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(54) **SNOWBOARD**

SCHNEEGLEITBRETT

SURF DES NEIGES

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Description

[0001] The invention relates to a snowboard, consisting of a board on which two bindings are mounted on the upper surface of the board, at a distance apart approximately corresponding to 1/3 of the board's length. The board is designed with inwardly curving edge portions, the board having a greater width at both ends at the transition to the tips, and with a minimum width of 18 cm in the middle. The board has upturned tips, possibly with a slightly more moderate tip at one end.

[0002] At present snowboards are normally designed with a flat sole surface between the tips at both ends which is the gliding surface of the board. For steering the board is edged and the weight distributed between the feet in the two bindings.

[0003] Snowboarding is a field which is related to Alpine skiing. In Alpine skis it is known to have the sole or gliding surfaces designed with angled portions in partial areas of the sole surface.

[0004] Thus in Norwegian patent 172 170 there is disclosed an Alpine ski, of a pair of skis, which on a maximum 20 cm long front portion has a gliding surface which diverges upwards when the steel edge diverges outwards from the ski's longitudinal axis. The object of this ski is to turn with the least possible loss of kinetic energy. In PCT/NO95/00030 there is disclosed an Alpine ski, which on a portion which is longer than 20 cm has a gliding surface which diverges upwards when the steel edge diverges outwards from the ski's longitudinal axis. The object of this ski is to turn with the least possible loss of kinetic energy, but in this case with a more harmonious design than in that which is described in Norwegian patent 172 170.

[0005] In Norwegian patent no. 301 964, which corresponds to EP 748245 there is disclosed an Alpine ski with a flat first gliding surface and lateral surfaces provided with an almost continuous concave inward curve between a first transition line which defines the transition from a tip portion to a front portion and a second transition line which defines the transition from the main portion to a rear portion. The lower lateral edge between the transition lines describes an almost continuous curve. The sole on both sides of the first gliding surface comprises further gliding surfaces, which extend upwards from the edge of the first gliding surface to the lower lateral edges of the ski with an upward curve. The additional gliding surfaces extend in the longitudinal direction of the ski, at least from the first and second transition lines respectively towards a transverse line behind the middle of the ski and in the portion of the ski where the binding is attached, the width of the ski at the transverse line being equal to the least width of the ski between the transition lines. The upward curve in the lower lateral edge on the additional gliding surfaces increases substantially with the ski's increasing width in the direction of the two transition lines.

[0006] An Alpine ski as described in this publication has been shown to be very well suited to Alpine events and the angled gliding surfaces, which even with a relatively slight edging of the ski can be pressed into contact with the base, giving improved turning technique and grip on the base.

[0007] The present invention is based on the development of Alpine skis which is described in Norwegian patent no. 301964. Even though both skis and snowboards are used for downhill skiing and turning in Alpine terrain, there are nevertheless significant differences. This difference is based both on the difference in design of the two products and on the manner in which the product manoeuvres. In skis the weight is distributed with a foot in a binding in the central portion of each ski and the ski, which is elongated and relatively narrow, at least for most of its length, will, when a pressure load is applied in the central area, be able to be forced to assume different positions against the base. In the case of a snowboard the performer stands with both feet on a substantially wider board and he will steer the board by bodily movements and by distributing his weight between the front and the rear of the board. Since the board is wider and shorter and the weight distribution different the board will not only be more rigid than a ski but will also be steered in a different way.

[0008] In the present invention it has been found that a number of the principles which have been developed in connection with the ski according to Norwegian patent no. 301964 in modified and developed form can be employed for further development of a snowboard, resulting in a marked improvement in their handling characteristics.

[0009] On this basis, therefore, it is the object of the invention to provide an improved snowboard. This is achieved by means of a snowboard which is characterized by the features which will be presented in the patent claims.

[0010] The snowboard according to the present invention differs from the above-mentioned, known ski designs in the requirement, amongst other things, that the secondary lateral areas of the board should be substantially twisted. By warped it should be understood that the angle of the lateral area against the base, viewed in the transverse direction of the board, increases from the central portion up to the front area at the tips.

[0011] From the dynamic point of view a snowboard differs from a ski in many ways, for reasons of both design and mode of application, as indicated above. A ski with a certain inward curve will be twisted upwards at the tip and rear tip when edged, since the skier presses with his foot in the middle of the ski and the counter-forces from the base will twist the ski, reducing the aggressiveness at the front and the rear due to the fact that the sole is flatter against the snow at the front and the rear than in the middle. In contrast with this the performer on a snowboard will stand with both feet placed not so far from the tips, with the result that in relative and absolute terms the snowboard has less

length than the ski to generate a twisting moment. It will therefore not be so easy to twist the snowboard. It is therefore absolutely necessary to give the snowboard a dynamically correct shape at the manufacturing stage. This is achieved according to the invention by combining dimensions which are specific to the snowboard with selected features which are known to be employed in connection with skis, since these selected features together will give the snowboard an optimal dynamic adaptation. Thus it is the combination of the features indicated in the patent claims which make it possible to utilise the features known from skis for an improvement of an alternative product, viz. a snowboard.

[0012] There is therefore a fundamental difference between ski and board, and in the invention it has surprisingly been shown that by means of adaptation and modification of features known from the field of skis with regard to the design of twisted surfaces, it has been possible to develop a snowboard which is adapted to the dynamics which apply to skis.

[0013] When the twisted board according to the invention is placed on the snow, it can already have a better dynamic shape than the surface the board is capable of achieving, since the board according to the invention is produced with a twisting of the sole adapted to where the weight is actually placed on the board, with regard to the ideal twisting which is desired.

[0014] It has further been shown that there are significant safety aspects associated with a specific design of raised gliding surfaces with regard to landing after jumping with the snowboard. It is a fact that falls with snowboards result in many injuries, which are far more serious than the speed would indicate. The snowboard according to the present invention is also designed to increase safety in landing after a jump, due to the fact that it is not so aggressive in the edge area during landing.

[0015] The more curved the steel edge in the snowboard's edge area is, the greater tendency it has to cut away in an uncontrolled fashion when landing after a jump, especially when making an almost flat landing. The invention will therefore provide greater safety benefits the more inward curve the snowboard has. By allowing the board to be almost flat along its entire width from the central portion a reasonable edge grip can also be secured when the board is flat against the snow. On the front and rear portions of the board the right and left parts of the sole are twisted upwards, thus providing a less aggressive steel edge, but at the same time the board has to be formed in such a manner that it has a good edge grip when turning. Thus a boat shape, in which the cross section shows curved lines near the steel edge will be unsuitable, since the angle at the steel edge will then be too large to give a good edge grip. The snowboard described with a cross section in the front and rear portions consisting of three straight lines (fig. 2) will ensure both a less aggressive edge grip during landing after a jump and adequate edge grip during turning.

