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(54) **Sole or insole for shoes**

(57) A sole or insole for shoes, characterized in that it has, in the heel region, at the foot resting surface, a shape, with reference to the left foot and to size 38 (Italian scale), as shown in the accompanying table 1, table 2, table 3, table 4, table 5, table 6, table 7, table 8 and table 9, and in the region of the plantar arch and of the toes, at the foot resting surface, a shape, with reference to the left foot and to size 38 (Italian scale), as given in the accompanying table 10, table 11, table 12 and table 13.

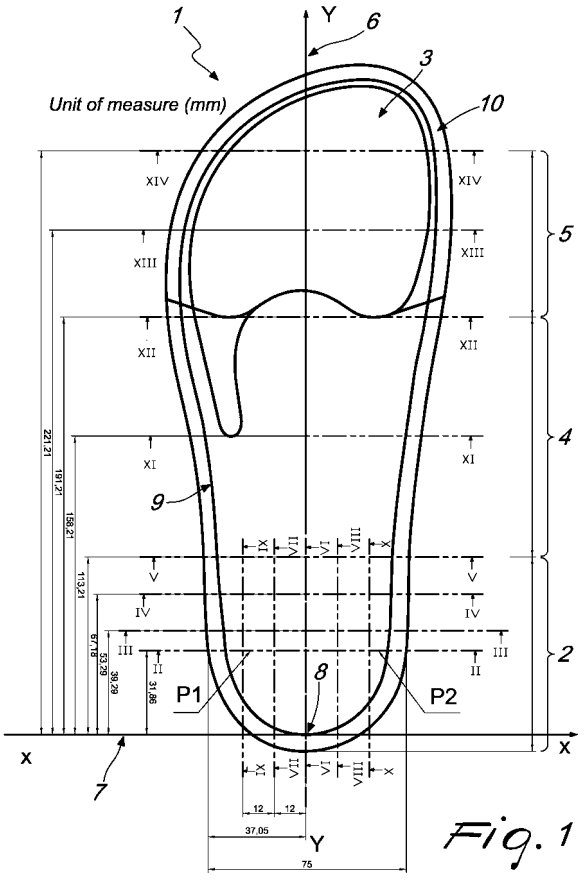

Fig. 1

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Description

[0001] The present invention relates to a sole or insole for shoes.

[0002] It is known that the correct posture of the human body, both while standing and while walking, can be altered by rotations and/or misalignments of the spinal column, caused for example by small differences in leg length, imperfect symmetry of the pelvis, muscle inflammations or contractures, or other congenital or noncongenital disorders; an incorrect posture in turn can cause or increase backache, muscle fatigue, and other articular and/or muscular inflammations.

[0003] An important role in achieving a correct posture is played by the way the feet rest on the ground; less than optimum resting, caused for example by articular diseases or malformations, or even by an unsuitable shape of the sole or insole of the shoes being worn, can worsen the negative effect of abnormal rotations of the spinal column or can even cause such rotations.

[0004] The aim of the present invention is to solve the above mentioned problems, eliminating the drawbacks of the cited background art, by providing a sole or insole for shoes which allows to reduce abnormal rotations of the spinal column, thus allowing to achieve, both while standing and while walking, a better posture, reduced muscle fatigue, better balance, and a reduction of musculoskeletal inflammations.

[0005] Within this aim, an object of the invention is to provide a sole or insole for shoes which can be used advantageously both by healthy users and by users with musculoskeletal disorders.

[0006] Another object is to provide a sole or insole for shoes which is structurally simple and has low manufacturing costs.

[0007] This aim and these and other objects which will become better apparent hereinafter are achieved by a sole or insole for shoes, characterized in that it has, in the heel region, at the foot resting surface, a shape, with reference to the left foot and to size 38 (Italian scale), as shown in the accompanying table 1, table 2, table 3, table 4, table 5, table 6, table 7, table 8 and table 9, and in the region of the plantar arch and of the toes, at said foot resting surface, a shape, with reference to the left foot and to size 38 (Italian scale), as given in the accompanying table 10, table 11, table 12 and table 13.

[0008] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a particular but not exclusive embodiment thereof, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a plan view of a sole or insole according to the invention;
Figure 2 is a sectional view, taken along the line II-II of Figure 1;
Figure 3 is a sectional view, taken along the line III-III of Figure 1;
Figure 4 is a sectional view, taken along the line IV-IV of Figure 1;
Figure 5 is a sectional view, taken along the line V-V of Figure 1;
Figure 6 is a sectional view, taken along the line VI-VI of Figure 1;
Figure 7 is a sectional view, taken along the line VII-VII of Figure 1;
Figure 8 is a sectional view, taken along the line VIII-VIII of Figure 1;
Figure 9 is a sectional view, taken along the line IX-IX of Figure 1;
Figure 10 is a sectional view, taken along the line X-X of Figure 1;
Figure 11 is a sectional view, taken along the line XI-XI of Figure 1;
Figure 12 is a sectional view, taken along the line XII-XII of Figure 1;
Figure 13 is a sectional view, taken along the line XIII-XIII of Figure 1;
Figure 14 is a sectional view, taken along the line XIV-XIV of Figure 1;

[0009] In the exemplary embodiments that follow, individual characteristics, given in relation to specific examples, may actually be interchanged with other different characteristics that exist in other exemplary embodiments.

[0010] Moreover, it is noted that anything found to be already known during the patenting process is understood not to be claimed and to be the subject of a disclaimer.

[0011] With reference to the figures, the reference numeral 1 generally designates a sole or insole for shoes, which has, in a heel region, designated by the reference numeral 2 in Figure 1, at a foot resting surface 3, a shape, with reference to the left foot and to size 38 (Italian scale), as given in the accompanying table 1, table 2, table 3, table 4, table 5, table 6, table 7, table 8 and table 9.

Table 1

	Fig. 1	Cross-section II-II of Fig. 2	Cross-section II-II of Fig. 2
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis A-A of Fig. 2	Z (mm) Distance from axis T-T
	31.86 ± 1	9.17 ± 1	15.13 ± 1
	31.86 ± 1	16.78 ± 1	15.53 ± 1
	31.86 ± 1	24.36 ± 1	16.35 ± 1
Central axis	31.86 ± 1	30.11 ± 1	16.90 ± 1
	31.86 ± 1	30.39 ± 1	16.93 ± 1
	31.86 ± 1	36.43 ± 1	17.67 ± 1
	31.86 ± 1	48.61 ± 1	19.59 ± 1
	31.86 ± 1	57.40 ± 1	22.13 ± 1
	31.86 ± 1	60.2 ± 1	23.61 ± 1

Table 2

	Fig. 1	Cross-section III-III of Fig. 3	Cross-section III-III of Fig. 3
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis B-B of Fig. 3	Z (mm) Distance from axis T-T
	39.29 ± 1	10.32 ± 1	15.25 ± 1
	39.29 ± 1	17.92 ± 1	14.98 ± 1
	39.29 ± 1	25.51 ± 1	15.60 ± 1
Central axis	39.29 ± 1	31.26 ± 1	16.34 ± 1
	39.29 ± 1	37.58 ± 1	17.17 ± 1
	39.29 ± 1	48.06 ± 1	19.52 ± 1
	39.29 ± 1	58.55 ± 1	24.16 ± 1
	39.29 ± 1	60.05 ± 1	24.93 ± 1

Table 3

	Fig. 1	Cross-section IV-IV of Fig. 4	Cross-section IV-IV of Fig. 4
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis C-C of Fig. 4	Z (mm) Distance from axis T-T
	53.29 ± 1	11.41 ± 1	15.85 ± 1
	53.29 ± 1	19.00 ± 1	15.01 ± 1
	53.29 ± 1	26.60 ± 1	15.27 ± 1
Central axis	53.29 ± 1	32.35 ± 1	15.98 ± 1
	53.29 ± 1	32.63 ± 1	16.03 ± 1
	53.29 ± 1	38.67 ± 1	17.09 ± 1
	53.29 ± 1	49.15 ± 1	20.08 ± 1
	53.29 ± 1	59.64 ± 1	26.16 ± 1
	53.29 ± 1	63.03 ± 1	28.83 ± 1

Table 4

	Fig. 1	Cross-section V-V of Fig. 5	Cross-section V-V of Fig. 5
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis D-D of Fig. 5	Z (mm) Distance from axis T-T
	67.18 ± 1	9.67 ± 1	17.68 ± 1
	67.18 ± 1	12.73 ± 1	16.66 ± 1
	67.18 ± 1	20.33 ± 1	15.54 ± 1
	67.18 ± 1	21.67 ± 1	15.54 ± 1
	67.18 ± 1	27.92 ± 1	15.95 ± 1
Central axis	67.18 ± 1	33.67 ± 1	16.78 ± 1
	67.18 ± 1	33.95 ± 1	16.83 ± 1
	67.18 ± 1	39.99 ± 1	18.11 ± 1
	67.18 ± 1	45.67 ± 1	19.67 ± 1
	67.18 ± 1	50.47 ± 1	21.11 ± 1
	67.18 ± 1	57.67 ± 1	25.03 ± 1
	67.18 ± 1	60.96 ± 1	27.74 ± 1
	67.18 ± 1	65.02 ± 1	31.87 ± 1

Table 5

	Cross-section VI-VI of Fig. 6	Fig. 1	Cross-section VI-VI of Fig. 6
	Y (mm) Distance from sectional plane V-V of Fig. 1	X (mm) Distance from axis Y-Y of Fig. 1	Z (mm) Distance from axis T-T
	0.00 ± 1	0.00 ± 1	16.78 ± 1
	13.67 ± 1	0.00 ± 1	15.05 ± 1
	27.44 ± 1	0.00 ± 1	14.56 ± 1
	36.78 ± 1	0.00 ± 1	15.19 ± 1
	46.11 ± 1	0.00 ± 1	15.82 ± 1
	53.23 ± 1	0.00 ± 1	16.94 ± 1
	59.95 ± 1	0.00 ± 1	19.50 ± 1
	64.06 ± 1	0.00 ± 1	22.41 ± 1
	67.19 ± 1	0.00 ± 1	26.32 ± 1

Table 6

	Cross-section VII-VII of Fig. 7	Fig. 1	Cross-section VII-VII of Fig. 7
	Y (mm) Distance from sectional plane V-V of Fig. 1	X (mm) Distance from axis Y-Y of Fig. 1	Z (mm) Distance from axis T-T
	0.00 ± 1	12.00 ± 1	15.54 ± 1
	12.73 ± 1	12.00 ± 1	15.04 ± 1
	27.43 ± 1	12.00 ± 1	14.80 ± 1

