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(71) Applicant: **Candy S.p.A.**
20052 Monza (MI) (IT)

(72) Inventor: **Fumagalli, Silvano**
20052 Monza (Milano) (IT)

(74) Representative: **Leihkauf, Steffen Falk et al**
Jacobacci & Partners S.p.A.
Via Senato, 8
20121 Milano (IT)

(54) **Basket for washing or drying machines**

(57) A basket (6) for washing machines (1), washer-dryers or dryers comprises a basket wall (7) which defines a containment space (10) for accommodating the laundry and at least one dragging blade (5) arranged on the basket wall (7). The dragging blade (5) forms a dragging surface (12) extending longitudinally along a curved line which comprises a first curvature in a hypothetical development surface (13) of the basket wall (7).

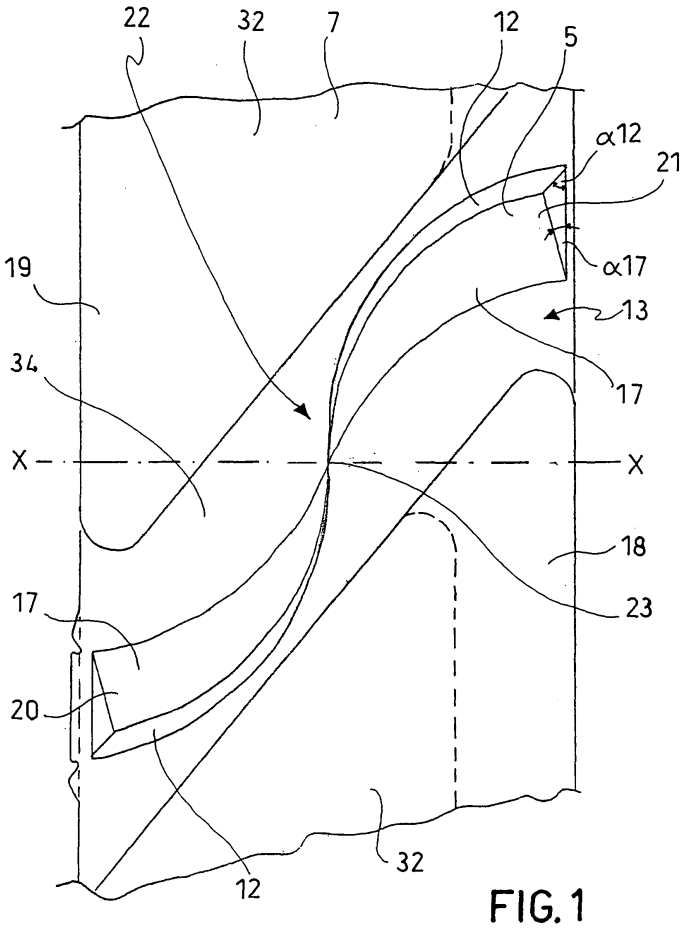

FIG. 1

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Description

[0001] The present invention relates to a basket for a washing machine, dryer, and the like.

[0002] With particular reference to the known washing machines, a drilled basket, which is intended to accommodate the laundry to be washed, is pivotally arranged within a tank containing the lye. Due to the rotational movement of the basket, the laundry is agitated and caused to spin in the lye, and the lye is carried upwards by the rotating basket, from where it falls on the laundry which results to be completely immersed and soaked, such that the impurities are transferred to the washing and rinsing lye.

[0003] To enhance the washing efficiency, the basket is usually provided with dragging blades, which are arranged on the side wall of the basket. The dragging blades considerably increase the total friction between the rotating basket and the laundry, and thus the dragging capability of the basket. This results in a greater movement of the laundry, which enhances its contact with the lye and consequently improves the washing results.

[0004] With the baskets and blades of the known art, the movement intensity of the laundry directly depends on, besides the basket rotation speed, the size and number of dragging blades, and thus on the total friction between the basket and laundry.

[0005] However, neither the size of the dragging blades nor the rotational speed of the basket can be arbitrarily increased, since, because of the centrifuge force and large-sized blades' peculiarity of dragging whole tangles of laundry without loosening them, such an increase would only result in the laundry to be flattened against the basket side wall. This sets "natural" limits to the capability of known baskets of causing the laundry to spin and effectively loosening any tangle of laundry.

[0006] The object of the present invention is thus to provide a basket for washing machines, washer-dryers or dryers having a great capability of moving the laundry and effectively loosening any tangle.

[0007] A further object of the present invention is to provide a basket for washing machines, dryer-washers or drying machines suitable to impart a very intense movement to the laundry, without the laundry being exposed to excessive wear due to the friction between the basket and the laundry.

This and other objects are achieved by means of a basket for washing machines, which comprises a basket wall, which defines a containment space for accommodating the laundry and at least one dragging blade arranged on the basket wall, in which said dragging blade forms a dragging surface, which extends longitudinally along a curved line, in which said curved line comprises a curvature in a hypothetical development surface of the basket wall.

[0008] Due to the curvature characteristics of the dragging blade, the basket according to the invention provides the laundry with a combination of the following movements:

[0009] - revolution movement of the laundry about the axis of rotation of the basket;

[0010] - rotational movement of the tangles of laundry about axes parallel to the axis of rotation of the basket;

[0011] - translational movement of the laundry about the axis of rotation of the basket;

[0012] - rotational movement of the tangles of laundry about axes transversal to the axis of rotation of the basket,

[0013] which implies an unusual loosening effect on the tangles of laundry and agitation of the latter without increasing the wear of the laundry during washing and drying.

[0014] In order to better understand the invention and appreciate the advantages thereof, some embodiments will be described herein below, with reference to the annexed figures, in which:

[0015] Fig. 1 to 6 are partial views of a basket wall with blade developed on a hypothetical development surface, according to some embodiments of the invention;

[0016] - Fig. 7 is a longitudinal sectional view of a basket according to an embodiment of the invention;

[0017] Fig. 8 to 10 are partial longitudinal sectional views of the basket according to several further embodiments of the invention;

[0018] Fig . 11 and 12 are front views of the basket according to two embodiments of the invention;

[0019] Figures 13 to 16 are perspective views of the basket according to several embodiments of the invention;

[0020] Fig. 17a, 17b and 17c are front perspective views of three embodiments of a detail of the basket according to the invention;

[0021] Fig. 18a, 18b and 18c are rear perspective views of the details shown in Fig. 17a, 17b and 17c.

[0022] Fig. 19 is a top view of a detail of a basket according to an embodiment of the invention;

[0023] Fig. 20 is a perspective view of a detail of the basket according to a further embodiment;

[0024] Fig. 21 is a perspective view of a detail of the basket according to a still further embodiment;

[0025] - Fig. 22 is a perspective view of a basket according to an embodiment of the invention;

[0026] Fig. 23 is a front view of the basket as shown in Fig. 22;

[0027] Fig.24 is a sectional view according to line XXIV - XXIV from Fig.23;

[0028] Fig. 25 is an enlarged view of a detail from Fig. 24;

[0029] - Fig. 26 is a schematic sectional view of a washing machine or washer-dryer with a basket according to an embodiment of the invention;

[0030] Fig. 27 is a top perspective view of a dragging blade of a basket according to an embodiment of the invention;

[0031] Fig. 28 is a bottom perspective view of the dragging blade as shown in Fig. 27.