[0016] The width is a further significant difference between ski and snowboard. A narrow ski can easily be edged 45°. The much wider snowboard is usually run much flatter than a ski. A great deal of edge grip will therefore easily be lost with a snowboard when the secondary surfaces are too acutely angled relative to the first sole surface. The invention solves this special problem for snowboards by means of the special design of raised lateral area from the following criteria:

1. The secondary lateral area must have a certain minimum width which is greater than for most skis, thus achieving a greater uplift with less angling of the secondary lateral area relative to the main area of the sole surface, i.e. the gliding surface.

2. The secondary lateral area is raised from the plane of the main area by being twisted upwards when moving from the middle towards the tips.

3. The cross section shows the sole as three substantially straight lines in those parts of the board where there are secondary lateral areas.

[0017] The invention will now be illustrated in more detail by means of the embodiments which are presented in the drawings, in which:

fig. 1 illustrates the underside of a snowboard according to the invention,

fig. 2 is a cross section of the snowboard in fig. 1, viewed across the board in the areas indicated by A, B C,

fig. 3 is a variant of the embodiment in fig. 1,

fig. 4 is a third embodiment of the invention,

fig. 5 is a variant of the embodiment in fig. 1,

fig. 6 is a variant of the embodiment in fig. 5,

fig. 7 is a further variant of the invention,

fig. 8 is a further variant of the invention,

figs. 9 and 10 illustrate the snowboard according to the invention, viewed from the side and from one end.

[0018] Fig. 1 illustrates the underside of a snowboard. The hatched gliding surface 1, called the main area, is completely flat when the board is pressed against a flat base. The secondary lateral areas 2a and 2b in line 5a - 5b form zero degrees with the main area, and up to line 4a - 4b form a substantially increasing angle with the main area, viewed in cross section as shown in fig. 2. In the same way the secondary lateral areas 2c and 2d in line 7a - 7b form zero degrees with the main area, and up to line 8a - 8b form a substantially increasing angle with the main area. The secondary lateral areas 2 therefore appear to be twisted, if not over their entire length, to such an extent that they have the function of a twisted surface. The front tip 3a and rear tip 3b and central transversal axis 6a - 6b are also shown.

[0019] Fig. 2 illustrates three cross sections of the snowboard in fig. 1, taken directly across from fig. 1. In order to illustrate the increasing angle from line 5a-5b to line 4a-4b the angles are slightly exaggerated, thus making it easy to see that there is a larger angle nearest line 4a-4b. In cross section the sole surfaces are shown to be completely straight, even though in the transition between first sole surface and the secondary lateral areas there may be a certain degree of rounding.

[0020] Fig. 3 illustrates a design in which the secondary lateral areas are terminated reasonably parallel to the steel edge.

[0021] Fig. 4 illustrates a design in which the secondary lateral areas are widest at the transition to the tips at lines 4a-4b and 8a-8b respectively, gradually narrowing as one approaches lines 5a-5b and 7a-7b respectively. In this embodiment the degree of twisting will be less than in the other embodiments which are illustrated.

[0022] Fig. 5 illustrates approximately the same design as fig. 1. Here the board is envisaged moving straight ahead with the board completely flat against a hard base. Only the steel edges outside the main area plane 1 are then in contact with the snow, while the performer's weight is envisaged evenly distributed over the entire length of the main area plane. As an illustration we have chosen to let the central portion of the snowboard be the same length as the sum of the length of the secondary lateral areas on the same side. Thus the lengths 4a-5a and 7a-8a are here equal to 5a-7a, and correspondingly on the opposite side. F/2 is the force from the base on the steel edge over half the length of the board, while d/2 is the average distance from the centre 6 of the performer to the force's point of attack on one side. M indicates torque.

[0023] Fig. 6 illustrates the same design as fig. 5, but with a completely flat sole. F is the force from the base on the steel edge along the entire length of the board, while d is the average distance from the centre 6 of the performer to the force's point of attack on one side. M indicates torque.

[0024] Figures 7 and 8 illustrate two further examples of snowboards designed according to the invention. In the embodiment according to figure 7 the hatched sole surface, i.e. the main area is designed with equal, relatively narrow width along the whole board, but has a central portion at line 6-6 which makes a "soft" transition into the lateral areas. A certain degree of asymmetry in the secondary areas is indicated, even though symmetry is preferred. In the embodiment in figure 8 the hatched main area surface is designed narrowing from line 6-6 to end lines 4-4 and 8-8, which is first illustrated from lines 5-5 and 7-7. The portion of the main area surface between these two lines is continued right out to the edge. In all embodiments the lateral areas are designed in a twisted form.

[0025] The illustrated examples will provide boards which have different handling characteristics, but will all provide the special advantage which is achieved by means of the invention.

[0026] Finally, figures 9 and 10 illustrate the snowboard according to the invention, viewed from the side and from one of the ends. On this scale the angles had to be exaggerated relative to the preferred angle in order to clearly illustrate the principle. In figure 10 the twisting of the lateral areas can be seen indicated on the underside, with the maximum angle in the transition to the tip.

[0027] Four tables are now presented illustrating the twisting angle for the lateral areas in the snowboard according to the invention. Thus table 1 gives four examples of snowboards with a constant cross section for the first sole surface. Table 2 exemplifies an embodiment with constant width for the secondary lateral areas, while table 3 gives the angle for boards with variable width for the first sole surface in the secondary lateral areas. Table 4 illustrates an example of an asymmetrical snowboard.

The tables are only intended as a demonstration of the increasing angle against a flat base from a cross section at the central area to cross sections at regular intervals distributed in the direction towards the ends of the board.

[0028] It should be obvious from the above that despite the choice and combination of special features which are partly known from ski technology, many modifications are possible. Further development according to the invention is

based on the combination of selected features in such a manner that a result is obtained which is unique for snowboards. In the invention a selection of features and dimensions have been made which together provide an improvement.

Table 1.