(continued)

	Cross-section VII-VII of Fig. 7	Fig. 1	Cross-section VII-VII of Fig. 7
	Y (mm) Distance from sectional plane V-V of Fig. 1	X (mm) Distance from axis Y-Y of Fig. 1	Z (mm) Distance from axis T-T
	35.39 ± 1	12.00 ± 1	15.27 ± 1
	43.35 ± 1	12.00 ± 1	15.84 ± 1
	49.71 ± 1	12.00 ± 1	16.79 ± 1
	55.84 ± 1	12.00 ± 1	18.72 ± 1
	60.89 ± 1	12.00 ± 1	21.67 ± 1
	64.70 ± 1	12.00 ± 1	26.05 ± 1

Table 7

	Cross-section VIII-VIII of Fig. 8	Fig. 1	Cross-section VIII-VIII of Fig. 8
	Y (mm) Distance from sectional plane V-V of Fig. 1	X (mm) Distance from axis Y-Y of Fig. 1	Z (mm) Distance from axis T-T
	0.00 ± 1	-12.00 ± 1	19.67 ± 1
	13.82 ± 1	-12.00 ± 1	18.22 ± 1
	27.40 ± 1	-12.00 ± 1	17.55 ± 1
	35.38 ± 1	-12.00 ± 1	17.88 ± 1
	43.36 ± 1	-12.00 ± 1	18.34 ± 1
	54.88 ± 1	-12.00 ± 1	20.35 ± 1
	64.59 ± 1	-12.00 ± 1	26.57 ± 1

Table 8

	Cross-section IX-IX of Fig. 9	Fig. 1	Cross-section IX-IX of Fig. 9
	Y (mm) Distance from sectional plane V-V of Fig. 1	X (mm) Distance from axis Y-Y of Fig. 1	Z (mm) Distance from axis T-T
	0.00 ± 1	24.00 ± 1	17.68 ± 1
	10.55 ± 1	24.00 ± 1	16.61 ± 1
	20.83 ± 1	24.00 ± 1	15.55 ± 1
	30.70 ± 1	24.00 ± 1	15.10 ± 1
	40.25 ± 1	24.00 ± 1	15.48 ± 1
	47.94 ± 1	24.00 ± 1	17.44 ± 1
	53.84 ± 1	24.00 ± 1	21.64 ± 1

Table 9

	Cross-section X-X of Fig. 10	Fig. 1	Cross-section X-X of Fig. 10
	Y (mm) Distance from sectional plane V-V of Fig. 1	X (mm) Distance from axis Y-Y of Fig. 1	Z (mm) Distance from axis T-T
	0.00 ± 1	-24.00 ± 1	25.03 ± 1

(continued)

	Cross-section X-X of Fig. 10	Fig. 1	Cross-section X-X of Fig. 10
	Y (mm) Distance from sectional plane V-V of Fig. 1	X (mm) Distance from axis Y-Y of Fig. 1	Z (mm) Distance from axis T-T
	13.64 ± 1	-24.00 ± 1	23.68 ± 1
	27.24 ± 1	-24.00 ± 1	21.92 ± 1
	35.20 ± 1	-24.00 ± 1	21.09 ± 1
	43.19 ± 1	-24.00 ± 1	20.80 ± 1
	49.18 ± 1	-24.00 ± 1	21.64 ± 1
	54.74 ± 1	-24.00 ± 1	24.03 ± 1

[0012] Advantageously, the sole or insole 1 has, in the region of the plantar arch, designated by the reference numeral 4 in Figure 1, and of the toes, designated by the reference numeral 5 in Figure 1, at the foot resting surface 3, a shape, with reference to the left foot and to size 38 (Italian scale), as given in the accompanying table 10, table 11, table 12 and table 13.

Table 10

	Fig. 1	Cross-section XI-XI of Fig. 11	Cross-section XI-XI of Fig. 11
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis M-M of Fig. 11	Z (mm) Distance from axis T-T
	113.21 ± 1	17.38 ± 1	14.60 ± 1
	113.21 ± 1	24.97 ± 1	16.25 ± 1
	113.21 ± 1	32.57 ± 1	17.85 ± 1
Central axis	113.21 ± 1	38.32 ± 1	18.93 ± 1
	113.21 ± 1	44.63 ± 1	19.83 ± 1
	113.21 ± 1	55.12 ± 1	21.50 ± 1
	113.21 ± 1	65.61 ± 1	26.28 ± 1
	113.21 ± 1	74.64 ± 1	36.22 ± 1

Table 11

	Fig. 1	Cross-section XII-XII of Fig. 12	Cross-section XII-XII of Fig. 12
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis N-N of Fig. 12	Z (mm) Distance from axis T-T
	158.21 ± 1	26.50 ± 1	13.30 ± 1
	158.21 ± 1	34.09 ± 1	14.55 ± 1
	158.21 ± 1	41.69 ± 1	15.23 ± 1
Central axis	158.21 ± 1	47.44 ± 1	15.31 ± 1
	158.21 ± 1	53.75 ± 1	14.73 ± 1
	158.21 ± 1	64.43 ± 1	13.66 ± 1
	158.21 ± 1	74.73 ± 1	13.56 ± 1
	158.21 ± 1	92.52 ± 1	23.19 ± 1

Table 12

	Fig. 1	Cross-section XIII-XIII of Fig. 13	Cross-section XIII-XIII of Fig. 13
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis O-O of Fig. 13	Z (mm) Distance from axis T-T
	191.21 ± 1	21.99 ± 1	12.89 ± 1
	191.21 ± 1	37.18 ± 1	12.33 ± 1
Central axis	191.21 ± 1	42.93 ± 1	12.27 ± 1
	191.21 ± 1	49.24 ± 1	12.23 ± 1
	191.21 ± 1	70.22 ± 1	12.34 ± 1
	191.21 ± 1	88.87 ± 1	15.64 ± 1

Table 13

	Fig. 1	Cross-section XIV-XIV of Fig. 14	Cross-section XIV-XIV of Fig. 14
	Y (mm) Distance from axis X-X of Fig. 1	X (mm) Distance from axis P-P of Fig. 14	Z (mm) Distance from axis T-T
	221.21 ± 1	8.25 ± 1	13.28 ± 1
Central axis	221.21 ± 1	23.44 ± 1	11.56 ± 1
	221.21 ± 1	29.29 ± 1	11.87 ± 1
	221.21 ± 1	35.50 ± 1	11.49 ± 1
	221.21 ± 1	56.48 ± 1	11.68 ± 1
	221.21 ± 1	74.70 ± 1	14.21 ± 1

[0013] All the measurements given in the accompanying tables 1 to 13 are in millimeters.

[0014] All the measurements given in the accompanying tables have a tolerance of more or less 1 millimeter.

[0015] In order to obtain tables 1 to 13, first of all an axis Y-Y, designated by the reference numeral 6 in Figure 1, which corresponds to the longitudinal central axis of the sole or insole 1, and an axis X-X, designated by the reference numeral 7 in Figure 1, which is perpendicular to the axis Y-Y and passes through an intersection point 8 between the axis Y-Y and the plan projection of a perimetric edge 9 of the foot contact surface 3, were defined.

[0016] In the exemplary embodiment shown in the accompanying figures, an annular ridge 10 is provided so as to enclose the foot resting surface 3 perimetrically and can have a chosen width.

[0017] To obtain tables 1 to 4 and 10 to 13, sectional planes which are perpendicular to the axis Y-Y of Figure 1 were then defined; Figure 2, for example, is a sectional view taken along the line II-II of Figure 1, at right angles to the axis Y-Y and having a distance from the axis X-X of Figure 1 equal to (31.86 ± 1) millimeters.

[0018] The value Y given in the first column of tables 1 to 4 and 10 to 13 corresponds to the distance of all the points of the corresponding cross-sections from the axis X-X of Figure 1; the first column of table 1 gives, for example, a value equal to (31.86 ± 1) millimeters for all the points given in said table, equal to the distance of the line II-II from the axis X-X of Figure 1.

[0019] In tables 1 to 4 and 10 to 13, the value indicated as X and given in the second column represents the distance of a given point of the corresponding cross-section from a vertical axis which passes through the portion of the perimetric edge 9 of the foot resting surface 3, arranged at the outer side of the foot.

[0020] For example, with reference to the cross-section taken along the line II-II of Figure 1, shown in Figure 2, the value X given in the second column of table 1 represents the distance of a given point from an axis A-A, designated by the reference numeral 11 in Figure 2.

[0021] In tables 1 to 4 and 10 to 13, the value indicated as Z and given in the third column represents the height of a given point with respect to a horizontal plane T-T, designated by the reference numeral 12, which is the same for all the cross-sections taken and which, in the example shown in the accompanying figures, passes through the flat lower surface

13 of the sole or insole 1.

[0022] In tables 1 to 4 and 10 to 13, the coordinates of the point of the foot resting surface 3 through which the longitudinal central plane 14 of the sole or insole 1 passes are highlighted for each cross-section.

[0023] The accompanying tables 5, 6, 7, 8 and 9 refer respectively to the sectional views taken along the lines VI-VI, VII-VII, VIII-VIII, IX-IX and X-X of Figure 1; the value X given in the second column of these tables is the distance of all the points of the respective cross-section from the axis Y-Y of Figure 1; for example, in table 6 the value X is always equal to (12.00 ± 1) millimeters.

[0024] Again with reference to the accompanying tables 5, 6, 7, 8 and 9, the value Y given in the first column corresponds to the distance of a given point from the sectional plane V-V of Figure 1, while the value referenced as Z and given in the third column represents the height of a given point with respect to the horizontal plane T-T.

[0025] Advantageously, for size 38 (Italian scale) and for the left foot, in the sectional view taken along the line II-II of Figure 1 and shown in Figure 2, the difference between the distance from the plane T-T of the point designated by the reference sign P2 and the distance from the plane T-T of the point designated by the reference sign P1 is equal to (7,00 ± 1) millimeters.

[0026] Advantageously, once all the points whose coordinates are given in the accompanying tables 1 to 13 have been identified, the shape of the foot resting surface 3 for left foot and for size 38 (Italian scale) can be obtained by interpolating said points.

[0027] For the right foot, the shape of the foot resting surface 3 of the sole or insole 1 is advantageously mirror-symmetrical to the one for the left foot.

