front positioning portion and a rear positioning portion for respectively connecting with said engaging structures on said bottom of said skate body; said two positioning portions are provided at least each with a transverse second hole, so that locking members are adapted to extending through said first and said second holes to combine said fixing seats together with said positioning portions; said skate body and said skating device thus are adapted to detaching after removing said locking members.

2. The multi-purpose skate as in claim 1, wherein, said engaging structures are recesses.

3. The multi-purpose skate as in claim 1, wherein, said positioning portions each includes a plurality of mutually parallel flat plates extending upwards on a top of said skating device.

4. The multi-purpose skate as in claim 1, wherein, said skating device is one with rollers for an inline roller skate.

5. The multi-purpose skate as in claim 1, wherein, said skating device is one with a metallic blade. 5

6. The multi-purpose skate as in claim 1, wherein, said skating device is one with a ski.

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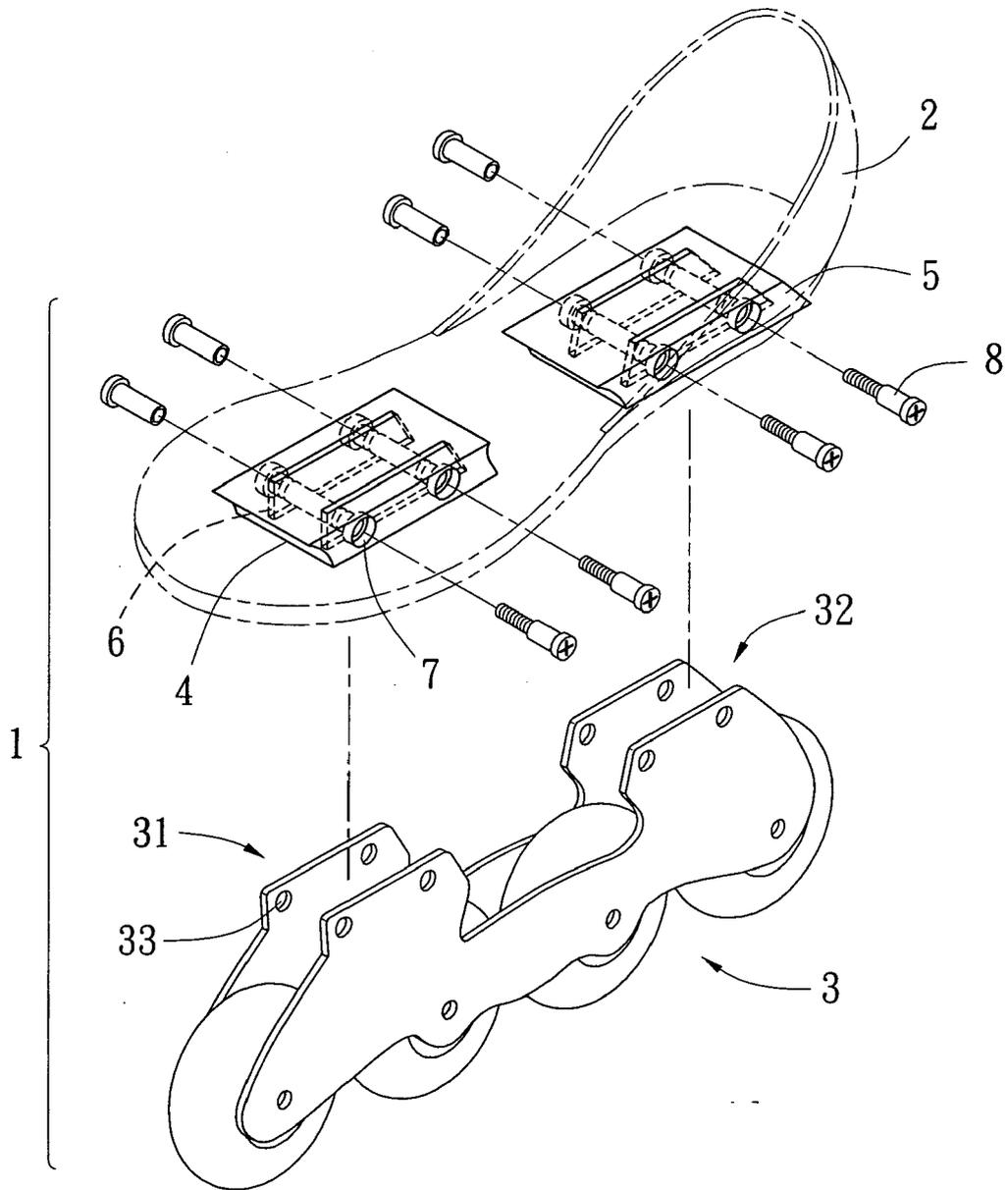