Four examples of a snowboard with a constant width of the first base surface. For simplicity we use in these examples snowboards with circular sidecut, and symmetry along both the longitudinal and transversal central axis.							
Total width at (8)	Total width at (6)	Length (6) -(8)	Length (6) -(4)	Sidecut radius			
290	250	650	650	10573			
Distance from the tip	Total width	Width of the 1. base surface	Width of each secondary areas	Cross sectional angle between first base and secondary areas			
				1	2	3	4
0							
50							
100							
150	290,0	80,0	105,0	3,0	1,0	2,0	2,2
200	284,1	80,0	102,0	2,7	0,7	1,9	2,2
250	278,6	80,0	99,3	2,4	0,3	1,8	2,1
300	273,7	80,0	96,8	2,1	0	1,7	2
350	269,2	80,0	94,6	1,8	0	1,6	1,8
400	265,1	80,0	92,6	1,5	0	1,5	1,6
450	261,6	80,0	90,8	1,2	0	1,4	1,4
500	258,5	80,0	89,3	0,9	0	1,2	1,2
550	255,9	80,0	88,0	0,6	0	0,9	1
600	253,8	80,0	86,9	0,3	0	0,6	0,8
650	252,1	80,0	86,1	0	0	0,3	0,6
700	250,9	80,0	85,5	0	0	0	0,4
750	250,2	80,0	85,1	0	0	0	0,2
800	250,0	80,0	85,0	0	0	0	0
850	250,2	80,0	85,1	0	0	0	0,2
900	250,9	80,0	85,5	0	0	0	0,4
950	252,1	80,0	86,1	0	0	0,3	0,6
1000	253,8	80,0	86,9	0,3	0	0,6	0,8
1050	255,9	80,0	88,0	0,6	0	0,9	1,0
1100	258,5	80,0	89,3	0,9	0	1,2	1,2
1150	261,6	80,0	90,8	1,2	0	1,4	1,4
1200	265,1	80,0	92,6	1,5	0	1,5	1,6
1250	269,2	80,0	94,6	1,8	0	1,6	1,8
1300	273,7	80,0	96,8	2,1	0	1,7	2,0
1350	278,6	80,0	99,3	2,4	0,3	1,8	2,0
1400	284,1	80,0	102,0	2,7	0,7	1,9	2,1
1450	290,0	80,0	105,0	3,0	1,0	2,0	2,1
1500							
1550							
1600							

[0029] Where the angle is zero, the first base surface extend to the steel edges In these example the width of the first base stuface is chosen to be 80 mm, but it could just as well have been set at any value between 40 mm and 160 mm

Table 2.

Four examples of a snowboard with a constant width of the secondary areas. For simplicity we use in these examples snowboards with circular sidecut, and symmetry along both the longitudinal and transversal central axis.							
Total width at (8)	Total width at (6)	Length (6) -(8)	Length (6) -(4)	Sidecut radius.			
290	245	650	650	9400			
Distance from the tip	Total width	Width of the 1. base surface	Width of each secondary areas	Cross sectional angle between first base and secondary areas			
				5	6	7	8
0							
50							
100							
150	290,0	140,0	75,0	3,5	1,0	2,0	3
200	283,3	133,3	75,0	3,1	0,8	1,9	2,7
250	277,2	127,2	75,0	2,7	0,6	1,8	2,4
300	271,6	121,6	75,0	2,3	0,4	1,7	2,1
350	266,6	116,6	75,0	1,9	0,2	1,6	1,8
400	262,0	112,0	75,0	1,6	0	1,5	1,6
450	258,0	108,0	75,0	1,3	0	1,4	1,4
500	254,6	104,6	75,0	1,0	0	1,2	1,2
550	251,7	101,7	75,0	0,7	0	0,9	1
600	249,3	99,3	75,0	0,4	0	0,6	0,8
650	247,4	97,4	75,0	0,2	0	0,3	0,6
700	246,1	96,1	75,0	0	0	0	0,4
750	245,3	95,3	75,0	0	0	0	0,2
800	245,0	95,0	75,0	0	0	0	0
850	245,3	95,3	75,0	0	0	0	0,2
900	246,1	96,1	75,0	0	0	0	0,4
950	247,4	97,4	75,0	0,2	0	0,3	0,6
1000	249,3	99,3	75,0	0,4	0	0,6	0,8
1050	251,7	101,7	75,0	0,7	0	0,9	1,0
1100	254,6	104,6	75,0	1,0	0	1,2	1,2
1150	258,0	108,0	75,0	1,3	0	1,4	1,4
1200	262,0	112,0	75,0	1,6	0	1,5	1,6
1250	266,6	116,6	75,0	1,9	0,2	1,6	1,8
1300	271,6	121,6	75,0	2,3	0,4	1,7	2,1
1350	277,2	127,2	75,0	2,7	0,6	1,8	2,4
1400	283,3	133,3	75,0	3,1	0,8	1,9	2,7
1450	290,0	140,0	75,0	3,5	1,0	2,0	3,0
1500							
1550							
1600							

[0030] Where the angle is zero, the first base surface extend to the steel edges In these example the width of the scondary areas are chosen to be 75 mm, but it could just as well have been set at any value between 40 mm and 105 mm

Table 3.

Four examples of a snowboard with a variable width of the first base surface. For simplicity we use in these examples snowboards with circular sidecut, and symmetry along both the longitudinal and transversal central axis.							
Total width at (8)	Total width at (6)	Length (6) -(8)	Length (6) -(4)	Sidecut radius			
280	240	600	600	9010			
Distance from the tip	Total width	Width of the 1. base surface	Width of each secondary areas	Cross sectional angle between first base and secondary areas			
				9	10	11	12
0							
50							
100							
150	280,0	40,0	120,0	2,0	0,8	1,2	1,8
200	273,6	50,0	111,8	1,8	0,6	1,1	1,6
250	267,8	60,0	103,9	1,6	0,4	1,0	1,4
300	262,5	70,0	96,2	1,4	0,2	0,9	1,2
350	257,8	80,0	88,9	1,2	0	0,8	I
400	253,6	90,0	81,8	1	0	0,7	0,8
450	250,0	100,0	75,0	0,8	0	0,6	0,6
500	246,9	110,0	68,5	0,6	0	0,5	0,4
550	244,4	120,0	62,2	0,4	0	0,4	0,3
600	242,5	130,0	56,2	0,2	0	0,3	0,2
650	241,1	140,0	50,6	0	0	0,2	0,1
700	240,3	150,0	45,1	0	0	0,1	0
750	240,0	160,0	40,0	0	0	0,0	0
800	240,3	150,0	45,1	0	0	0,1	0
850	241,1	140,0	50,6	0	0	0,2	0,1
900	242,5	130,0	56,2	0,2	0	0,3	0,2
950	244,4	120,0	62,2	0,4	0	0,4	0,3
1000	246,9	110,0	68,5	0,6	0	0,5	0,4
1050	250,0	100,0	75,0	0,8	0	0,6	0,6
1100	253,6	90,0	81,8	1,0	0	0,7	0,8
1150	257,8	80,0	88,9	1,2	0	0,8	1,0
1200	262,5	70,0	96,2	1,4	0,2	0,9	1,2
1250	267,8	60,0	103,9	1,6	0,4	1,0	1,4
1300	273,6	50,0	111,8	1,8	0,6	1,1	1,6
1350	280,0	40,0	120,0	2,0	0,8	1,2	1,8
1400							
1450							
1500							

[0031] Where the angle is zero, the first base surface extend to the steel edges In these examples the width of the first base surface is chosen to be 40 mm at (4) and (8) and then the width increases towards the middle.