[0028] Advantageously, the shape of the foot resting surface 3 for a different size is obtained by multiplying the values of the length (designated in tables 1 to 13 by the reference letter Y), width (designated in tables 1 to 13 by the reference letter X) and height (designated in tables 1 to 13 by the reference letter Z) given in tables 1 to 13 respectively by the multiplying factors indicated by the reference signs LU, LA and AL and given in the accompanying table 14.

Table 14

Size (Italian scale)	**LU (multiplication factor for length measurements - Y)**	**LA (multiplication factor for width measurements - X)**	**AL (multiplication factor for height measurements - Z)**
35.5	0.9360	0.9560	0.9560
37.5	0.9872	0.9912	0.9912
38.0	1.0000	1.0000	1.0000
38.5	1.0128	1.0088	1.0088
39.5	1.0384	1.0264	1.0264
41.5	1.0897	1.0616	1.0616
42.5	1.1153	1.0792	1.0792
43.5	1.1409	1.0968	1.0968
45.5	1.1921	1.1319	1.1319

[0029] For example, for a size 43.5 (Italian scale), the distance of the sectional plane II-II from the axis X-X of Figure 1 is equal to (36.349074 ± 1) millimeters; this value is obtained by multiplying the distance of the sectional plane II-II from the axis X-X for size 38 (Italian scale), given in table 1 and equal to (31.86 ± 1) millimeters, by the scale factor LU for size 43.5 (Italian scale), given in table 14 and equal to 1.1409.

[0030] Likewise, with reference to the sectional view taken along the line II-II shown in Figure 2, for a size 43.5 (Italian scale) the distance of the longitudinal central axis from the axis A-A is equal, for size 43.5 (Italian scale) to (33.024648 ± 1) millimeters; this value is obtained by multiplying the distance of the longitudinal central axis from the axis A-A for size 38 (Italian scale), given in table 1 and equal to (30.11 ± 1) millimeters, by the scale factor LA for size 43.5 (Italian scale), given in table 14 and equal to 1.0968.

[0031] Likewise, again with reference to Figure 2, the distance from the axis T-T of the point of the foot resting surface 3 through which the longitudinal central axis of the sole or insole 1 passes is equal, for size 43.5 (Italian scale) to (18.53592 ± 1) millimeters; this value is obtained by multiplying the corresponding value for size 38 (Italian scale), given in table 1 and equal to (16.90 ± 1) millimeters, by the scale factor AL for size 43.5 (Italian scale), given in table 1 and equal to 1.0968.

[0032] The multiplying factors LU, LA and AL related to sizes not listed in the accompanying table 14 can be obtained

by linear interpolation of the values given in said table.

[0033] Once the shape of the foot resting surface 3 has been defined both for the right foot and for the left foot, it is possible to provide a shoe whose sole has said shape or also to provide an insole to be applied detachably within an existing shoe.

[0034] It has thus been found that the invention has achieved the intended aim and objects, a sole or insole for shoes having been devised which, by virtue of the particular shape of the foot resting surface, transmits thereto reaction forces which contrast the abnormal rotations of the spinal column, thus allowing to achieve, both while standing and while walking, a better posture, reduced muscle fatigue, better balance, and reduction of musculoskeletal inflammations.

[0035] The reaction forces transmitted to the foot by virtue of the particular shape of the foot resting surface cause in particular a discharge of weight from the lumbar region, so as to attenuate and/or eliminate backache.

[0036] The sole or insole according to the invention further allows to achieve better sensitivity in the resting of the foot on the ground, with a consequent increase in coordination and both static and dynamic balance.

[0037] Further, the production costs of the sole or insole according to the invention remain low, since it is provided only by means of components which are easy to manufacture and/or assemble.

[0038] The invention is of course susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0039] Of course, the materials used and the dimensions that constitute the individual components of the invention may be more pertinent according to specific requirements.

[0040] The various means for performing certain different functions need not certainly coexist only in the illustrated embodiment but can be present per se in many embodiments, including ones that are not illustrated.

[0041] The characteristics indicated as advantageous, convenient or the like may also be omitted or be replaced with equivalents.

[0042] The disclosures in Italian Patent Application No. TV2007A000046 from which this application claims priority are incorporated herein by reference.

[0043] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A sole or insole for shoes, **characterized in that** it has, in the heel region, at the foot resting surface, a shape, with reference to the left foot and to size 38 (Italian scale), as shown in the accompanying table 1, table 2, table 3, table 4, table 5, table 6, table 7, table 8 and table 9, and in the region of the plantar arch and of the toes, at said foot resting surface, a shape, with reference to the left foot and to size 38 (Italian scale), as given in the accompanying table 10, table 11, table 12 and table 13.

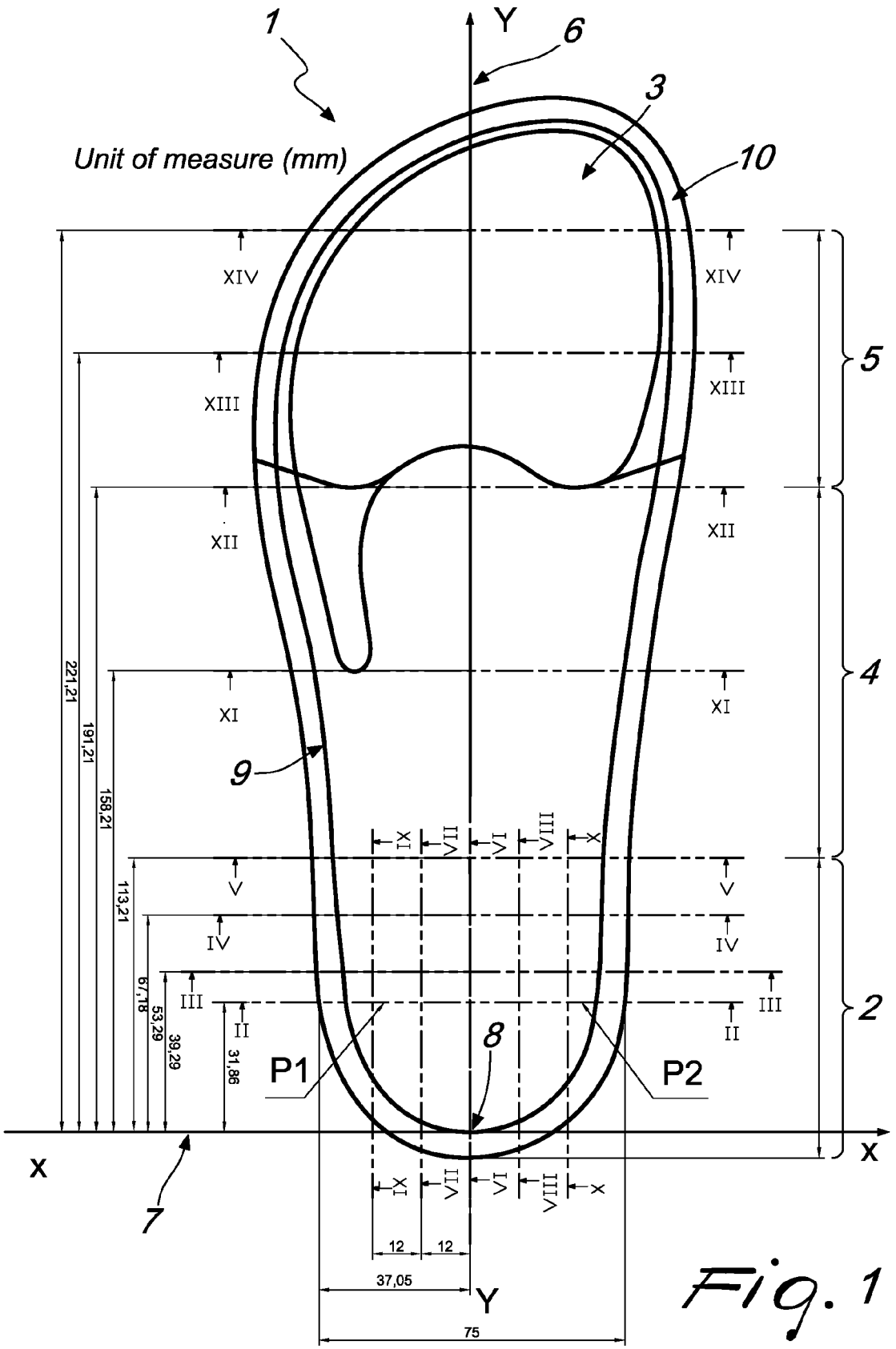
2. The sole or insole for shoes, **characterized in that** it has, in the heel region, at the foot resting surface, a shape, with reference to the left foot and to size 38 (Italian scale), according to the accompanying table 1, table 2, table 3, table 4, table 5, table 6, table 7, table 8 and table 9.

3. The sole or insole according to claims 1 or 2, **characterized in that** the shape of said foot resting surface for a different size is obtained by multiplying the values of the length (Y), width (X) and height (Z) given in said tables 1 to 13 respectively by the multiplying factors indicated by the reference signs LU, LA and AL and given in the accompanying table 14.

4. The sole or insole according to claims 1 and 3, **characterized in that** said multiplying factors LU, LA and AL related to a size not given in said accompanying table 14 can be obtained by performing linear interpolation of the values given in said table.

5. The sole or insole according to one or more of the preceding claims, **characterized in that** for size 38 (Italian scale) and for the left foot, in the cross-section taken along the line II-II of Figure 1, the difference between the distance from the plane T-T of Figure 2 of the point designated by the reference sign P2 in Figure 2 and the distance from said plane T-T of the point designated by the reference sign P1 in Figure 2 is equal to (7.00 $\pm$ 1) millimeters.