[0032] In Fig. 26, a front-loading washing machine with biased-axis tank is schematically shown. Particularly, the washing machine, which is generally designated with 1, comprises a cabinet 2, a tank 3 being housed therein, which consists of a generally cylindrical body, either made of plastic or stainless steel, with either biased or horizontal longitudinal axis X (as shown in Fig. 26). The tank 3 is coupled to the cabinet 2 by means of known means, which comprise shock absorbers and suspension springs, which are not shown in order to avoid burdening the drawing.

[0033] The tank 3 is provided with a front aperture 35, having a generally round shape, which can be closed by means of a porthole being frontally hinged to the cabinet 2 and not shown, as known per se. Within the tank 3, a basket 6 is housed rotatably about the axis X, for the laundry to be accommodated therein to be washed and/or dried. The basket 6 comprises a side wall 7, a rear or bottom wall 8 and a front wall 9. The walls 7, 8 and 9 define an inner space 10 intended to accommodate the laundry to be washed and/or dried. The front wall 9 of the basket 6 is a stainless steel or plastic ring, with an aperture 11 having a generally round shape, which is placed such as to match the aperture 5 of the tank 3 to provide access to the inner space 10 to load/unload the laundry.

[0034] The rear or bottom wall 8 of the basket 6 is preferably a substantially plane, centrally drawn, steel disk, being concave towards the outside of the basket. In the middle of the rear wall 8 of the basket 6, there is mounted a support hub 4 for the basket, the basket being operatively connected therethrough to motor means (not shown), which control the rotation of the same about the longitudinal axis X.

[0035] The side wall 7 of the basket is preferably obtained from a generally flat steel sheet, which is folded such as to form an approximatively rotational surface about a longitudinal central axis, being coincident with the longitudinal axis X of the tank 3 when in use.

[0036] The coupling of the bottom 8 and front 9 walls to the side wall 7 is preferably provided by folding two end tracts 18, 19 of the sheet being the side wall 7, such as to give a C-shaped profile to the steel plate at both ends thereof. The bottom 8 and front 9 walls are shaped such as to define, at the respective outer edges, complementary profiles with the C-shaped profile formed at both end tracts 18, 19 of the side wall 7.

[0037] The basket 6 comprises at least one dragging blade 5 being preferably arranged on the side wall 7 of the basket 6. The dragging blade 5 forms a dragging surface 12 longitudinally extending along a curved line, wherein said curved line comprises a first curvature in an hypothetical development surface 13 of the side wall 7 and, preferably, a second curvature in a projection of the dragging blade 5 on a surface perpendicular to the axis of rotation X.

[0038] In order to obtain a greater movement for the laundry, the first curvature and the second curvature of the longitudinal course of the dragging surface 12 can comprise either gradual and/or sudden curvature.

[0039] In accordance with an embodiment, the first curvature of the dragging surface is a curvature having a substantially constant bending radius (Fig. 2, 3, 4, 5, 24).

[0040] Advantageously, the blade 5 is oriented such as to comprise, along the longitudinal extension thereof, a parallel tract 14 extending substantially parallel to the axis of rotation X of the basket 6 and a tract 15, either curved or biased, which extends along directions either inclined or transversal to the axis of rotation X.

[0041] The ratio L14/L15 of the length L14 of the parallel tract 14 to the length L15 of the curved tract 15 ranges between 0.8 and 4.0, preferably 2.0 and 3.5, still more preferably about 3. This implies a main rotational movement about the axis X in the area of the basket which corresponds to the parallel tract 14 of the blades and a main rotational movement about axes transversal to the axis X in a different area of the basket, i.e. in the area where the inclined or curved tract 15 of the blade extends. By dividing the basket into areas of different movements of the laundry, the problem of the laundry forming tangles during the washing is effectively avoided.

[0042] In accordance with an embodiment (Fig. 3, 6, 13) the parallel tract 14 of the dragging surface 12 is arranged adjacent to the front wall 9 of the basket 6. Alternatively, this parallel tract 14 can also be arranged in the vicinity of the rear wall 8 of the basket, such as shown in Fig. 22.

[0043] Trials have been also successfully carried out with baskets (Fig. 7, 8, 9, 10, 14) with at least one first dragging blade 5', the parallel tract of which 14 extends either substantially to or at least in the vicinity of the front wall 9 of the basket and a second dragging blade 5" , the parallel tract 15 of which extends either to or at least in the vicinity of the rear wall 8 of the basket.

In these embodiments, the movement of the laundry, particularly for small-sized items, is very irregular and the deployment of the items and loosening of tangles have been both very satisfactory.

[0044] In accordance with an embodiment, as shown for example in Fig. 8, 9 and 10, the first dragging blade 5' has a greater length than the second dragging blade 5", in which the ratio L5'/L5 " of the length L5' of the first dragging blade 5' to the length L5" of the second dragging blade 5'' preferably ranges between 1,05 and 1,25, still more preferably is about 1,16. This length ratio has proved to be universally applicable to baskets of different depths and volumes.

[0045] In accordance with a further embodiment, the first dragging blade 5' has a greater height than the height of the second dragging blade 5". In the present description, by "height of the dragging blade" is meant the extension of the blade in the radial direction relative to the axis X of the basket. Particularly, a ratio H5' / H5" of the height H5' of the first dragging blade 5' to the height H5" of the second dragging blade 5" ranging between 1,05 and 1,25, preferably about 1,17 has proved to be advanta-

geous.

[0046] As may be seen for example in Fig. 8 and 9, the first dragging blade 5' and the second dragging blade 5'' overlap to each other in an overlapping (central) area 16 of the basket 6. The depth P16 of the overlapping area 16 depends on the lengths L5', L5" of the blades 5' and 5" and on the depth P6 of the basket and advantageously ranges between about 9/22 L5' ... 8/11 L5' (L5' being the length of the first dragging blade 5').

[0047] Advantageously, the dragging blades 5, 5' , 5'' have a lower extension in the direction parallel to the axis of rotation X than the extension of the side wall 7 of the basket. This allows using a limited number of dragging blades having a determined size for a wide range of baskets of different depths.

[0048] In accordance with an embodiment, the dragging blade/s 5 are arranged by being spaced away from the front wall 9 of the basket, thereby avoiding excessive stress to the laundry items which may occur when they are in sliding contact with the porthole of the washing machine and are also simultaneously engaging a dragging blade which rotates together with the basket relative to the porthole.

[0049] Alternatively or in addition to, the dragging blade/s 5 can be arranged by being spaced away from the rear wall 8 of the basket. This allows, on the one hand, the shape of the blades to be defined independently of the shape of the rear wall 8, and on the other hand, to avoid the formation of recesses which facilitate the accumulation of residues of detergent and in which small pieces may be entangled, such as tangled handkerchiefs, which have not been deployed during washing or drying.

[0050] In accordance with a further embodiment, the height of the dragging blades 5, 5', 5'' varies either gradually and/or suddenly along the longitudinal extension thereof. With reference to the embodiments shown by way of example in Fig. 7, 8, 9 and 10, the height H5' of at least one 5' of the dragging blades 5, 5', 5'' is maximum in the vicinity of the front wall 9 of the basket 6 and decreases, preferably gradually, as it moves away from front wall 9.

[0051] Alternatively, or preferably, in addition to what has been described above, the height H5" of at least one 5" of the dragging blades 5, 5', 5" is the greatest in the vicinity of the rear wall 8 of the basket and decreases as it moves away from said rear wall 8. The alternating arrangement of dragging blades with an opposite height course results in the main action of lifting the laundry at the front and rear walls of the basket and in the main action of rotation and deployment of the laundry in the middle area of the basket.