Table 4.

An example of an assymmetric snowboard. For simplicity we use in these examples snowboards with circular sidecut,					
Total width at (8)	Total width at (6)	Length (6)-(8)	Length (6)-(4)	Sidecut radius.	
255	220	750	650	16080	
Distance from the tip	Total width	Width of the base surface	1. Width of each secondary areas	Cross sectional angle between first base and secondary areas	
				13	
0					
50				Right	Left
100					
150	255,0	80,0	87,5	2,8	2,4
200	250,5	80,0	85,2	2,6	2,3
250	246,3	80,0	83,1	2,4	2,2
300	242,4	80,0	81,2	2,2	2
350	238,8	80,0	79,4	2	1,8
400	235,6	80,0	77,8	1,8	1,6
450	232,6	80,0	76,3	1,6	1,4
500	230,0	80,0	75,0	1,4	1,2
550	227,6	80,0	73,8	1,2	1
600	225,6	80,0	72,8	1	0,8
650	223,9	80,0	71,9	0,8	0,6
700	222,5	80,0	71,2	0,6	0,4
750	221,4	80,0	70,7	0,4	0,2
800	220,6	80,0	70,3	0,2	0
850	220,2	80,0	70,1	0	0
900	220,0	80,0	70,0	0	0
950	220,2	80,0	70,1	0	0
1000	220,6	80,0	70,3	0	0
1050	221,4	80,0	70,7	0,2	0
1100	222,5	80,0	71,2	0,4	0,2
1150	223,9	80,0	71,9	0,6	0,4
1200	225,6	80,0	72,8	0,8	0,6
1250	227,6	80,0	73,8	1,0	0,8
1300	230,0	80,0	75,0	1,2	1,0
1350	232,6	80,0	76,3	1,4	1,2
1400	235,6	80,0	77,8	1,6	1,4
1450	238,8	80,0	79,4	1,8	1,6
1500	242,4	80,0	81,2	2,1	1,7
1550	246,3	80,0	83,1	2,2	1,8
1600					

[0032] Where the angle is zero, the first base surface extend to the steel edges In these example the width of the first base surface is chosen to be 80 mm, but it could just as well have been set at any value between 40 mm and 160 mm

Claims

1. A snowboard comprising a board where two bindings are mounted on the board's upper surface at a distance

apart corresponding to approximately 1/3 of the board's length, wherein the board is designed with inwardly curving edge portions, the width of the board being greater at both ends at the transition to the tips (4 and 8) than in the middle (6) where the minimum width is greater than 18 cm, with upturned tips (3), and possibly with a slightly more moderate tip at one end,
characterized in that:

a) the snowboard has a sole surface forming its gliding surface, which between the tips is divided in the length direction of the snowboard into 3 successive portions, the front portion (4-5), the central portion (5-7) and the rear portion (7-8), which sole surface (1) has a first or main area extending in the middle of the sole surface in its length direction through all three portions (4-5,5-7,7-8) and is flat when the board is pressed down against the ground, the main area (I) having a minimum width of 4 cm in the transverse direction of the snowboard,
b) on each side of the main area (1), the sole surface of the snowboard includes secondary lateral areas, positioned in the front portion (4-5) and the back portion (7-8), and at the transition (4,8) to the tips, each secondary lateral area (2) is at least 4 cm wide,
c) the combined length of the secondary lateral areas, both in the front and rear portions on one side of the snowboard, is at least 1/10 of the length of the main surface (1),
d) the secondary lateral areas (2) in cross section (fig. 2) form substantially straight lines,
e) the secondary lateral areas are rigid and not in contact with the ground unless the board is edged,
f) the angle which the secondary lateral areas form with the main area, viewed in cross section of the snowboard, increases when moving from the area at the center portion (5-7) to the transition to the tips (4,8), and so that the secondary lateral areas (2) or a substantially part thereof are twisted, being increasingly elevated from the ground when moving from the central portion (5-7) to the transition planes (4,8) to the tips.

2. A snowboard according to claim 1,
characterized in that the width of the main area (1) is at least 6 cm.

3. A snowboard according to one of the preceding claims,
characterized in that the combined length of the secondary lateral areas (2) on one side is at least 1/5 of the length of the main area (1) .

4. A snowboard according to one of the preceding claims,
characterized in that as the secondary lateral areas (2) are twisted with respect to the plane of the main area (1), the angle formed by the secondary lateral areas with the main area, viewed in a cross section to the snowboard, increases over each 5 cm long interval of the secondary lateral area (2) when displacing the cross section view from the central portion (5,7) towards the transition to the tips (4) or (8).

5. A snowboard according to one of the preceding claims,
characterized in that the board is symmetrical about its longitudinal axis.

6. A snowboard according to one of the preceding claims,
characterized in that the board is asymmetrical about its longitudinal axis.

7. A snowboard according to one of the preceding claims,
characterized in that the board is symmetrical about its central transversal axis.

8. A snowboard according to one of the preceding claims,
characterized in that the board is asymmetrical about its central transversal axis.