6. The sole or insole according to one or more of the preceding claims, **characterized in that** said foot resting surface has, for the right foot, a shape which is mirror-symmetrical with respect to the shape for the left foot.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Y
6
3
10
Unit of measure (mm)
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XIII
XII
XI
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IV
III
II
5
4
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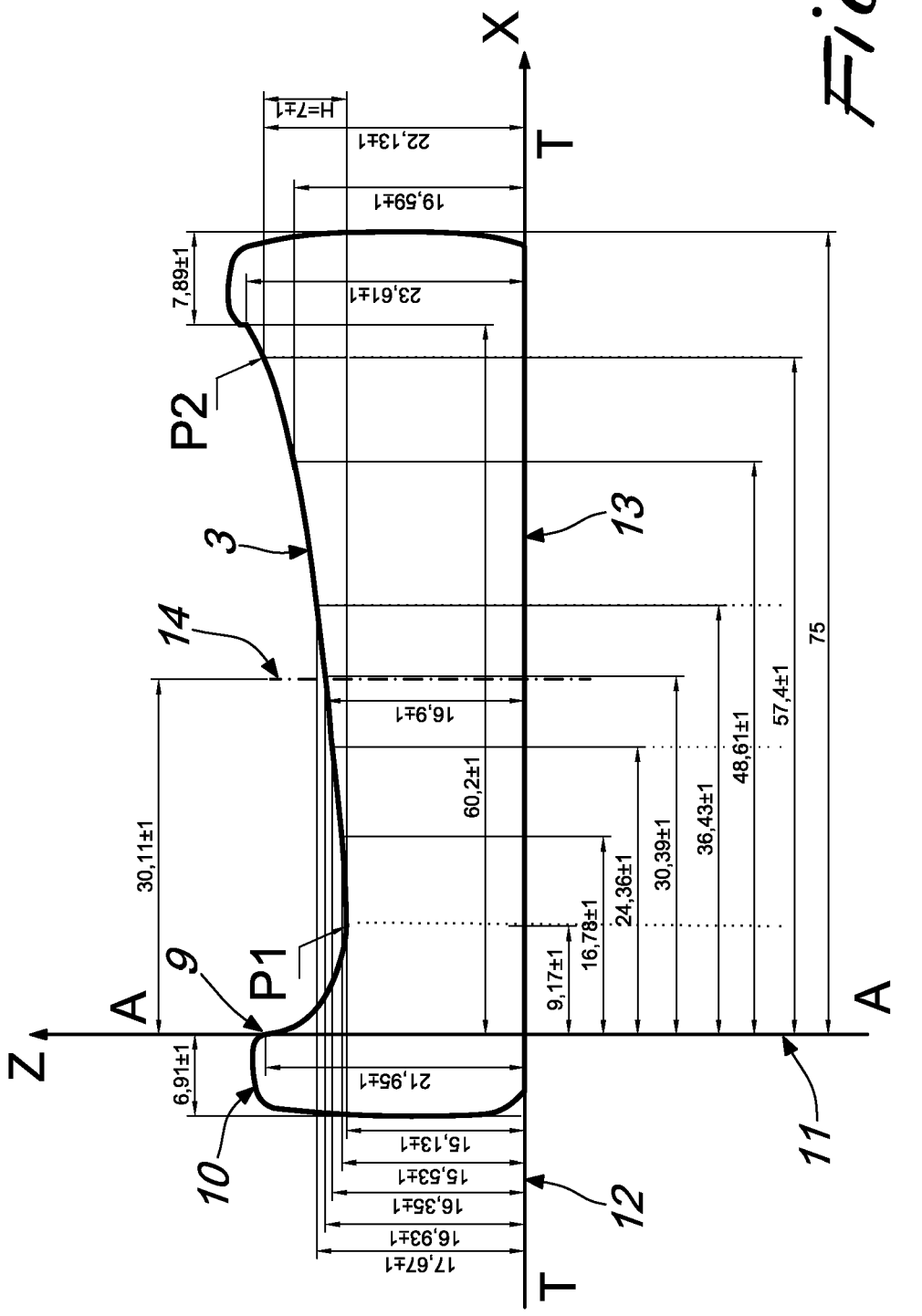
X
X
Y
221,21
191,21
158,21
113,21
67,18
53,29
39,29
31,86
12
12
37,05
75

Fig. 1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30,39±1
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16,78±1
9,17±1
16,9±1
60,2±1
30,11±1
9
P1
A
Z
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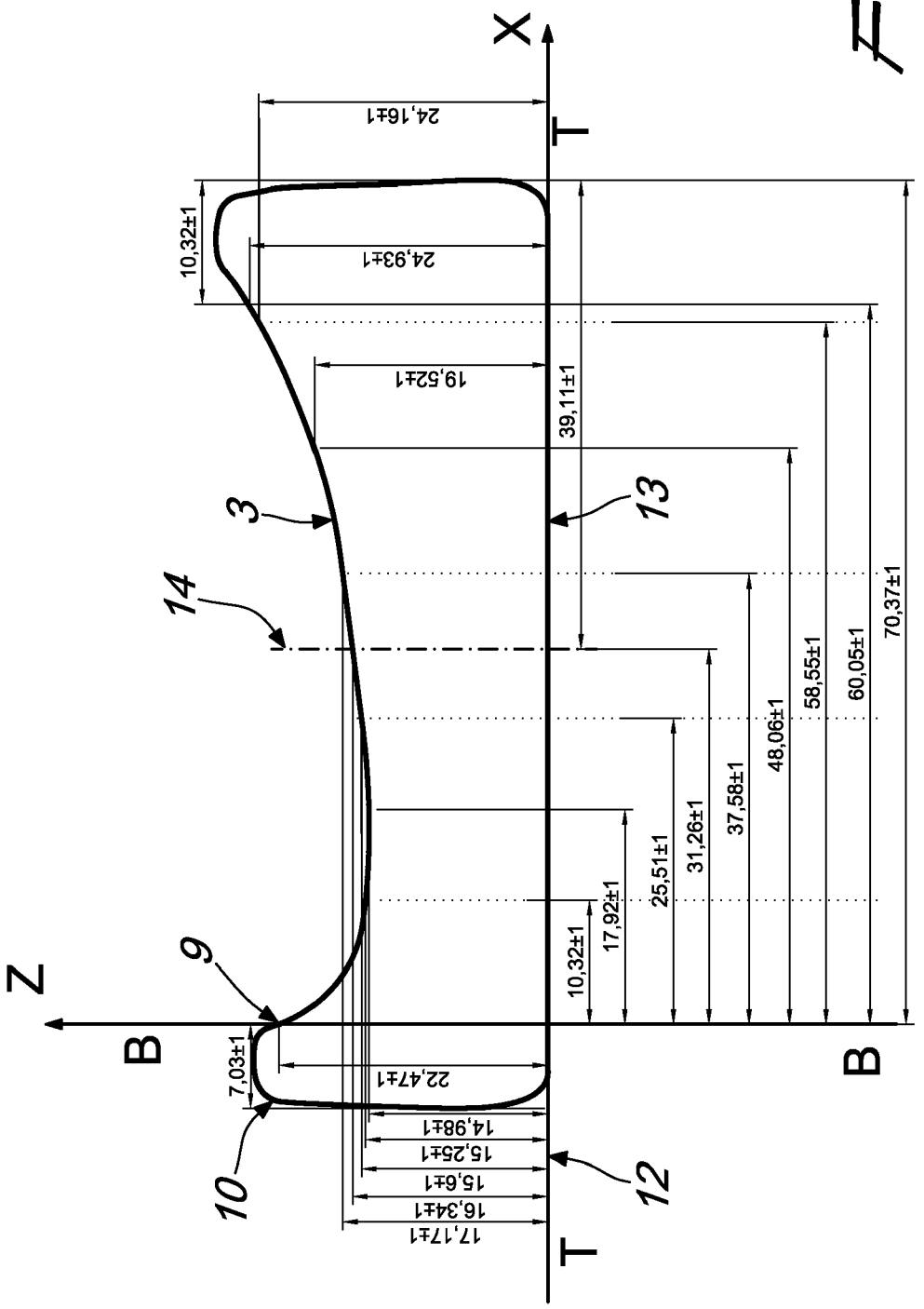
12
T
11

Fig. 2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T
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B
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14
9
10
12
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37,58±1
48,06±1
58,55±1
60,05±1
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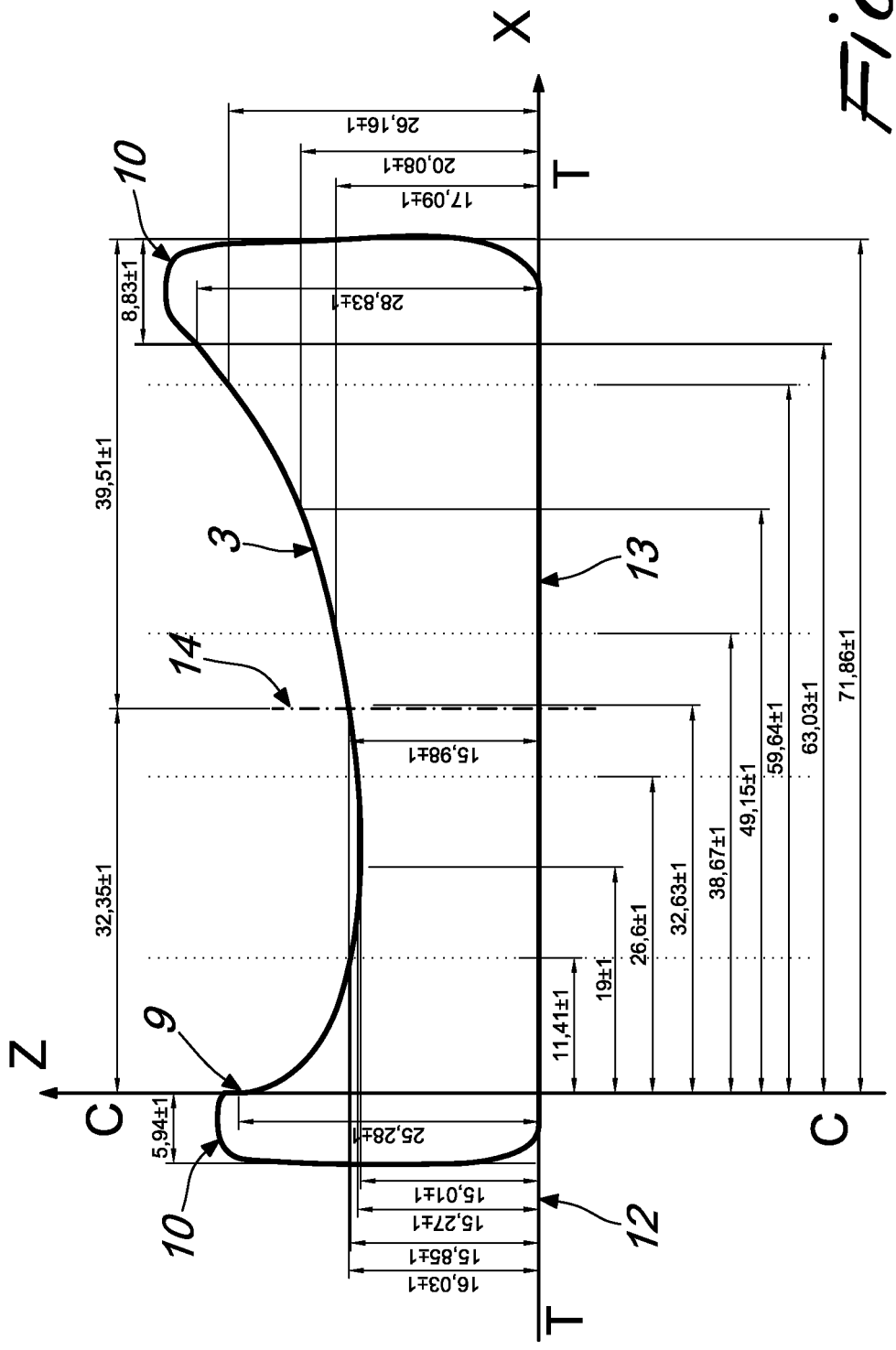
17,17±1