[0052] Advantageously, the height H5' , H5'' of the dragging blades has a wave-like course characterized by double curvature, or in other words by a concave tract and a convex tract.

[0053] In addition to the dragging surface 12, the dragging blade 5 has a further active surface, the so-called sliding surface 17, opposite the dragging surface 12. Depending on the direction of rotation of the basket 6, either the dragging surface 12 or the sliding surface 17 act on the laundry, wherein the pulling effect of these active surfaces depends on the shape and inclination of the surface relative to the side wall 7 of the basket. In accordance with an embodiment of the invention, the bias of the dragging surface 12 relative to the side wall 7 of the basket is greater than the bias of the sliding surface 17 relative to this side wall 7, wherein the inclination angle a12 of the dragging surface 12 preferably ranges between 45° and 90°, advantageously between 60° and 90°, still more advantageously this angle a12 is about 75°. The inclination angle a17 of the sliding surface 17 ranges between 15° and 85°, preferably between 25° and 35°, still more preferably this angle a17 is about 30°. Such a shape of the dragging blades allows the "active" blades to be selected by means of the direction of rotation of the basket.

[0054] Particularly advantageously, the dragging blade/s define a longitudinally convex side and a longitudinally concave side opposite the longitudinal convex side and the dragging surface 12 is formed on the longitudinally convex side and the sliding surface 17 is formed on the longitudinally concave side of the blade. Such a shape of the blades results in an unusual combination between the axial movement (along the axis of rotation X of the basket) and the more or less strong lifting movement of the laundry as a function of the bias of the active surfaces 12 and 17.

[0055] Alternatively, the inclination angles a12 and a17 of the dragging 12 and sliding 17 surfaces are substantially equal to each other.

[0056] A further embodiment (Fig. 1 and 16) provides that the dragging surface 12, and preferably also the sliding surface 17 are developed along a curved line comprising two subsequent curvatures in opposite directions in the hypothetical development surface 13 of the side wall 7 of the basket. A so-formed dragging blade preferably has a first tract 20 substantially parallel to the axis of rotation X which extends to the vicinity of the front wall 9 of the basket and a second tract 21 substantially parallel to the axis of rotation X which extends to the vicinity of the rear wall 8 of the basket, as well as a curved tract with double curvature 22 which connects said first 20 and second 21 parallel tracts to each other. In this case, the height H5 of the dragging blade 5 advantageously has maximum values in the vicinity of the front wall 9 and rear wall 8 of the basket and decreases, preferably gradually, to a turn point 23 of the curvature of the dragging blade 5.

[0057] As regards the arrangement of a plurality of dragging blades within the basket 6, an embodiment provides that two dragging blades are arranged either in opposite positions relative to the axis of rotation X (see for example Fig. 13) or in diametrally opposed positions relative to the axis of rotation X and a middle plane of the basket, perpendicular to the axis of rotation X (see for example Fig. 14).

[0058] On the other hand, a further embodiment pro-

vides three dragging blades to be distributed at a substantially constant 120° angular pitch (Fig. 22, 23).

[0059] In any case, several or all of the dragging blades are advantageously arranged at and preferably connected to reinforcement ribs 24 (schematically designated by means of dotted lines in Fig. 23) of the basket support structure.

[0060] In order to avoid that the variation in the height of the dragging blade 5 entails excessive sharpness and thus undesired wear of the laundry to be washed and/or dried, it is advantageous to provide the dragging blade/s 5 with a width B (transversal both to the longitudinal extension and height of the blade) which gradually decreases in the longitudinal direction of the blade.

[0061] In accordance with an embodiment, the dragging blades 5 define a space 25 therein, which is suitable to contain washing liquid and one or more drain ports 26, which are preferably formed in the dragging surface 12 and/or sliding surface 17, which allow the washing liquid to be released from said space 25 within the basket. These drain ports 26 are preferably holes or slots, the axial extension thereof being substantially perpendicular to a base plane 27 of the blade 5, and at least approximatively radial to the axis of rotation X of the basket.

[0062] In order to facilitate the fixing of the dragging blades 5, 5', 5" which are preferably obtained by means of injection moulding of plastic material, each blade has a root portion 28 which is enlarged relative to a dragging portion 29 that forms the dragging surface 12.

[0063] In accordance with an embodiment, as shown for example in Fig. 17, 18 and 24, the dragging blades 5 comprise an end portion 30 facing the rear wall 8 or front wall 9 of the basket and being inclined to the inside of the basket, such that an upper longitudinal ridge 31 of the blade has a lower length than the length of the base thereof. This end surface 30 is substantially triangular or trapezoid and preferably convex, i.e. it has a slight increase in height. In the embodiment as shown in Fig. 21, the upper longitudinal ridge 31 becomes gradually shorter, from the end surface 30 to the height of the base of the dragging blade.

[0064] While in the embodiments described above the whole dragging blade 5, 5', 5" shows a curved trend in the development surface of the basket side wall, Fig. 19 shows an embodiment in which only the dragging surface 12 shows such a curved course, particularly longitudinally concave, and on the other hand, the opposite sliding surface 17 has a substantially rectilinear longitudinal course.

[0065] Advantageously, the side wall 7 of the basket 6 has one or more radially enlarged areas 32 that are preferably arranged such as to move the barycentre of the containment space 10 to the rear wall 8 of the basket in order to obtain a reduction in the flexion of the loaded basket and an increase of the overall immersion volume of the basket under the liquid level in the tank 3. The radially enlarged areas 32 are preferably defined by steps 33 which increase the basket rigidity.

[0066] In accordance with an embodiment, the radially enlarged areas 32 are formed between one or more longitudinal tracts 34 without steps, which substantially extend from the rear tract 18 of the side wall 7 for connection to the rear wall 8 to the front tract 19 of the side wall 7 for connection to the front wall 9. Advantageously, the dragging blades 5, 5', 5" are connected to these longitudinal tracts 34. As no steps are to be considered, the dragging blades can be used with a substantially flat fixing base and traditional fixing means, for example screws or snap-fitting portions.

[0067] The attached figures show embodiments in which the longitudinal tracts 34 comprise either one or more substantially longitudinal tracts that are rectilinear and parallel to the axis of rotation X or, alternatively, one or.more longitudinal tracts 34 that are substantially helical, i.e. transversal in the hypothetical development surface 13 of the side wall 7 of the basket.

[0068] With a substantially truncated-cone shaped basket, the longitudinal tracts 34 have a radial distance decreasing from the axis of rotation X to the front wall 9 of the basket 6.

[0069] With reference to Fig. 27 and 28, a preferred embodiment of the invention provides a dragging blade with such a curvature along its longitudinal extension as to give the laundry, in addition to the well known lifting movement, a further movement in the longitudinal direction of the basket. This greatly contributes to a better mixing of the laundry during washing and drying while preventing the individual items (particularly the delicate ones) from remaining for a long time in areas greatly exposed to the mechanical action of the basket.

[0070] This curved blade 5 has, as is known, a plurality of drain ports 26 for the lye to pass therethrough, which is accumulated in the lower part of the tank and released when the blade 5 is in a raised position. Preferably, these drain ports 26 comprise a first set of holes arranged along the longitudinal ridge 31 of the blade and a second set of holes arranged at an (either front or rear) end of the blade 5 such as to enhance the feeding of lye within the basket in the vicinity of this end as compared with the remaining areas of the blade.