Patentansprüche

1. Snowboard, das ein Brett umfasst, an dem zwei Bindungen an der Brettoberfläche mit einem Abstand voneinander angebracht sind, der ca. 1/3 der Brettlänge entspricht, bei dem das Brett mit sich einwärts krümmenden Randabschnitten ausgelegt ist, wobei die Breite des Bretts an beiden Enden am Übergang zu den Spitzen (4 und 8) größer ist als in der Mitte (6), wo die Mindestbreite über 18 cm beträgt, mit nach oben gedrehten Spitzen (3), und möglichst mit einer etwas gemäßigteren Spitze an einem Ende,
dadurch gekennzeichnet, dass

a) das Snowboard eine Unterfläche aufweist, die seine Gleitfläche bildet, die zwischen den Spitzen in der Längsrichtung des Snowboards in 3 aufeinanderfolgende Abschnitte unterteilt ist, den vorderen Abschnitt (4-5), den mittleren Abschnitt (5-7) und den hinteren Abschnitt (7-8), welche Unterfläche (1) einen ersten oder Hauptbereich aufweist, der sich in der Mitte der Unterfläche in deren Längsrichtung durch alle drei Abschnitte (4-5, 5-7, 7-8) erstreckt und flach ist, wenn das Brett gegen den Untergrund gedrückt ist, wobei der Hauptbereich (1) eine Mindestbreite von 4 cm in der Querrichtung des Snowboards über eine Länge aufweist, die ausreicht, um die flache Fläche zu bilden,
b) die Unterfläche des Snowboards auf jeder Seite des Hauptbereichs (1) sekundäre seitliche Bereiche umfasst, die im vorderen Abschnitt (4-5) und im hinteren Abschnitt (7-8) und am Übergang (4, 8) zu den Spitzen abgeordnet sind, wobei jeder sekundäre seitliche Bereich (2) mindestens 4 cm breit ist,
c) die kombinierte Länge der sekundären seitlichen Bereiche sowohl im vorderen als auch hinteren Abschnitt auf einer Seite des Snowboards mindestens 1/10 der Länge des Hauptbereichs (1) beträgt,
d) die sekundären seitlichen Bereiche (2) im Querschnitt (Fig. 2) im wesentlichen gerade Linien bilden,
e) die sekundären seitlichen Bereiche steif und nicht in Kontakt mit dem Untergrund sind, wenn das Brett nicht verkantet ist,
f) der Winkel, den die sekundären seitlichen Bereiche mit dem Hauptbereich bilden, im Querschnitt des Snowboards betrachtet größtenteils mit einer Bewegung vom Bereich des mittleren Abschnitts (5-7) zum Übergang zu den Spitzen (4, 8) zunimmt, und so, dass die sekundären seitlichen Bereiche (2) oder ein wesentlicher Teil davon verwunden sind, wobei sie bei einer Bewegung vom mittleren Abschnitt (5-7) zu den Übergangslinien (4, 8) zu den Spitzen zunehmend vom Boden abgehoben sind.

2. Snowboard nach Anspruch 1, **dadurch gekennzeichnet, dass** die Breite des Hauptbereichs (1) mindestens 6 cm beträgt.

3. Snowboard nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die kombinierte Länge der sekundären seitlichen Bereiche (2) auf einer Seite mindestens 1/5 der Länge des Hauptbereichs (1) beträgt.

4. Snowboard nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass**, wenn die sekundären seitlichen Bereiche (2) im Hinblick auf die Ebene des Hautbereichs (1) verwunden sind, der Winkel, der von den sekundären seitlichen Bereichen mit dem Hauptbereich gebildet wird, in einem Querschnitt des Snowboards betrachtet, alle 5 cm des sekundären seitlichen Bereichs (2) zunimmt, wenn die Querschnittsbetrachtung vom mittleren Abschnitt (5, 7) zum Übergang zu den Spitzen (4) oder (8) hin verschoben wird.

5. Snowboard nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Brett um seine Längsachse symmetrisch ist.

6. Snowboard nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Brett um seine Längsachse asymmetrisch ist.

7. Snowboard nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Brett um seine mittlere Querachse symmetrisch ist.

8. Snowboard nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Brett um seine mittlere Querachse asymmetrisch ist.

Revendications

1. Surf des neiges comprenant une planche sur la surface supérieure de laquelle sont montées deux fixations se trouvant à une distance l'une de l'autre correspondant environ à 1/3 de la longueur de la planche, dans lequel la planche possède des parties bord courbées vers l'intérieur, la largeur de la planche étant plus importante au niveau des deux extrémités aux points de transition vers les bouts (4 et 8) qu'au milieu (6) où la largeur minimale est supérieure à 18 cm, avec des bouts (3) tournés vers le haut et, si possible, le bout d'une extrémité étant légèrement moins prononcé,
caractérisé en ce que :

a) le surf des neiges possède une surface de semelle formant sa surface de glisse qui se divise, entre les bouts, dans le sens de la longueur dudit surf des neiges, en trois parties successives qui sont la partie avant

(4-5), la partie centrale (5-7) et la partie arrière (7-8), laquelle surface de la semelle (1) possède une première zone ou zone principale s'étendant au milieu de la surface de type semelle dans le sens de la longueur de celle-ci et à travers les trois parties (4-5, 5-7- 7-8), et est plate quand la planche est pressée contre le sol, la zone principale (1) ayant une largeur minimale de 4 cm dans le sens transversal du surf des neiges et une longueur suffisante pour définir la surface plane ;

b) sur chaque côté de la zone principale (1), la surface de la semelle du surf des neiges comprend des zones latérales secondaires qui se situent dans la partie avant (4-5) et dans la partie arrière (7-8) ainsi qu'au niveau des transitions (4, 8) vers les bouts, chaque zone latérale secondaire (2) ayant une largeur d'au moins 4 cm.

c) la longueur combinée des zones latérales secondaires dans la partie avant et dans la partie arrière d'un côté du surf des neiges représente au moins 1/10ème de la longueur de la surface principale (1) ;

d) les zones latérales secondaires (2), lorsque vues en coupe (figure 2), forment des lignes essentiellement droites ;

e) les zones latérales secondaires sont rigides et n'entrent pas en contact avec le sol à moins que la planche soit affilée ;

f) l'angle que forment les zones latérales secondaires par rapport à la zone principale, lorsque l'on observe le surf des neiges en coupe, augmente le plus lorsque l'on se déplace de la zone située au niveau de la partie centrale (5-7) en direction des transitions (4, 8) vers les bouts, ceci de manière que les zones latérales secondaires (2), ou qu'une grande partie de celles-ci, soient courbées et qu'elles s'élèvent de plus en plus par rapport au sol lorsque l'on se déplace depuis la partie centrale (5-7) vers les lignes de transition (4, 8) vers les bouts.

2. Surf des neiges, selon la revendication 1, **caractérisé en ce que** la largeur de la zone principale (l) est d'au moins 6 cm.

3. Surf des neiges, selon l'une des revendications précédentes, **caractérisé en ce que** la longueur combinée des zones latérales secondaires (2) sur un côté représente au moins 1/5ème de la longueur de la zone principale (1).