Fig. 3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15,98±1
11,41±1
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26,6±1
32,63±1
38,67±1
49,15±1
59,64±1
63,03±1
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15,01±1
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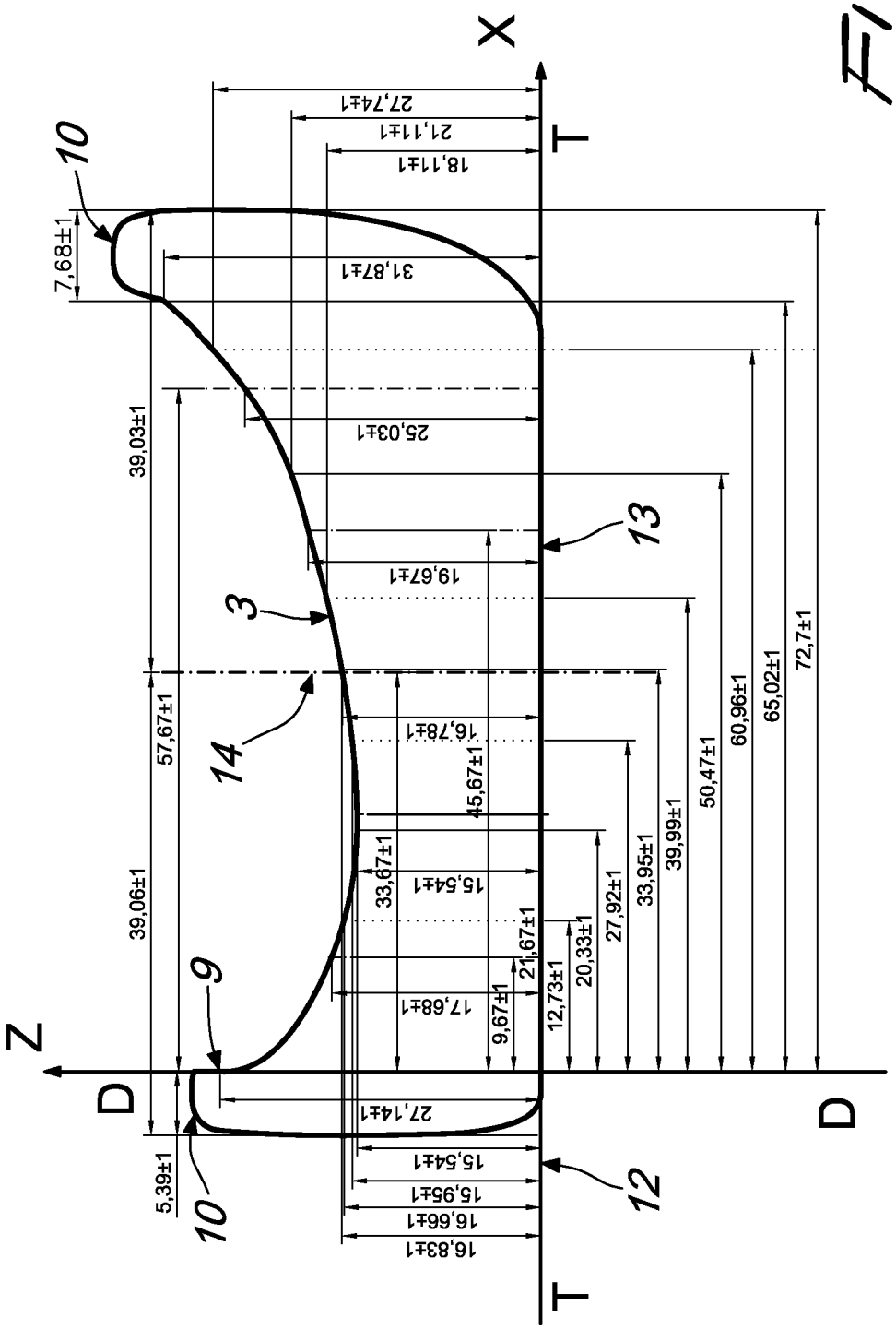
13
14

Fig. 4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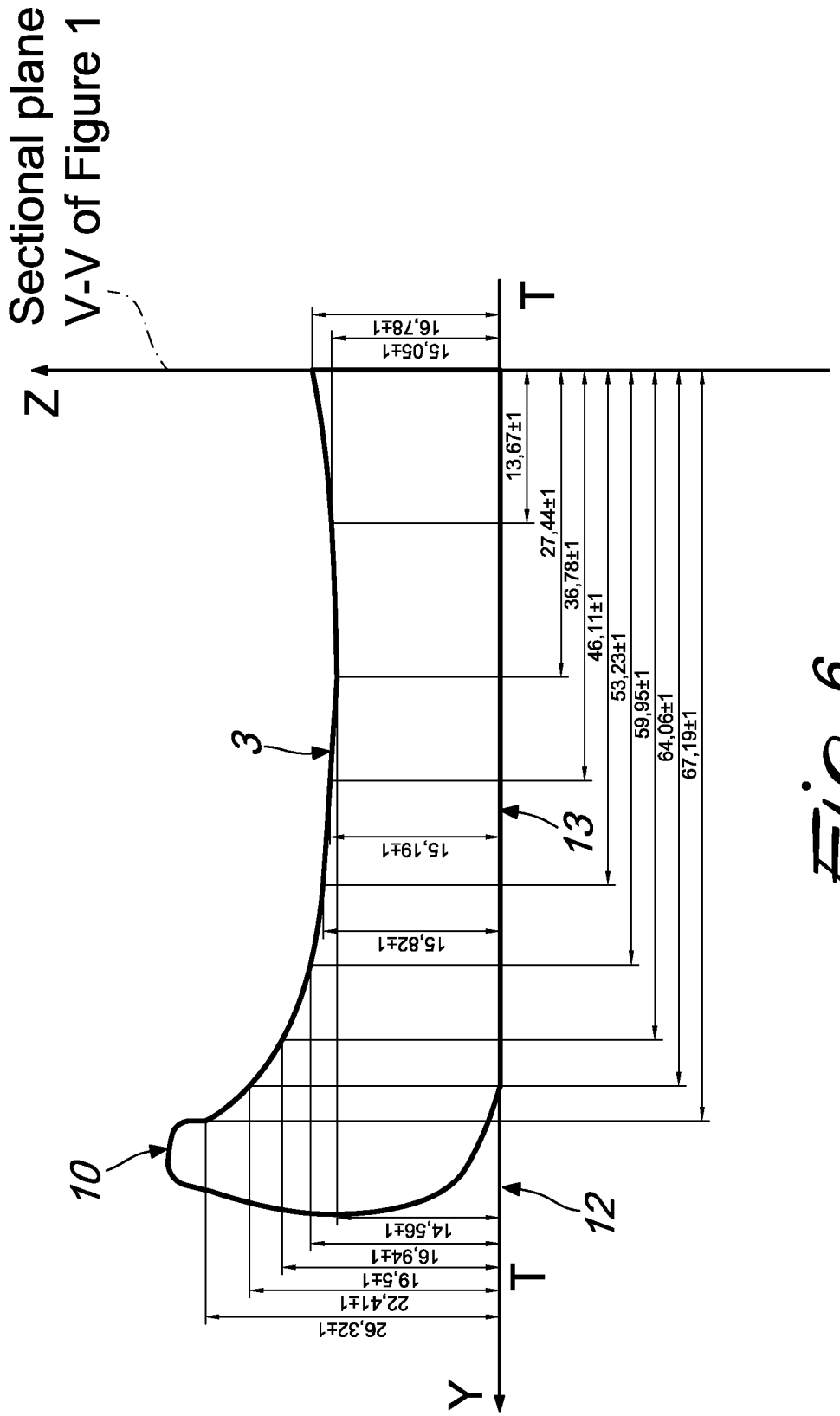
16,83±1

Fig. 5


Sectional plane
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3
13
15,19±1
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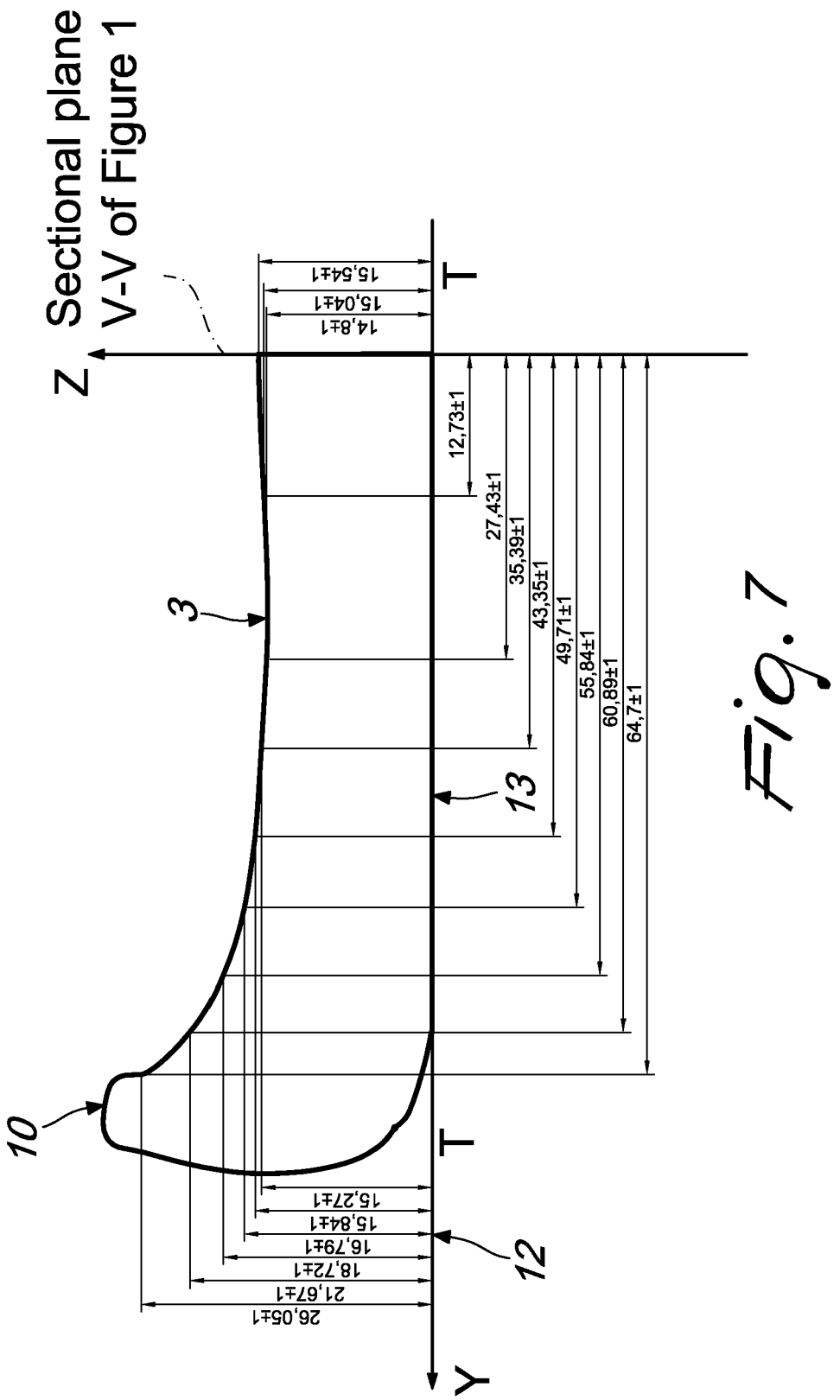
22,41±1
26,32±1
T
Y