[0071] Due to the characteristics of the basket 6 described above, both the movement of the laundry and the effect of loosening the tangles of laundry can be increased while washing and drying with the friction between the basket and laundry being equal. The basket according to the invention is, thus, particularly suitable for washing and drying very dirty delicate laundry and, in any case, the basket according to the invention allows enhancing and speeding up washing and drying methods of the laundry with the dirt level being equal.

[0072] While the invention has been described by means of embodiments in which the dragging blades has uninterrupted surfaces, the invention relates as well to embodiments in which the shape and arrangement of the dragging surface 12 and sliding surface 17 of the blades are reproduced by means of a plurality of discrete partial

surfaces spaced apart from each other.

Claims

1. A basket (6) for washing machines (1), washer-dryers or dryers, which comprises a basket wall (7), which defines a containment space (10) for accommodating the laundry and at least one dragging blade (5) arranged on the basket wall (7), in which said dragging blade (5) forms a dragging surface (12), which extends longitudinally along a curved line, wherein said curved line comprises a first curvature in a hypothetical development surface (13) of the basket wall (7).

2. The basket (6) according to claim 1, wherein said curved line comprises a second curvature in a projection of the dragging blade (5) on a plane perpendicular to the axis of rotation (X) of the basket.

3. The basket (6) according to claim 1 or 2, wherein said first curvature and said second curvature comprise gradual and/or sudden curvature.

4. The basket (6) according to any preceding claim, wherein said first curvature is a curvature with a substantially constant bending radius.

5. The basket (6) according to one of claims 1 to 3, wherein said dragging blade (5) comprises, along the longitudinal extension thereof, a parallel tract (14) extending substantially parallel to the axis of rotation (X) of the basket and a curved tract (15) extending along directions either inclined or transversal to the axis of rotation (X) .

6. The basket (6) according to the preceding claim, wherein the ratio (L14/L15) of the length (L14) of the parallel tract (14) to the length (L15) of the curved tract (15) ranges between 0.8 and 4.0, preferably 2.0 to 3.5, still more preferably is about 3.

7. The basket (6) according to the preceding claim, wherein said parallel tract (14) of the dragging blade (5) is arranged adjacent to the front wall (9) of the basket.

8. The basket (6) according to claim 6, comprising a first dragging blade (5'), the parallel tract (14) thereof substantially extending to the front wall (9) of the basket and a second dragging blade (5"), the parallel tract (14) thereof substantially extending to the rear wall (8) of the basket.

9. The basket (6) according to the preceding claim, wherein the first dragging blade (5') has a greater length (L5') than the length (L5") of the second dragging blade (5").

10. The basket (6) according to the preceding claim, wherein the ratio (L5'/L5") of the length (L5') of the first dragging blade (5') to the length (L5") of the second dragging blade (5") is 1.05 ... 1.25, preferably is about 1.16.

11. The basket (6) according to the claim 8 to 10, wherein the first dragging blade (5') has a greater height (H5') than the height (H5") of the second dragging blade.

12. The basket (6) according to the preceding claim, wherein the ratio (H5'/H5") of the height (H5') of the first dragging blade (5') to the height (H5") of the second dragging blade (5") is 1.05 ... 1.25, preferably is about 1.17.

13. The basket (6) according to any claim 8 to 12, wherein the first dragging blade (5') and the second dragging blade (5") are overlapped to each other in a central area (16) of the basket and wherein the depth of said central overlapping area (16) is about 9/22 ... 8/11 the length of the first dragging blade (L5').

14. The basket (6) according to any preceding claim, wherein the dragging blade (5, 5', 5") has an extension in the parallel direction to the axis of rotation (X) lower than the extension of the side wall (7) of the basket.

15. The basket (6) according to the preceding claim, wherein the dragging blade (5, 5', 5") is arranged by being spaced away from the front wall (9) of the basket.

16. The basket (6) according to the claim 14 or 15, wherein the dragging blade (5, 5', 5") is arranged by being spaced away from the rear wall (8) of the basket.

17. The basket (6) according to any preceding claim, wherein the height (H) of the dragging blade (5, 5', 5") varies along the longitudinal extension thereof.

18. The basket (6) according to the preceding claim, wherein the height (H) of the dragging blade (5, 5', 5'') varies in a gradual and/or sudden manner.

19. The basket (6) according to claim 18, wherein the height (H) of at least one of the dragging blades (5, 5', 5") is the greatest in the vicinity of the front wall (9) of the basket and decreases as it moves away from said front wall (9).

20. The basket (6) according to claim 17 or one of the claims depending thereon, wherein the height (H) of at least one of the dragging blades (5, 5', 5") is the

greatest in the vicinity of the rear wall (8) of the basket and decreases as it moves away from said rear wall (8).

21. The basket (6) according to claim 17 or one of the claims depending thereon, wherein the height (H) of the dragging blades (5, 5', 5") has a wave-like course.

22. The basket (6) according to any preceding claim, wherein the dragging blade (5, 5', 5") comprises said dragging surface (12) and a sliding surface (17) opposite the dragging surface (12), wherein the inclination angle (a12) of the dragging surface (12) relative to the side wall (7) of the basket is greater than the inclination angle (a17) of the sliding surface (17) relative to the side wall (7) of the basket.

23. The basket (6) according to the preceding claim, wherein the inclination angle (a12) of the dragging surface (12) ranges between 45° and 90°, preferably 60° and 90°, still more preferably is about 75°.

24. The basket (6) according to claim 22 or 23, wherein the inclination angle (a17) of the sliding surface (17) ranges between 15° and 85°, preferably 25° and 35°, still more preferably is about 30°.

25. The basket (6) according to any claim 22 to 24, wherein the dragging blade (5, 5', 5") defines a longitudinally convex side and a longitudinally concave side opposite the longitudinal convex side, and wherein the dragging surface (12) is formed on the longitudinally convex side and the sliding surface (17) is formed on the longitudinally concave side of the dragging blade (5).

26. The basket (6) according to any preceding claim, said dragging surface (12) develops along a curved line having two subsequent curvatures in the opposite directions in said hypothetical development surface (13) of the side wall (7) of the basket.

27. The basket (6) according to the preceding claim, wherein said dragging blade (5) has a first tract (20) substantially parallel to the axis of rotation (X) which extends to the vicinity of the front wall (9) of the basket and a second tract (21) substantially parallel to the axis of rotation (X) which extends to the vicinity of the rear wall (8) of the basket, as well as a curved tract with double curvature (22) which connects said first (20) and second (21) parallel tracts to each other.

28. The basket (6) according to claim 26 or 27, wherein the height (H) of the dragging blade (5) has maximum values in the vicinity of the front wall (9) and rear wall (8) of the basket and decreases to a turn point (23) of the curvature of the dragging blade.

29. The basket (6) according to any preceding claim, wherein two dragging blades (5, 5") are arranged in opposite positions relative to the axis of rotation (X).

30. The basket (6) according to any preceding claim, wherein two dragging blades (5, 5") are arranged in diametrally opposite positions relative to the axis of rotation (X) and a middle plane of the basket, perpendicular to the axis of rotation (X).

31. The basket (6) according to any of claims 1 to 28, wherein three dragging blades (5) are arranged at about substantially constant 120° angular pitch.

32. The basket (6) according to any preceding claim, wherein the dragging blades (5) are arranged at reinforcement ribs (24) of a support structure of the basket (6).

33. The basket (6) according to any preceding claim, wherein said side wall (7) has one or more radially enlarged areas (32).