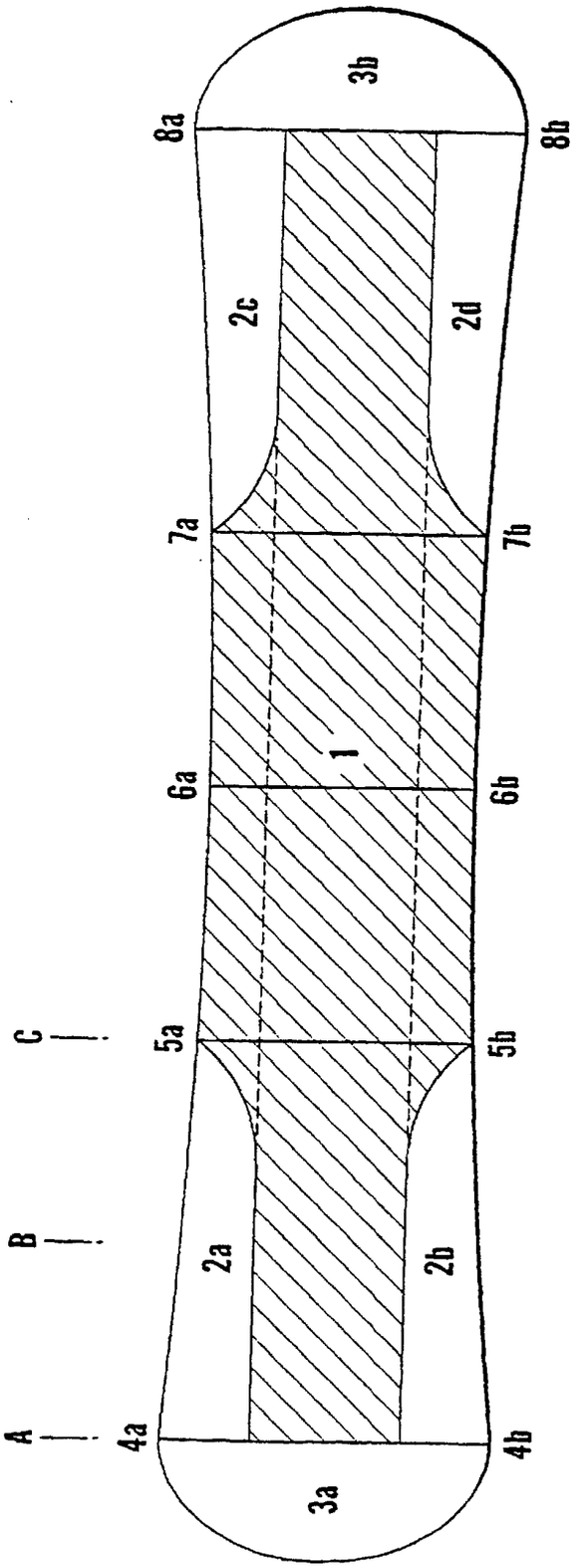
4. Surf des neiges, selon l'une des revendications précédentes, **caractérisé en ce que** les zones latérales secondaires (2) sont courbées par rapport au plan de la zone principale (1), l'angle que forment les zones latérales secondaires par rapport à la zone principale, lorsque l'on observe le surf des neiges en coupe, augmentant à chaque intervalle de 5 cm de long sur la zone latérale secondaire (2) lorsque l'on décale la vue en coupe en partant de la partie centrale (5-7) et en allant en direction de la transition vers les bouts (4) ou (8).

5. Surf des neiges, selon l'une des revendications précédentes, **caractérisé en ce que** la planche est symétrique le long de son axe longitudinal.

6. Surf des neiges, selon l'une des revendications précédentes, **caractérisé en ce que** la planche est asymétrique le long de son axe longitudinal.

7. Surf des neiges, selon l'une des revendications précédentes, **caractérisé en ce que** la planche est symétrique le long de son axe transversal central.

8. Surf des neiges, selon l'une des revendications précédentes, **caractérisé en ce que** la planche est asymétrique le long de son axe transversal central.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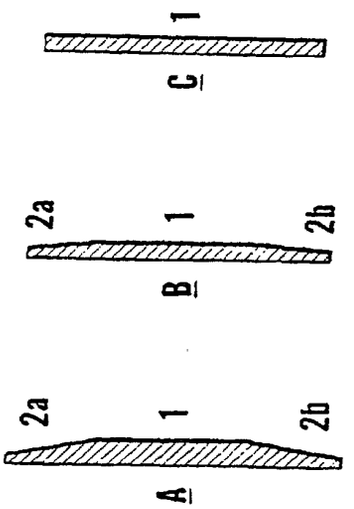
8a
8b
2c
2d
7a
7b
1
6a
6b
C
5a
5b
B
2a
2b
A
4a
4b
3a