Fig. 6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Sectional plane
V-V of Figure 1
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3
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12
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35,39±1
43,35±1
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55,84±1
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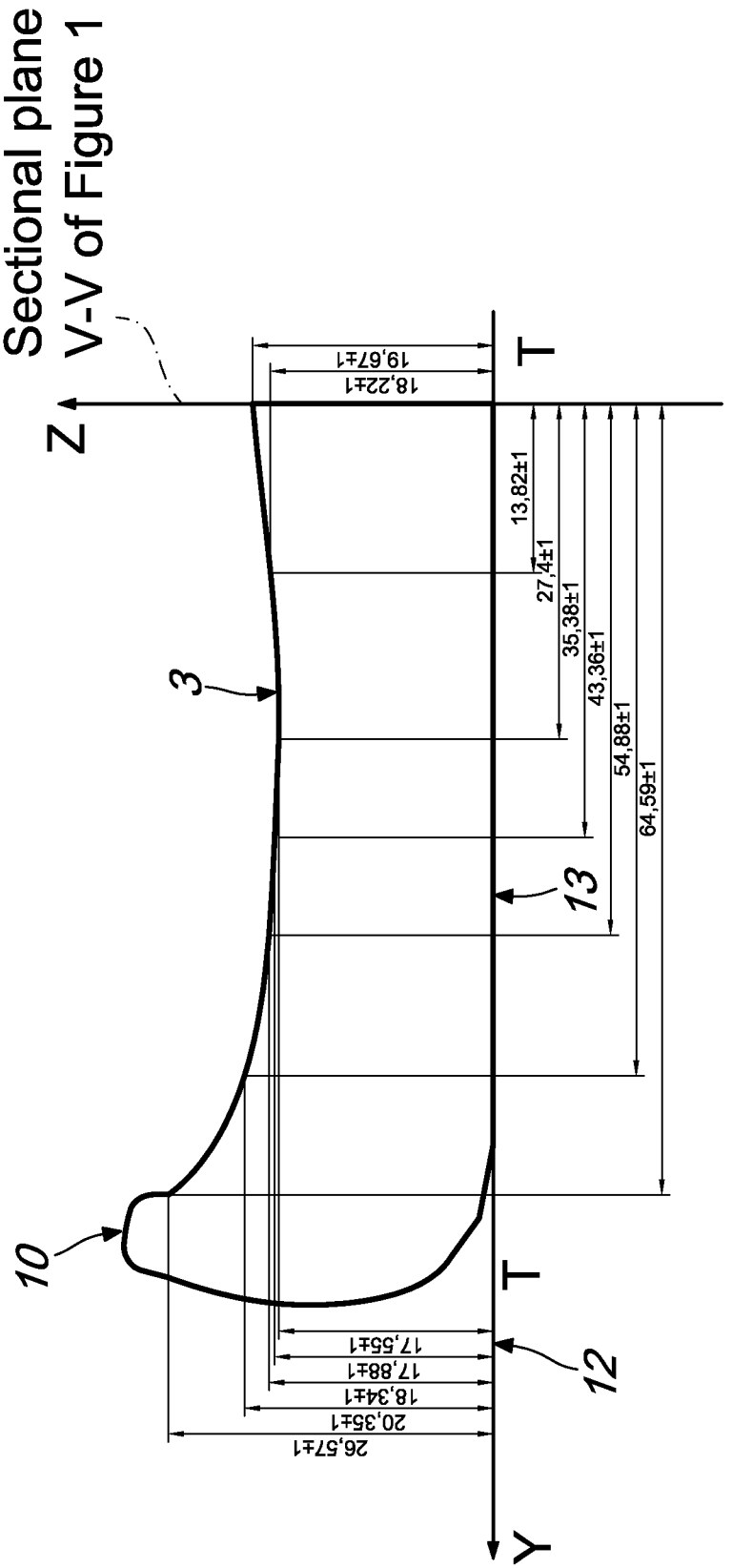
26,05±1

Fig. 7


Sectional plane
V-V of Figure 1
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T
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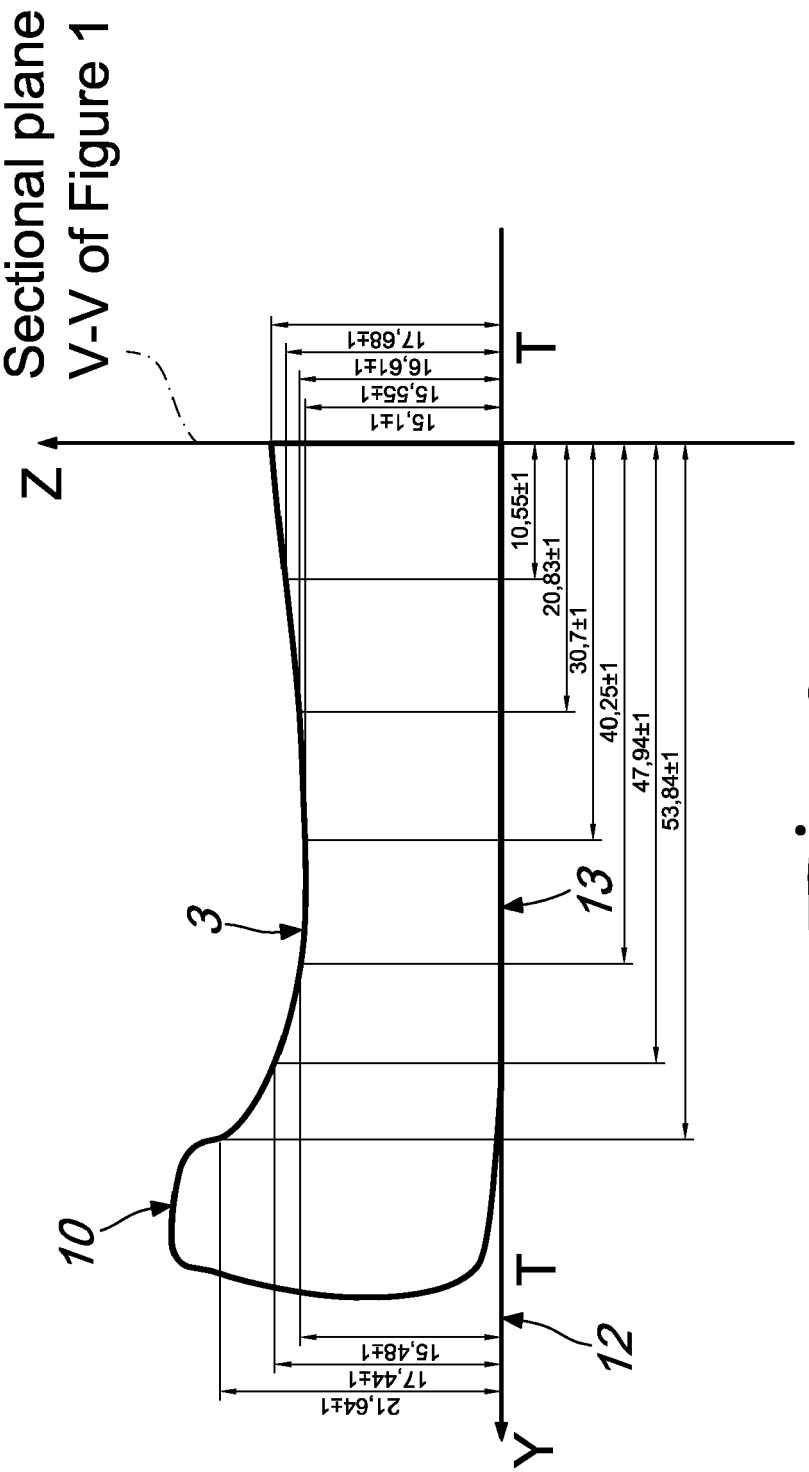
20,35±1
26,57±1
Y