34. The basket (6) according to claim 33, wherein said radially enlarged areas (32) are arranged such that the barycentre of the containment space (10) is displaced to the rear wall (8).

35. The basket (6) according to claim 33 or 34, wherein said radially enlarged areas (32) are defined by steps (33).

36. The basket (6) according to the preceding claims, wherein the side wall (7) comprises one or more longitudinal tracts (34) without steps, which substantially extend from a rear tract (18) of the side wall (7) for connection to the rear wall to a front tract (19) of the side wall for connection to the front wall, wherein said one or more radially enlarged areas (32) are formed between said one or more longitudinal tracts (34) and said one or more dragging blades (5, 5', 5") are connected to said longitudinal tracts (34).

37. The basket (6) according to the preceding claim, wherein said longitudinal tracts (34) comprise one or more longitudinal tracts (34) that are substantially rectilinear and parallel to the axis of rotation (X).

38. The basket (6) according to claim 36 or 37, wherein said longitudinal tracts (34) comprise one or more longitudinal tracts (34) that are substantially helical, i.e. diagonal in the hypothetical development surface (13) of the side wall (7) of the basket.

39. The basket (6) according to any claim 36 to 38, wherein said longitudinal tracts (34) have a radial distance from the axis of rotation (X) decreasing towards the front wall (9) of the basket.

40. The basket (6) according to any preceding claim, wherein said dragging blade (5) has a width (B), which gradually decreases in the longitudinal direction of the blade (5).

41. The basket (6) according to any preceding claim, wherein said dragging blade (5) internally defines a space (25) that is suitable to contain a washing liquid and one or more drain ports (26) which allow the washing liquid to be released from said space (25) within the basket.

42. The basket (6) according to the preceding claim, wherein said drain ports (26) are formed in said dragging surface (12) or in said sliding surface (17) of the blade.

43. The basket (6) according to claim 41 or 42, wherein these drain ports (26) are holes or slots, the axial extension of which being substantially perpendicular to a base plane (27) of the blade (5), and at least approximatively radial to the axis of rotation (X) of the basket.

44. The basket (6) according to any preceding claim, wherein said dragging blade (5) has an enlarged root portion (28) relative to a dragging portion (29) which forms the dragging surface (12).

45. The basket (6) according to any preceding claim, wherein said dragging blade (5) comprises an end surface (30) facing the rear wall (8) or front wall (9) of the basket (6), said end surface (30) being biased to the inside of the basket such that an upper longitudinal ridge (31) of the blade (5) has a lower length than the length of the base of the blade.

46. The basket (6) according to the preceding claim, wherein said end surface (30) is convex.

47. The basket (6) according to claim 45 or 46, wherein said end surface (30) is substantially triangular or trapezoidal.

48. The basket (6) according to one of claims 45 to 47, wherein on the side of the blade opposite the end surface (30), said upper longitudinal ridge (31) becomes gradually shorter to the height of the base of the dragging blade (5).

49. The basket (6) according to any preceding claim, wherein said blade (5) comprises:

said dragging surface (12);
a further surface (17) opposite the dragging surface (12) which extends longitudinally substantially along a rectilinear direction

50. The basket (6) according to the preceding claim, wherein said dragging surface (12) is longitudinally concave.

51. The basket (6) according to any preceding claim, wherein the shape and arrangement of the dragging surface (12) of the blades are obtained by means of a plurality of discrete partial surfaces being spaced away from each other.

52. The basket (6) according to any preceding claim, comprising a loading opening (11) for the laundry, which is formed in the front wall (9).