Fig.1


1
C
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1
2b
B
2a
1
2b
A

Fig.2

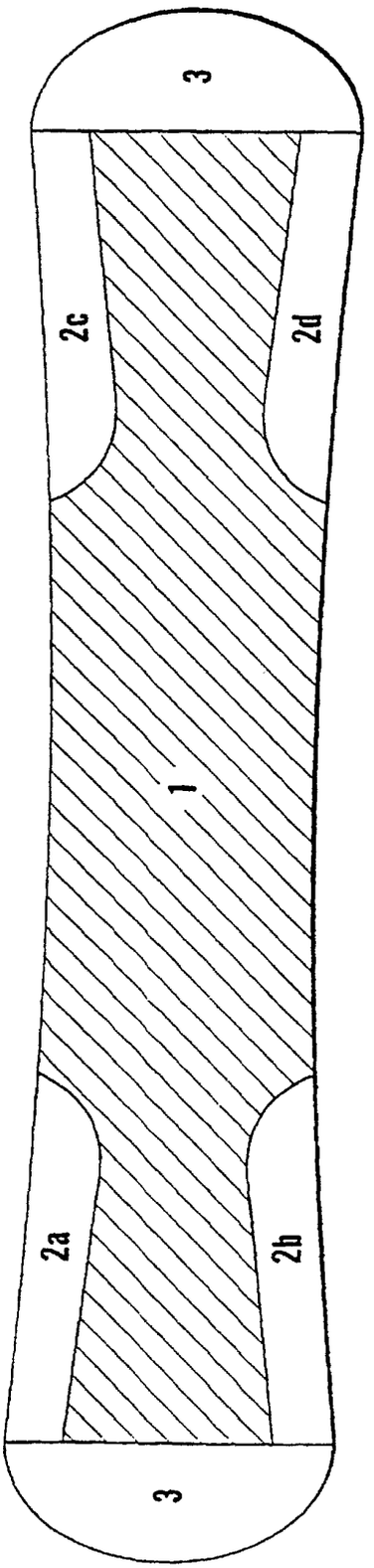

Fig.3

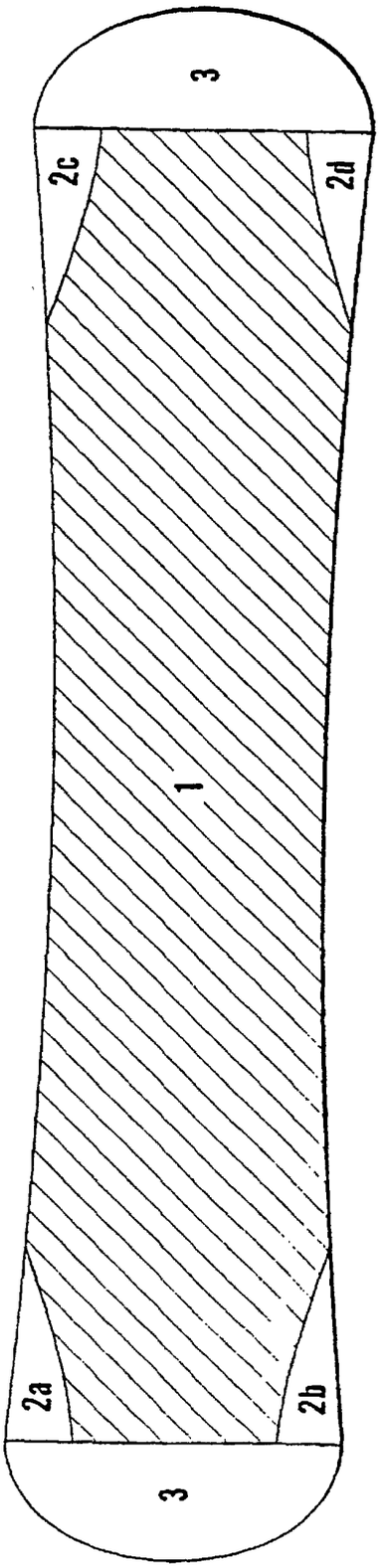

Fig.4

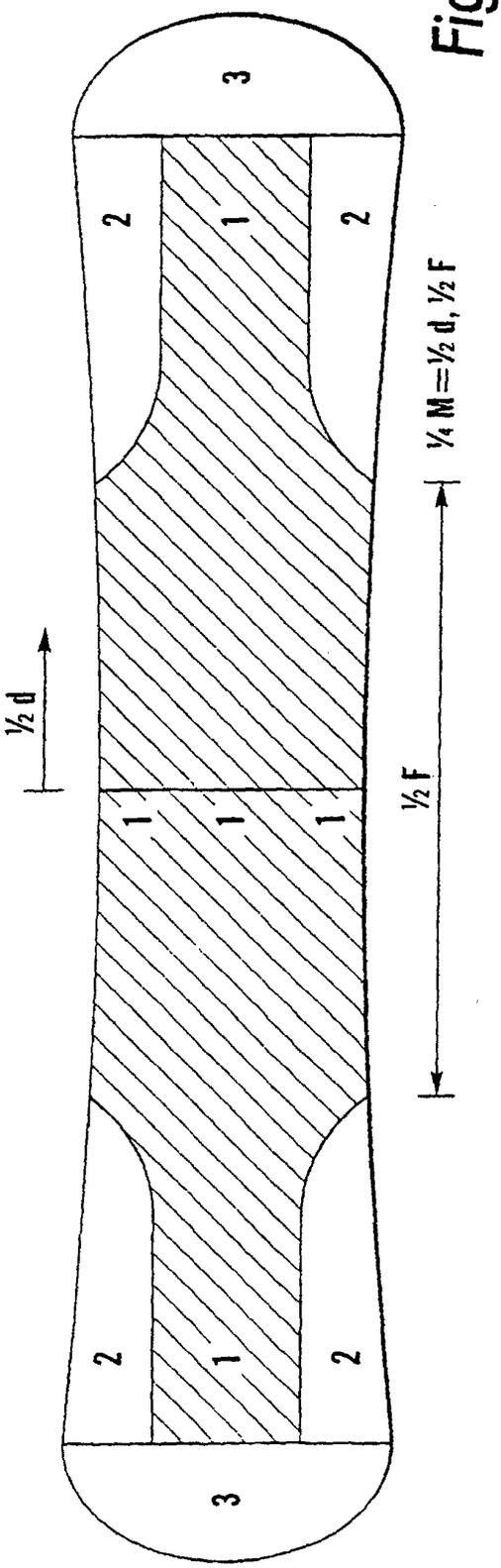