Fig. 8


Sectional plane
V-V of Figure 1
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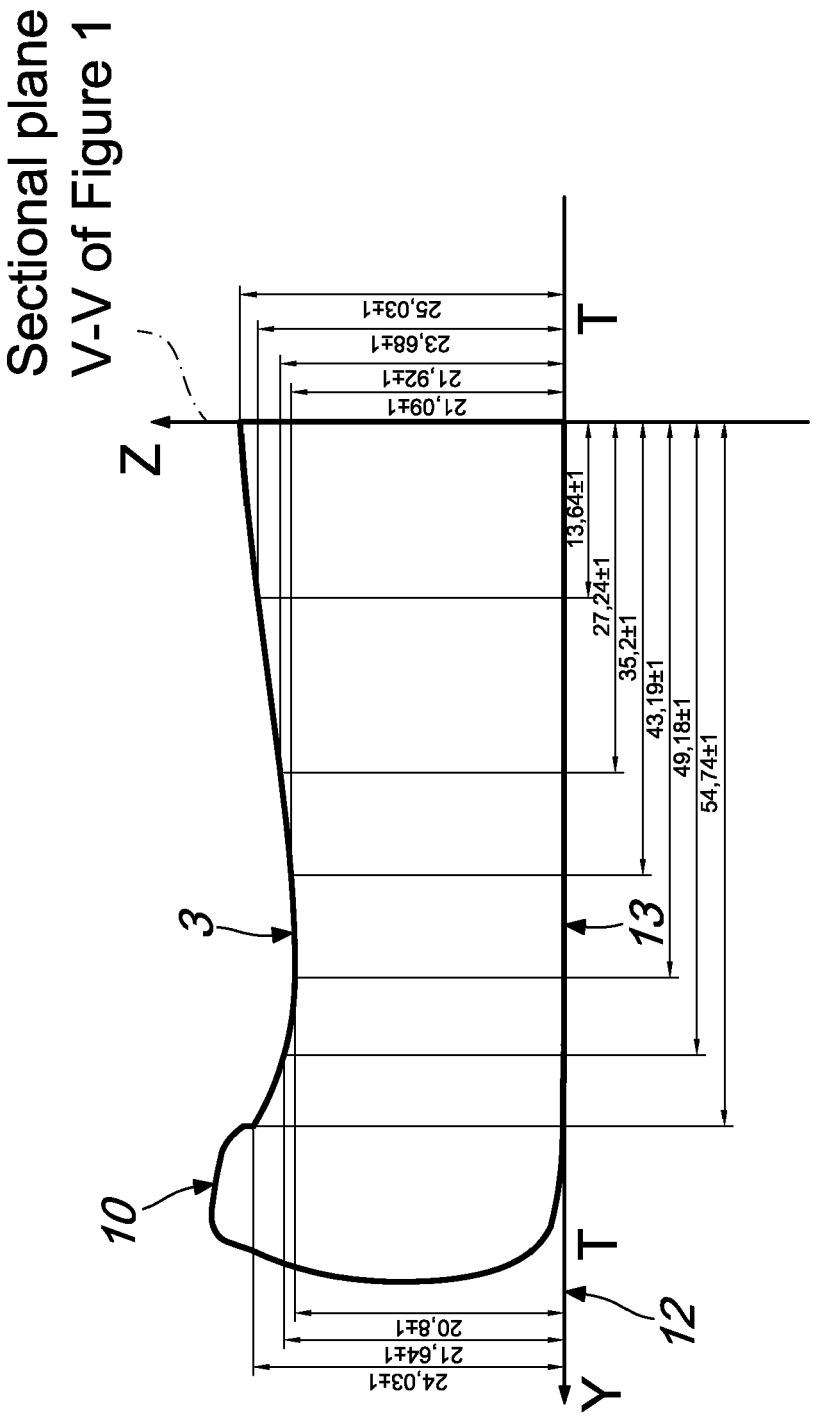
12
13

Fig. 9


Sectional plane
V-V of Figure 1
Z
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24,03±1
Y

Fig. 10

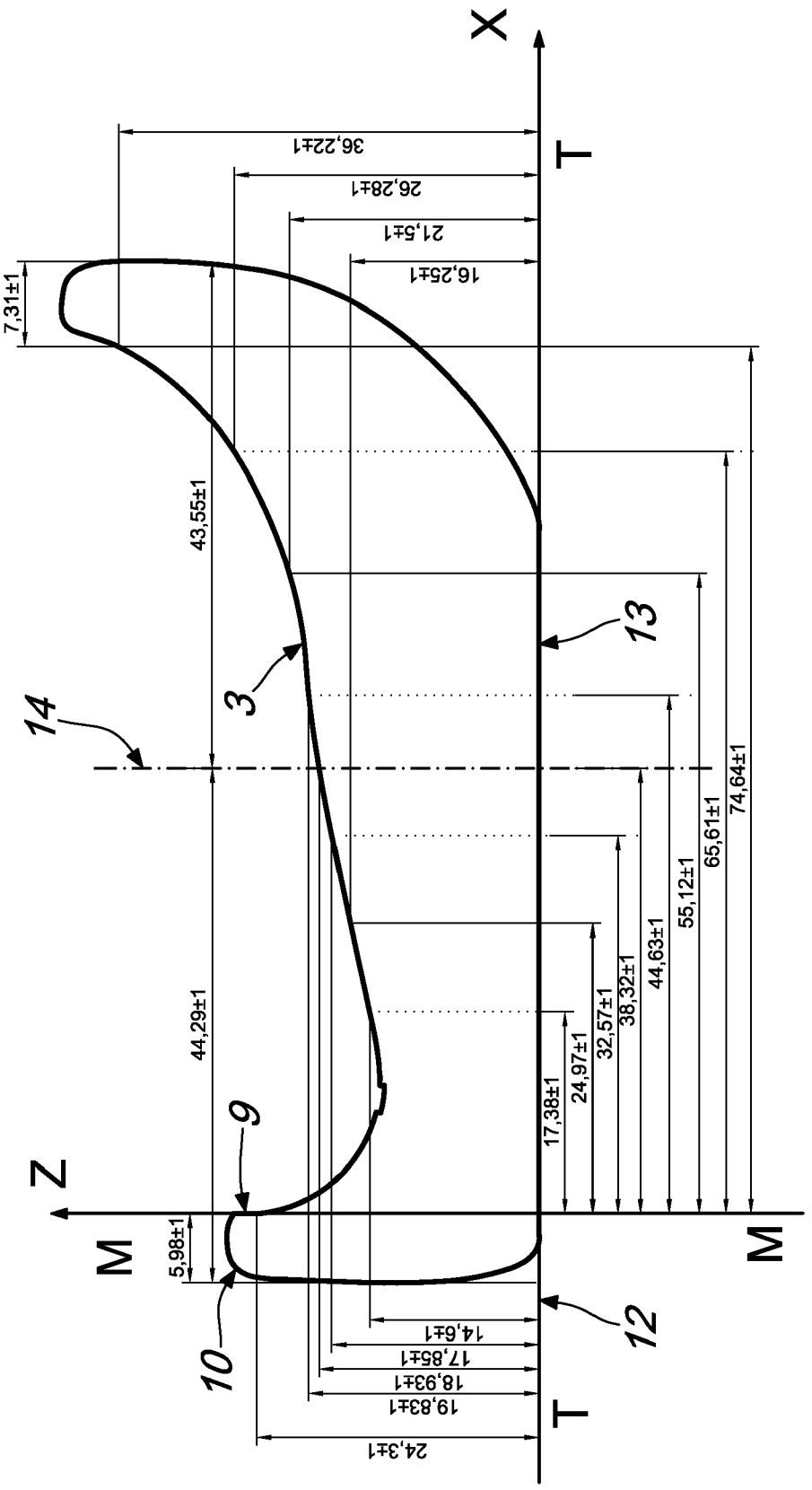
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Fig. 11

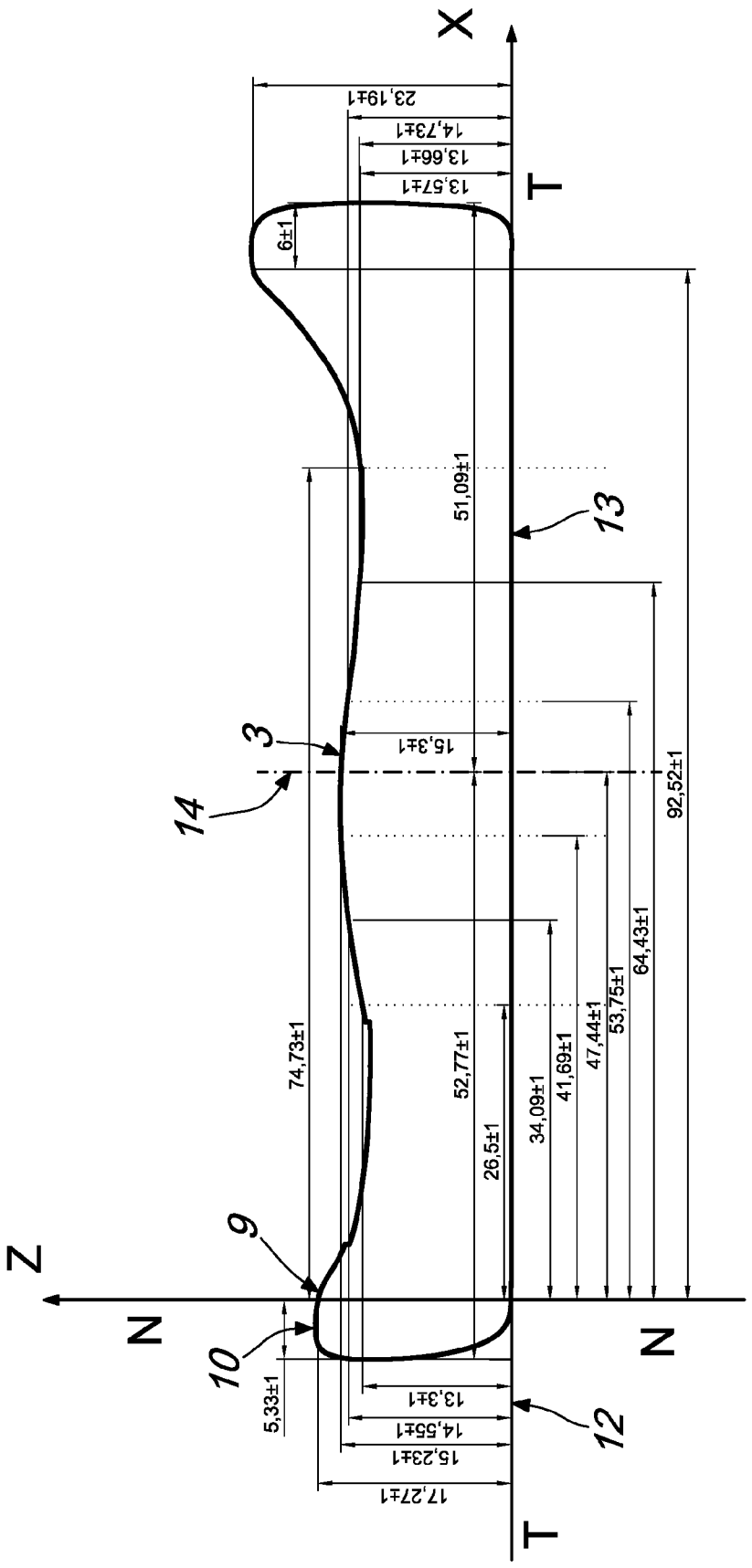
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Fig. 12