Fig. 1

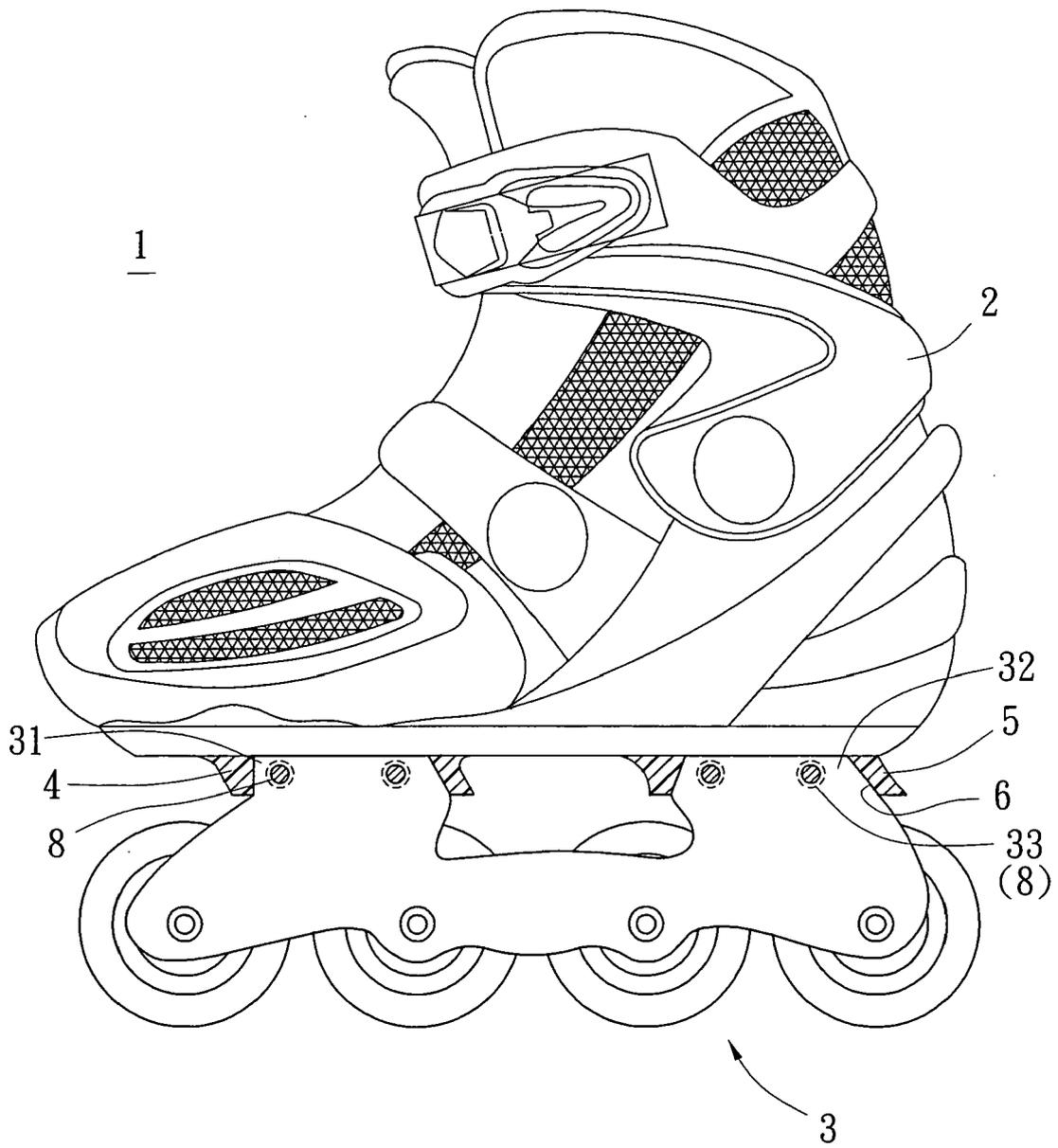


Fig. 3

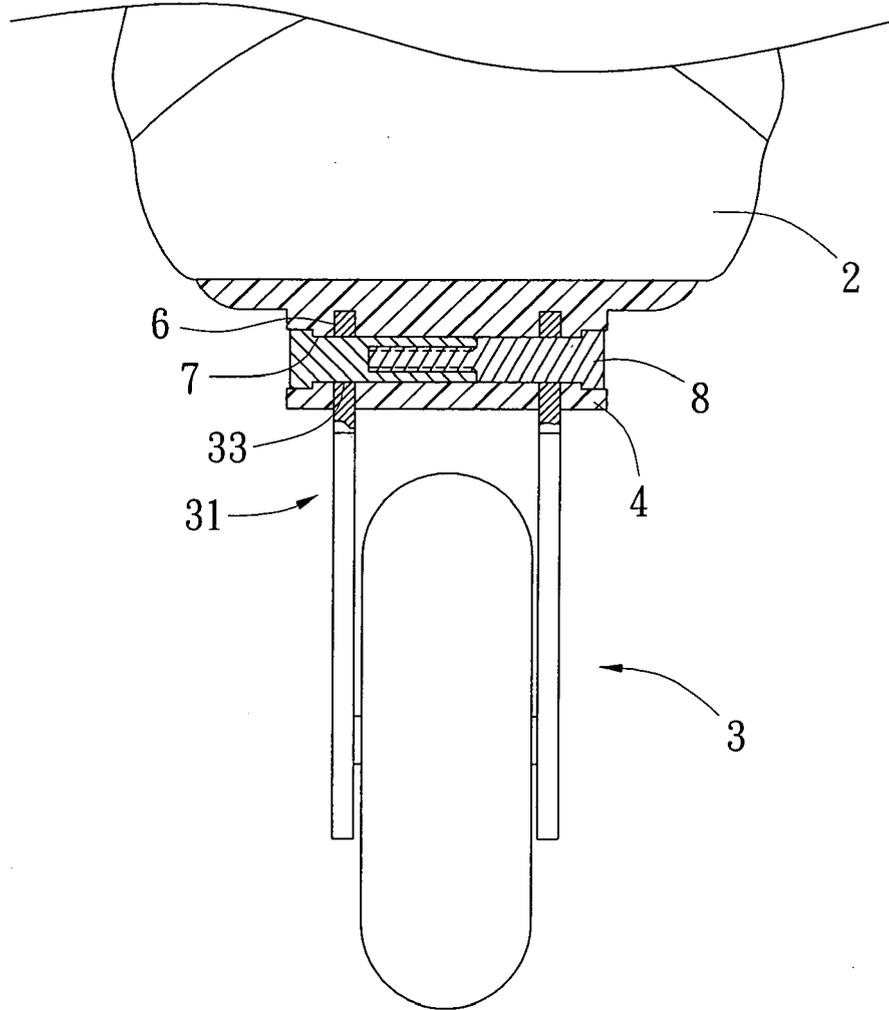


Fig. 4

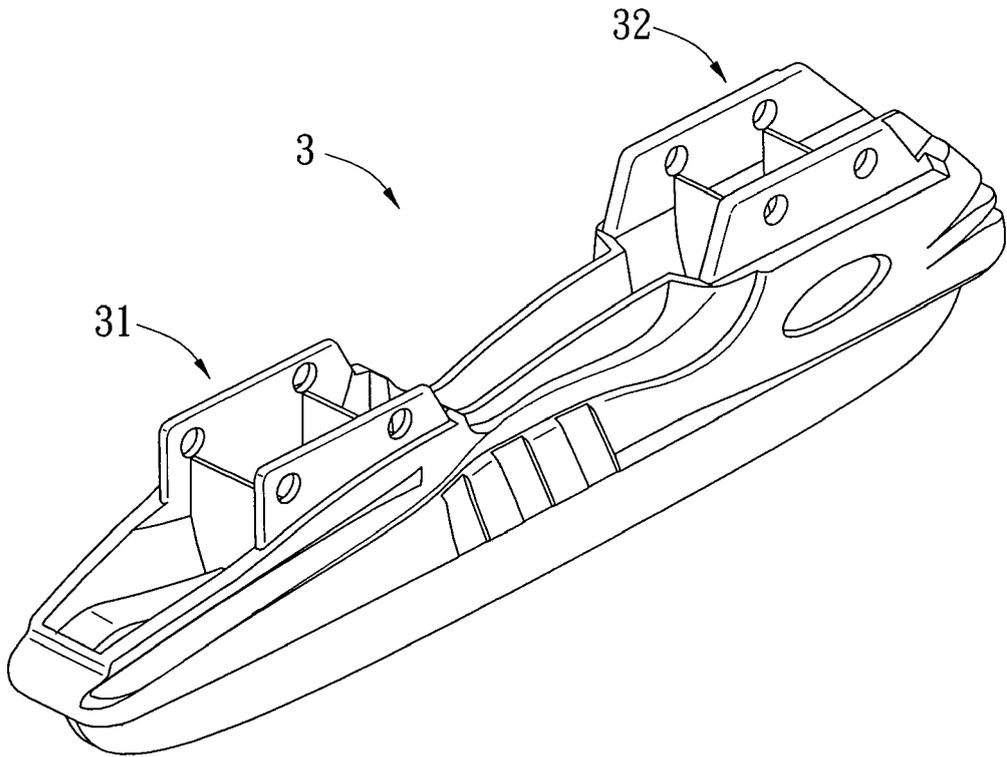


Fig. 5

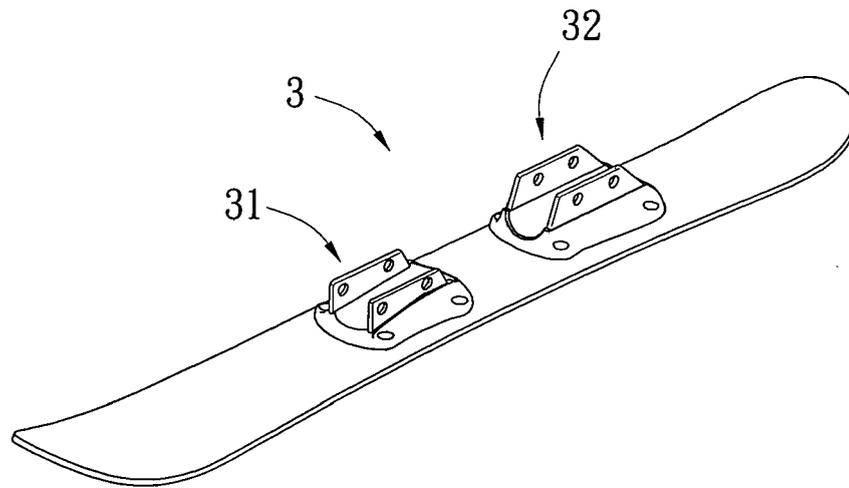


Fig. 6

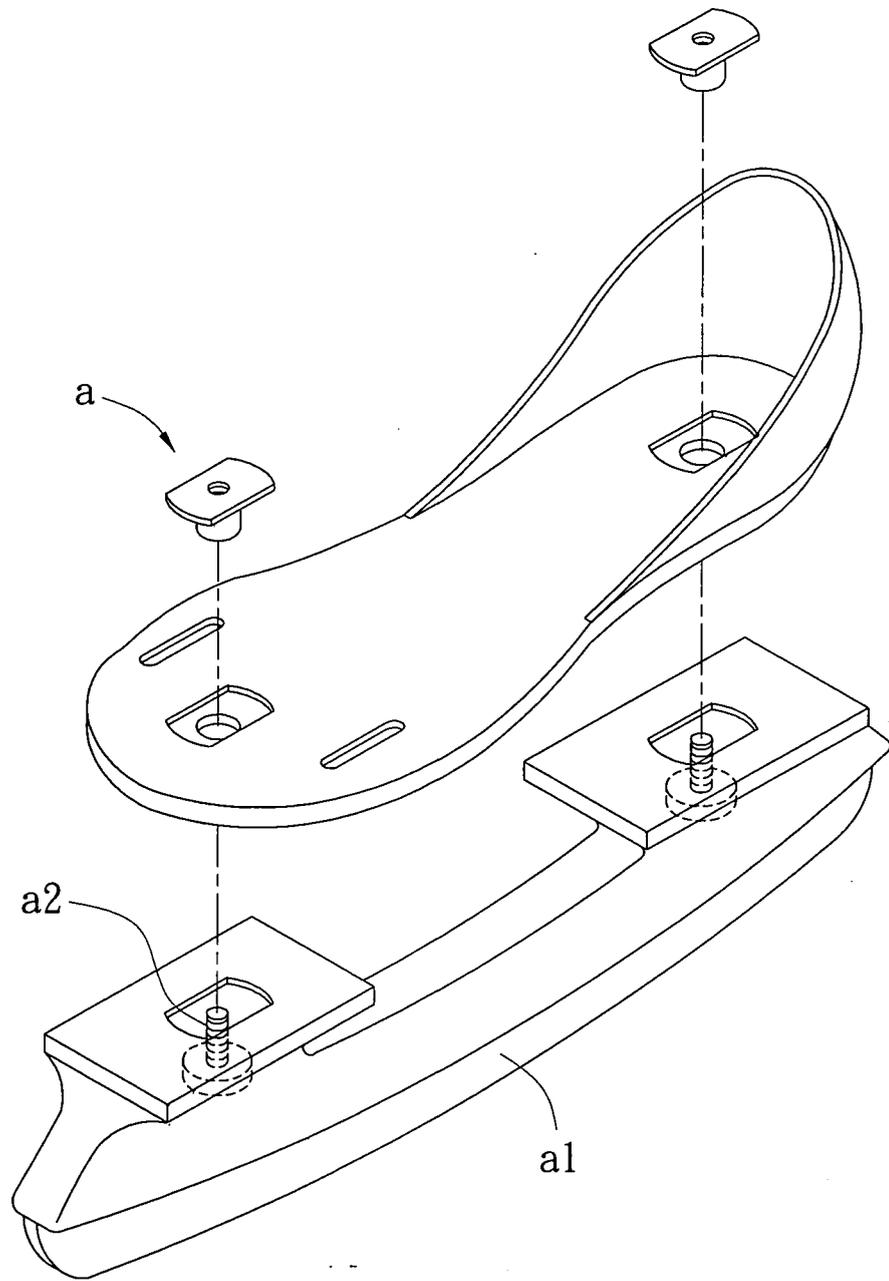


Fig. 7 (Prior Art)



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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Y	* figures 1-10b *	6	
X	----- US 5 803 466 A (WRIKE ET AL) 8 September 1998 (1998-09-08) * column 1, line 50 - line 55; figure 6 *	1-4	
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X	----- FR 2 767 709 A (SALOMON SA) 5 March 1999 (1999-03-05) * figures 7,8 *	1,3,4	
Y	----- DE 198 23 893 A1 (REISER, ROLAND) 4 November 1999 (1999-11-04) * figures 3,4 *	6	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A63C
Place of search		Date of completion of the search	Examiner
Munich		24 March 2006	Brunie, F
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X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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24-03-2006

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