53. A washing machine (1), washer-dryer, dryer or the like, comprising a basket (6) according to any preceding claim.

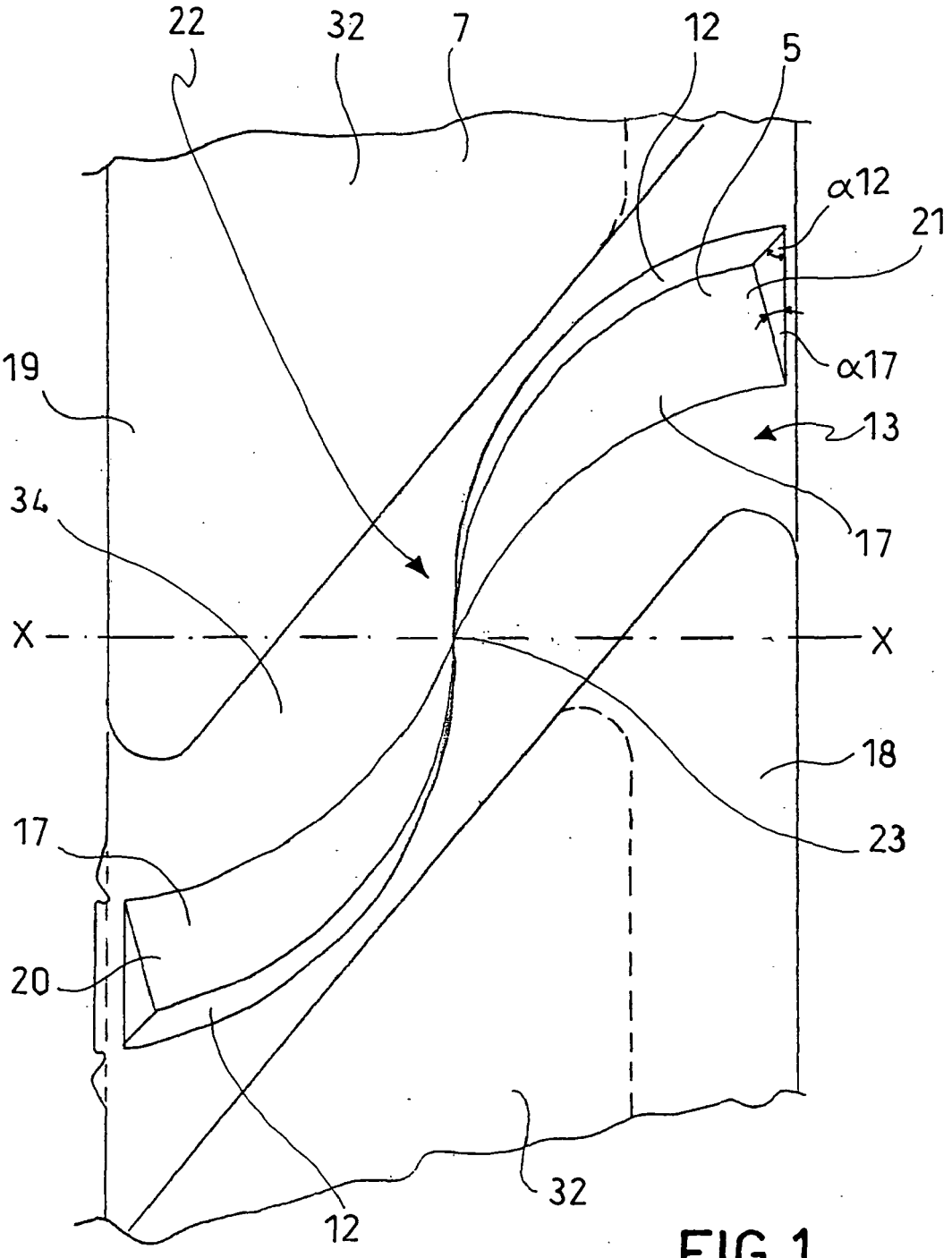

FIG. 1