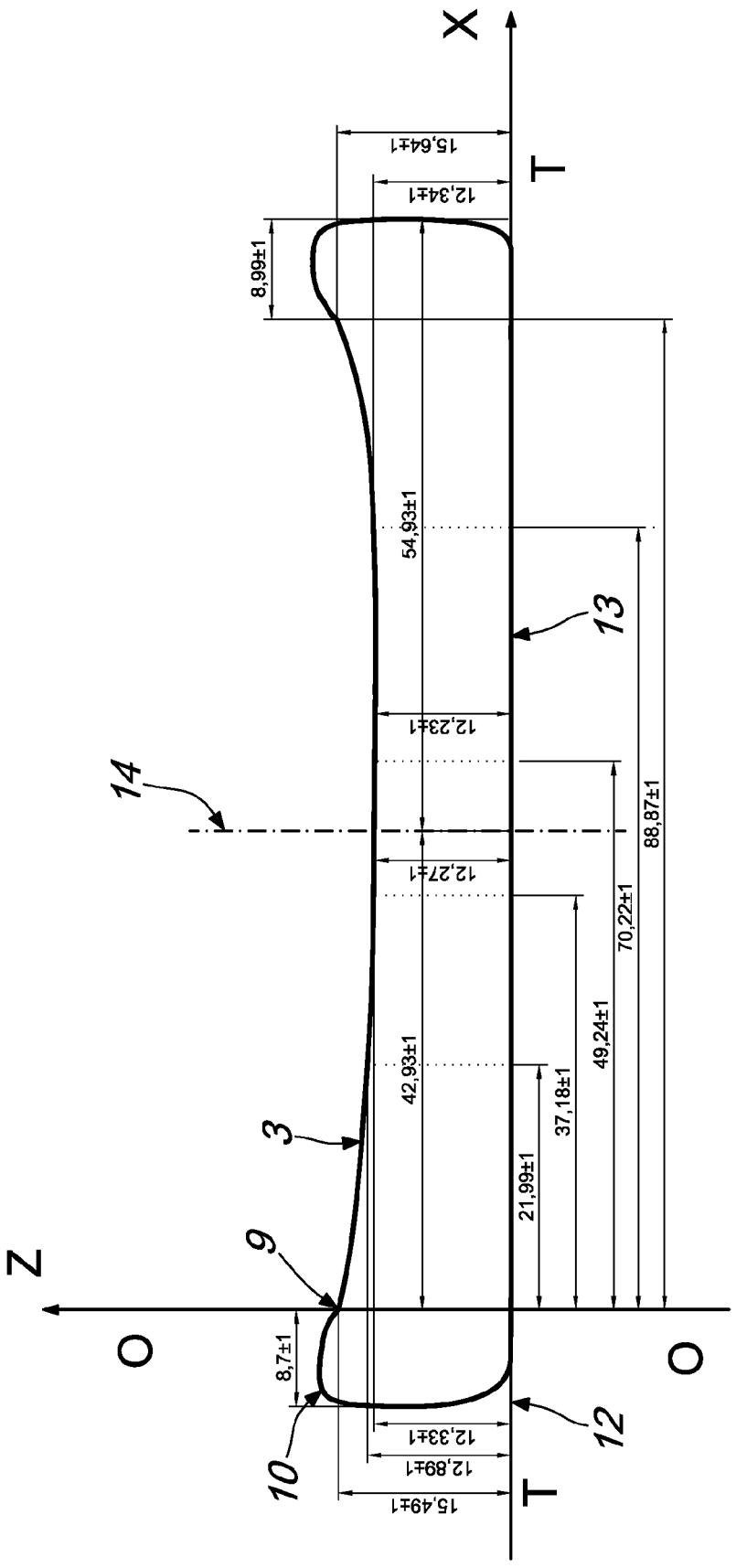
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Fig. 13

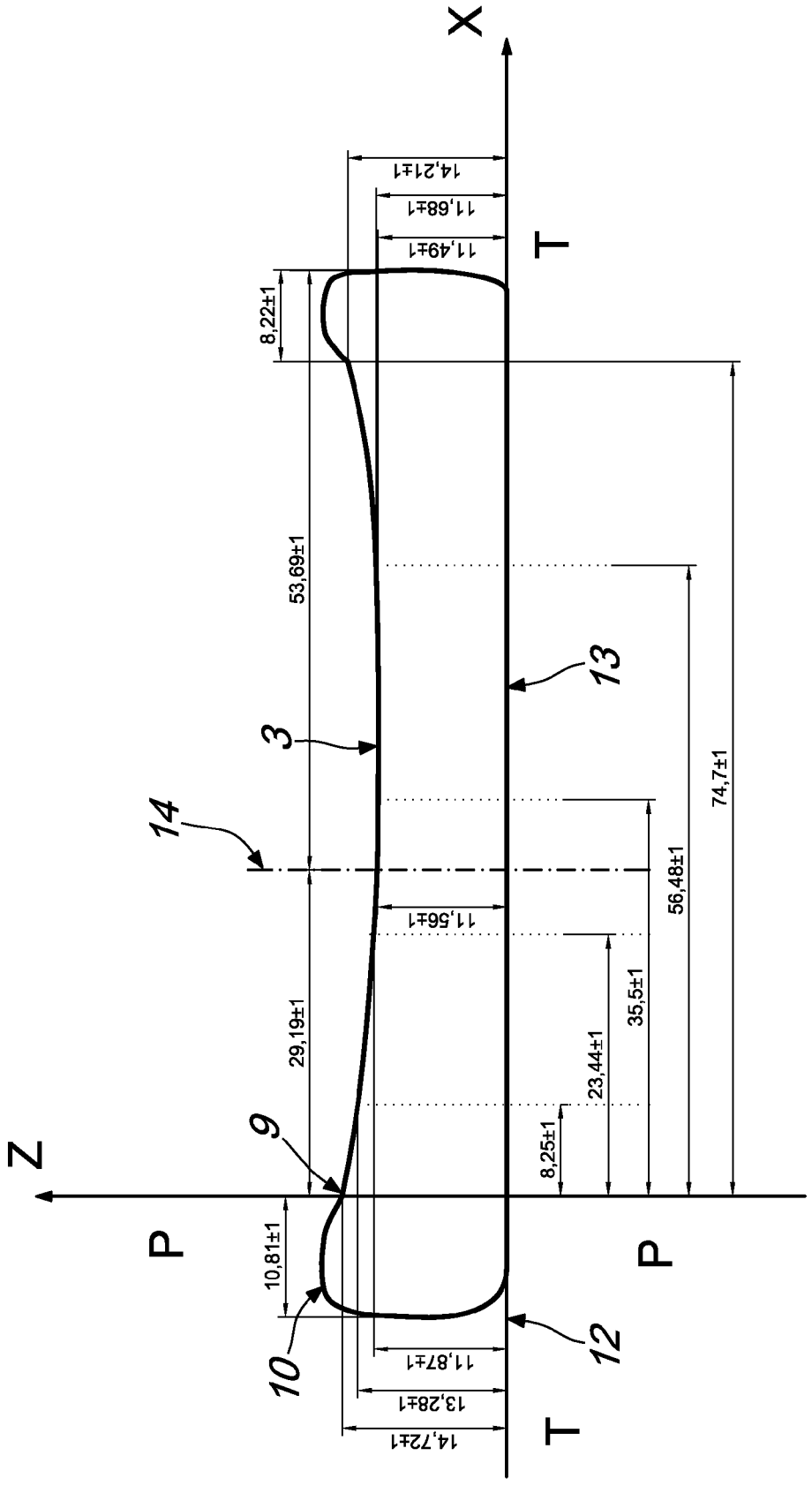
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Fig. 14

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 08 15 2621

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2003/110662 A1 (GILMAN THOMAS H [US] ET AL) 19 June 2003 (2003-06-19) * paragraph [0004]; figures *	1,2,5,6	INV. A43B7/14 A43B13/14 A43B17/00
X	WO 96/10347 A (HELFGOTT & KARAS P C [US]; ZOHAR ITZCHAK [IL]) 11 April 1996 (1996-04-11) * page 1; figures *	1,2,5,6	
X	DE 32 20 215 A1 (SCHMOHL MICHAEL WOLFGANG DIPL) 1 December 1983 (1983-12-01) * figures *	1,2,5,6	
X	DE 38 40 003 A1 (BAMA WERKE CURT BAUMANN [DE]) 31 May 1990 (1990-05-31) * figures *	1,2,5,6	
X	US 2003/192202 A1 (SCHOENBORN MARY L [US] ET AL) 16 October 2003 (2003-10-16) * paragraph [0033]; figures 1,5 *	1,2,5,6	
X	US 5 448 839 A (BLISSETT MALCOLM G [US] ET AL) 12 September 1995 (1995-09-12) * column 1, lines 26-59; figures *	1,2,5,6	TECHNICAL FIELDS SEARCHED (IPC) A43B
X Y	GB 2 375 711 A (GILBERT & MELLISH LTD [GB]) 27 November 2002 (2002-11-27) * page 1, lines 1-14; figures *	1,2,5,6 3,4	
Y	US 2 577 749 A (GRISWOLD STANLEY M ET AL) 11 December 1951 (1951-12-11) * column 1, lines 43-52 - column 3, lines 53-64 *	3,4	
Y	EP 0 311 925 A (SHAFIR AARON) 19 April 1989 (1989-04-19) * column 15, line 41 - column 17, line 27 *	3,4	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	11 June 2008	Herry, Manuel

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11-06-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003110662 A1	19-06-2003	NONE	
WO 9610347 A	11-04-1996	AU 3511495 A	26-04-1996
		IL 111172 A	15-06-1998
		US 5632104 A	27-05-1997
DE 3220215 A1	01-12-1983	WO 8304166 A1	08-12-1983
		EP 0110909 A1	20-06-1984
		IT 1169730 B	03-06-1987
		JP 59500947 T	31-05-1984
DE 3840003 A1	31-05-1990	NONE	
US 2003192202 A1	16-10-2003	NONE	
US 5448839 A	12-09-1995	US 5625965 A	06-05-1997
GB 2375711 A	27-11-2002	NONE	
US 2577749 A	11-12-1951	NONE	
EP 0311925 A	19-04-1989	CA 1311285 C	08-12-1992
		IL 87971 A	16-09-1991
		JP 1160501 A	23-06-1989
		US 4817222 A	04-04-1989

EPO FORM P0459

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Patent documents cited in the description

- IT TV20070046 A **[0042]**