Fig.5

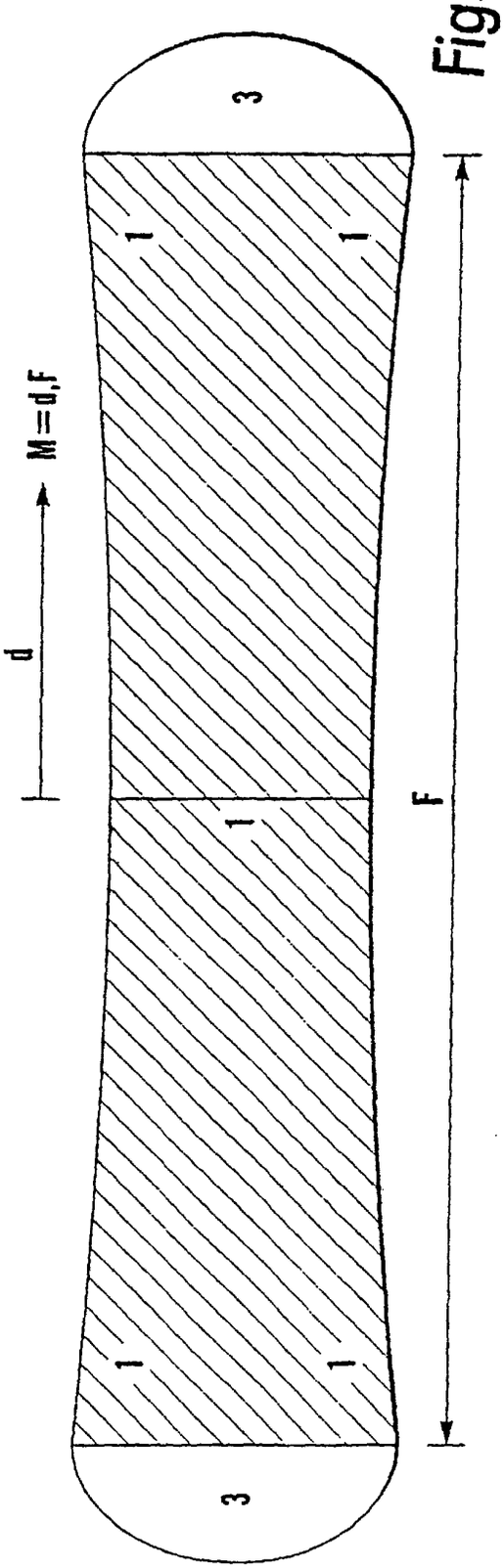

Fig.6

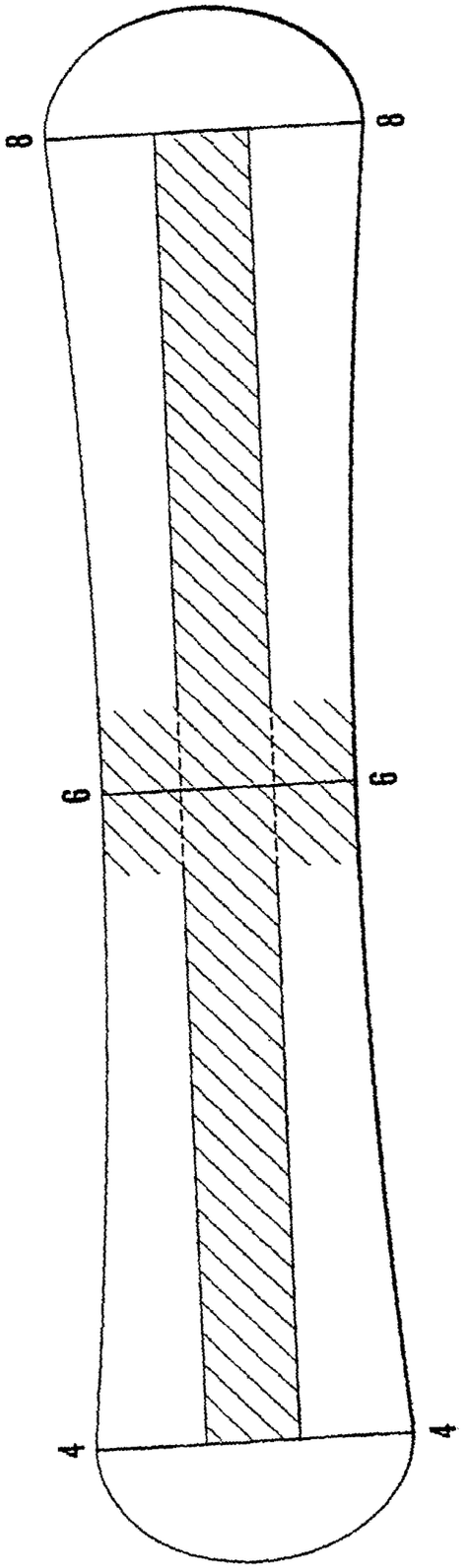

Fig.7

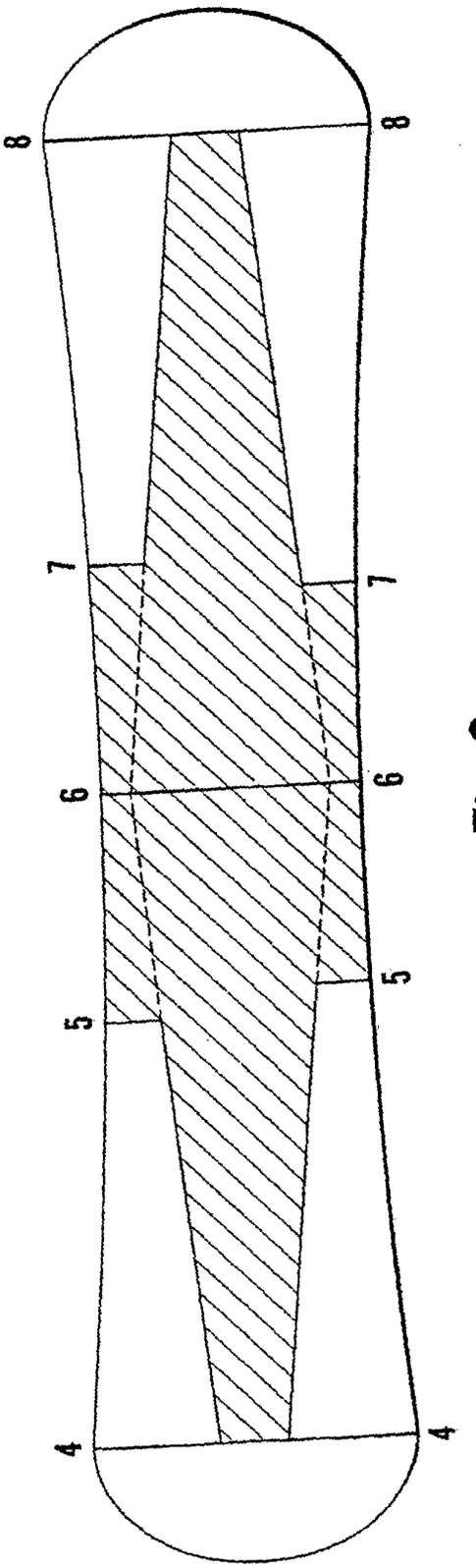

Fig.8

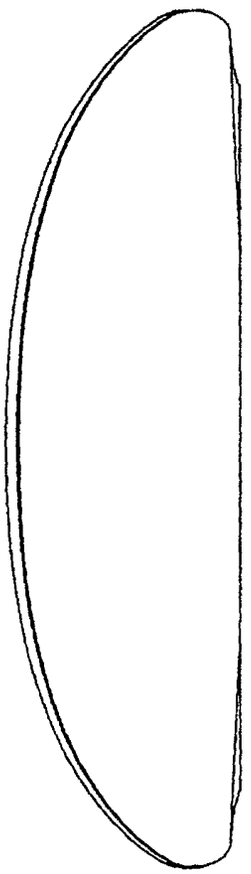

Fig.9

Fig.10