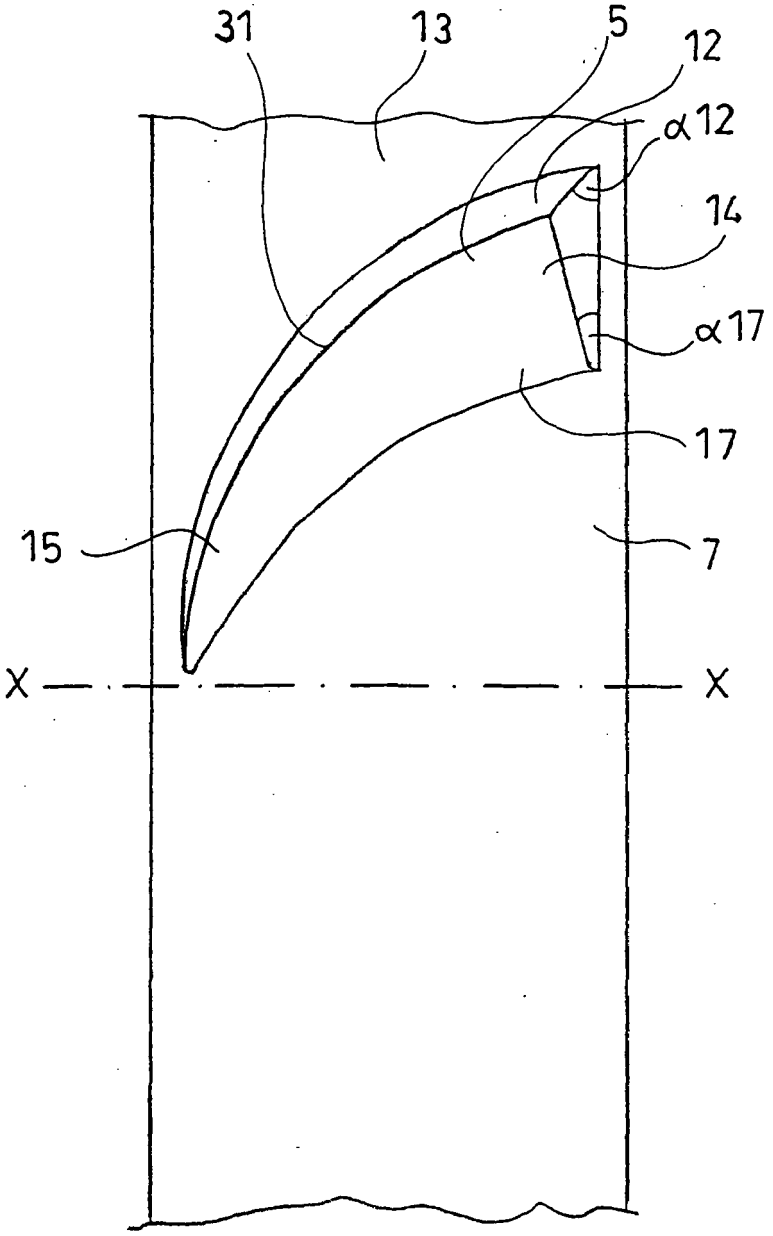

FIG. 2

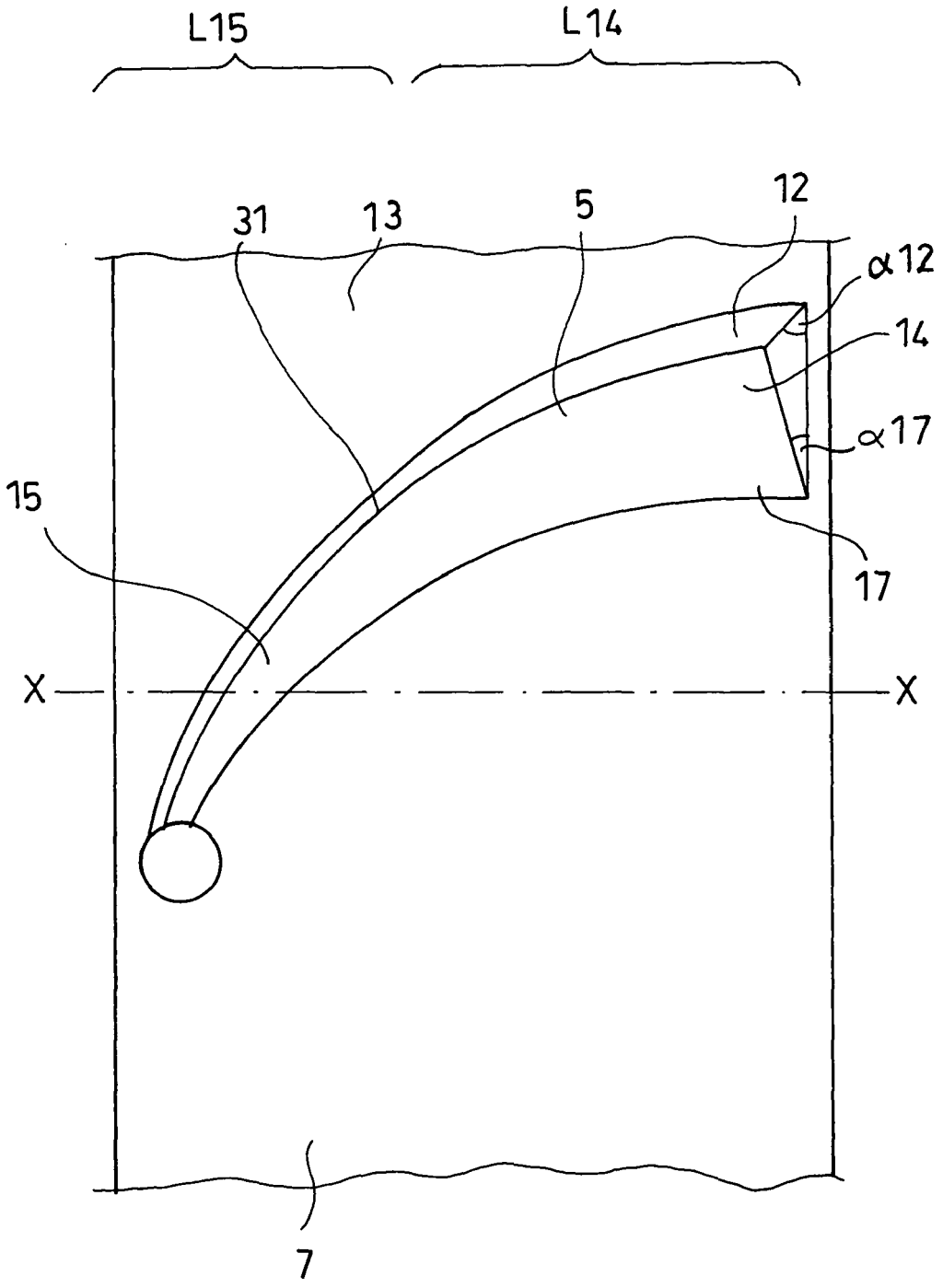

FIG. 3

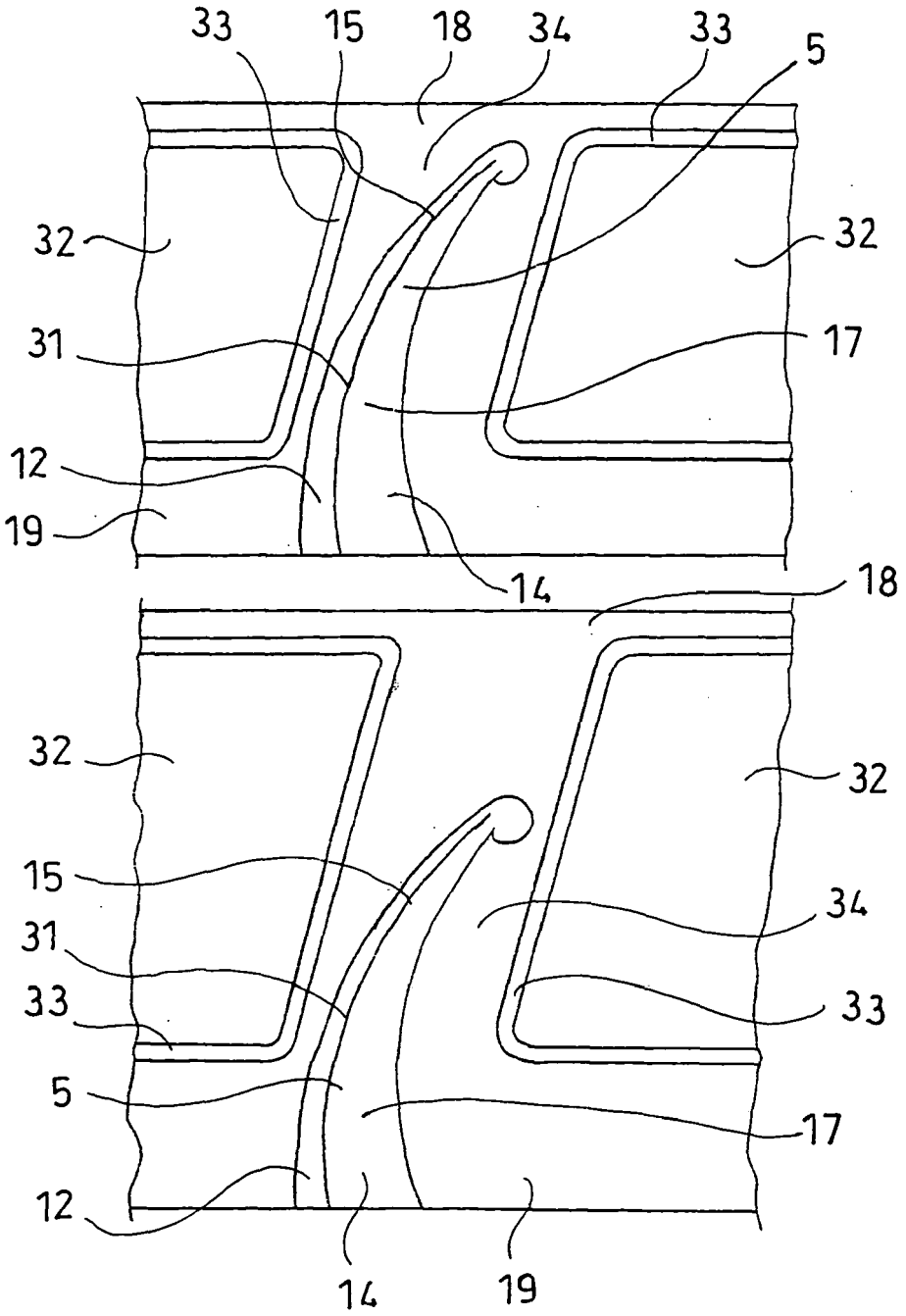
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FIG.4

FIG.5

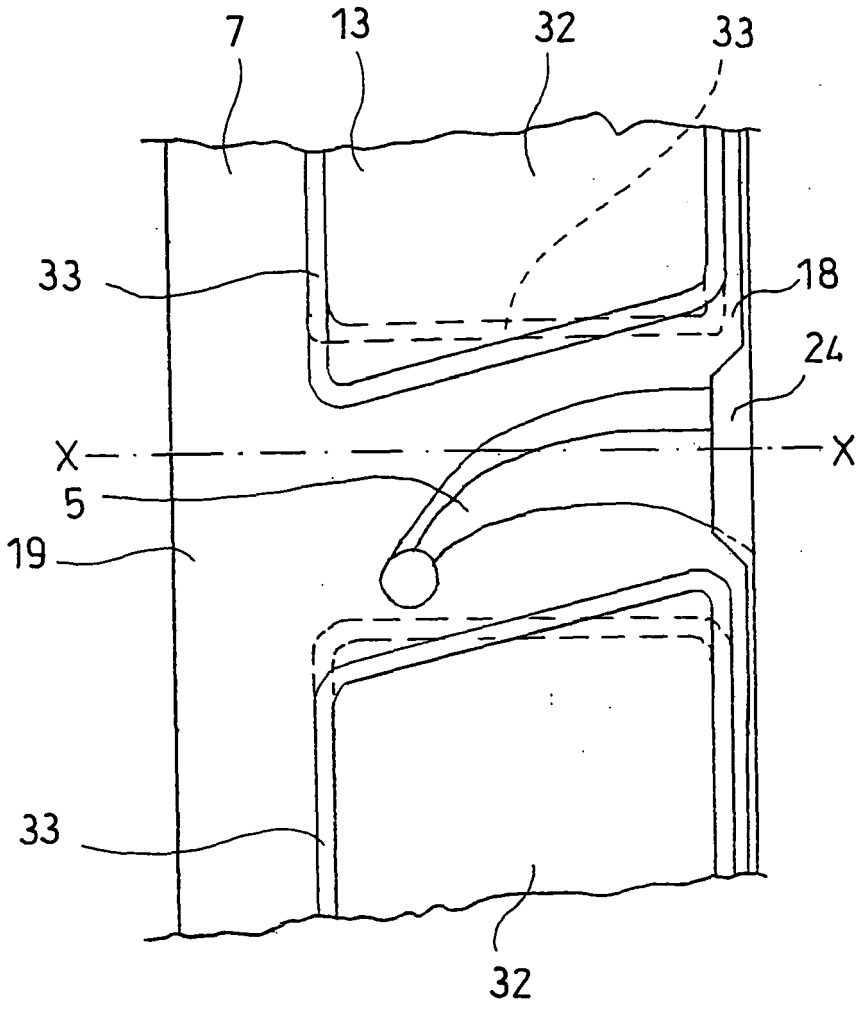

FIG. 6

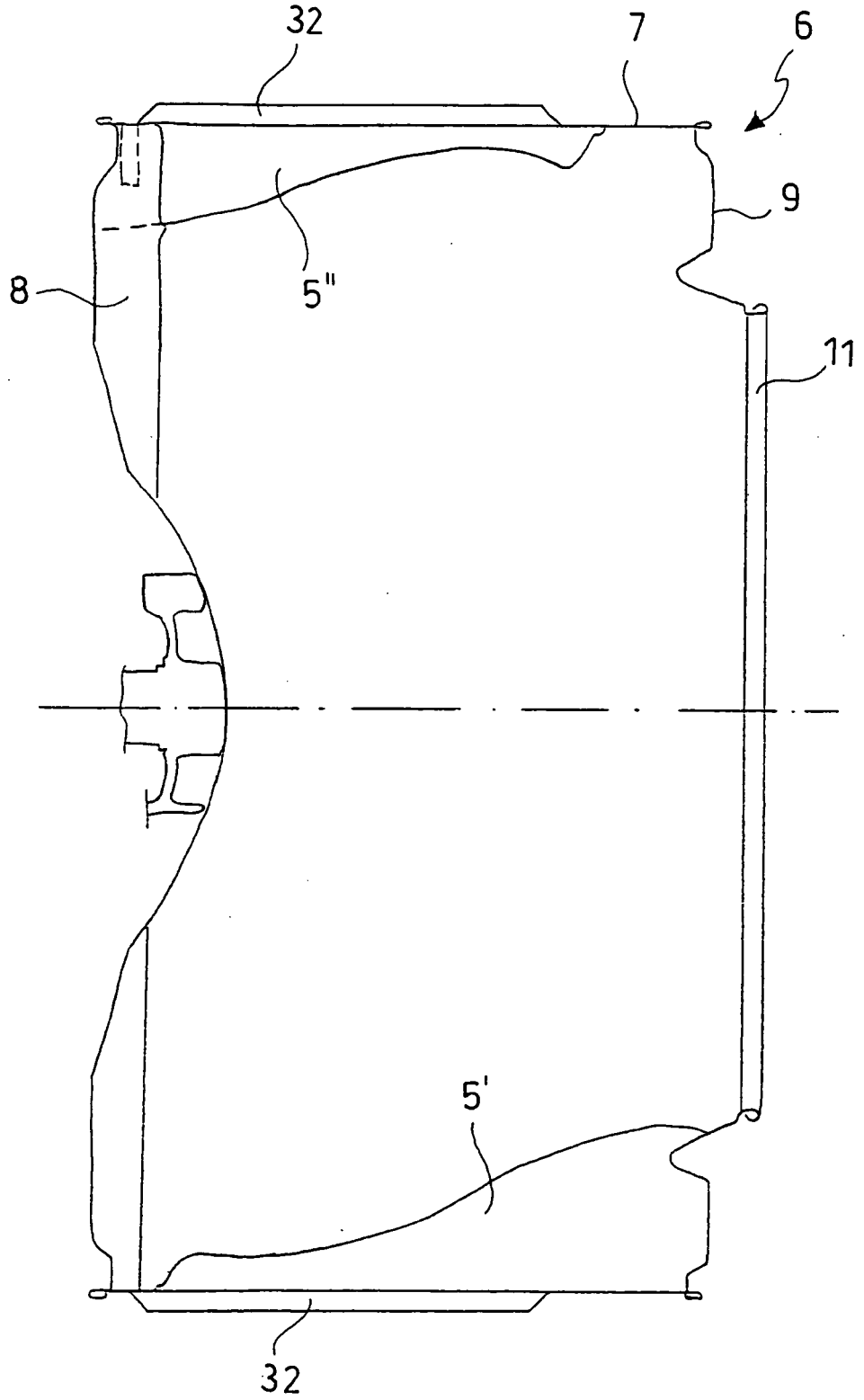

FIG. 7

FIG.8

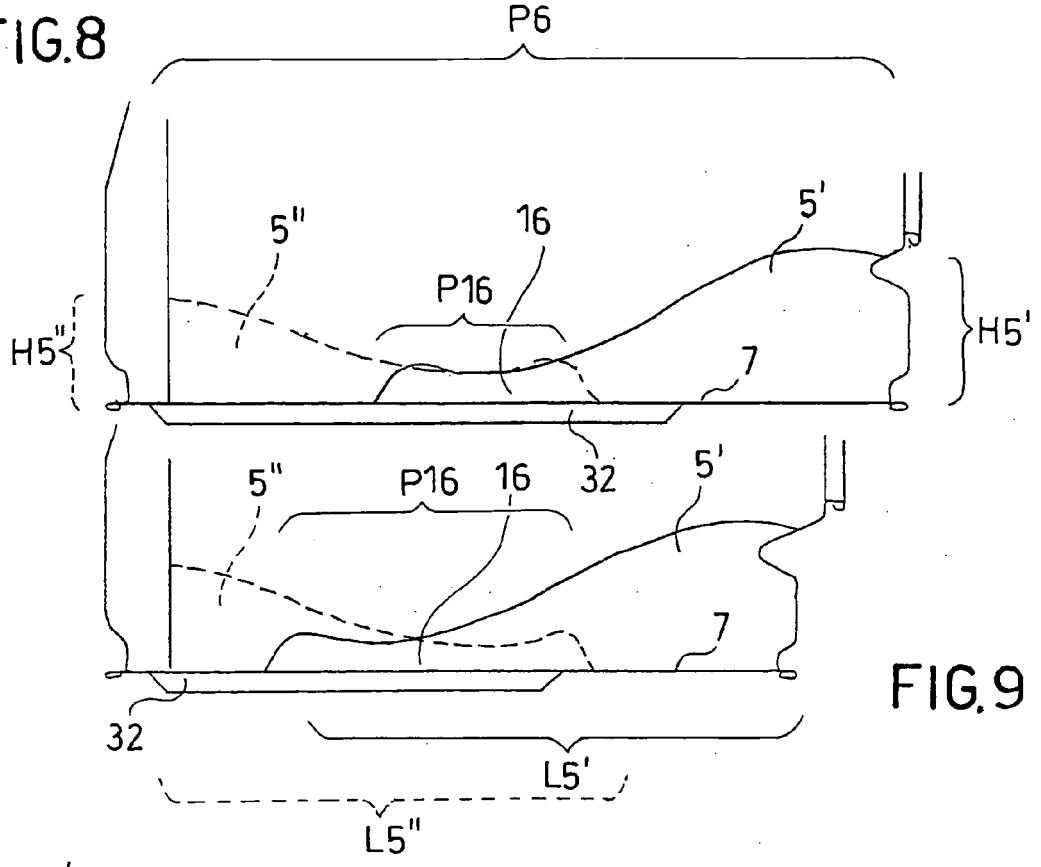

FIG.9

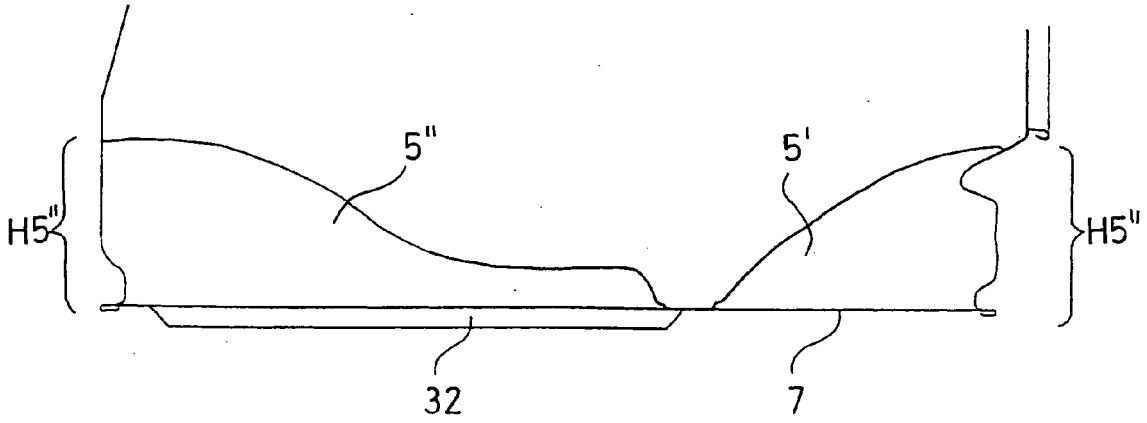

FIG.10

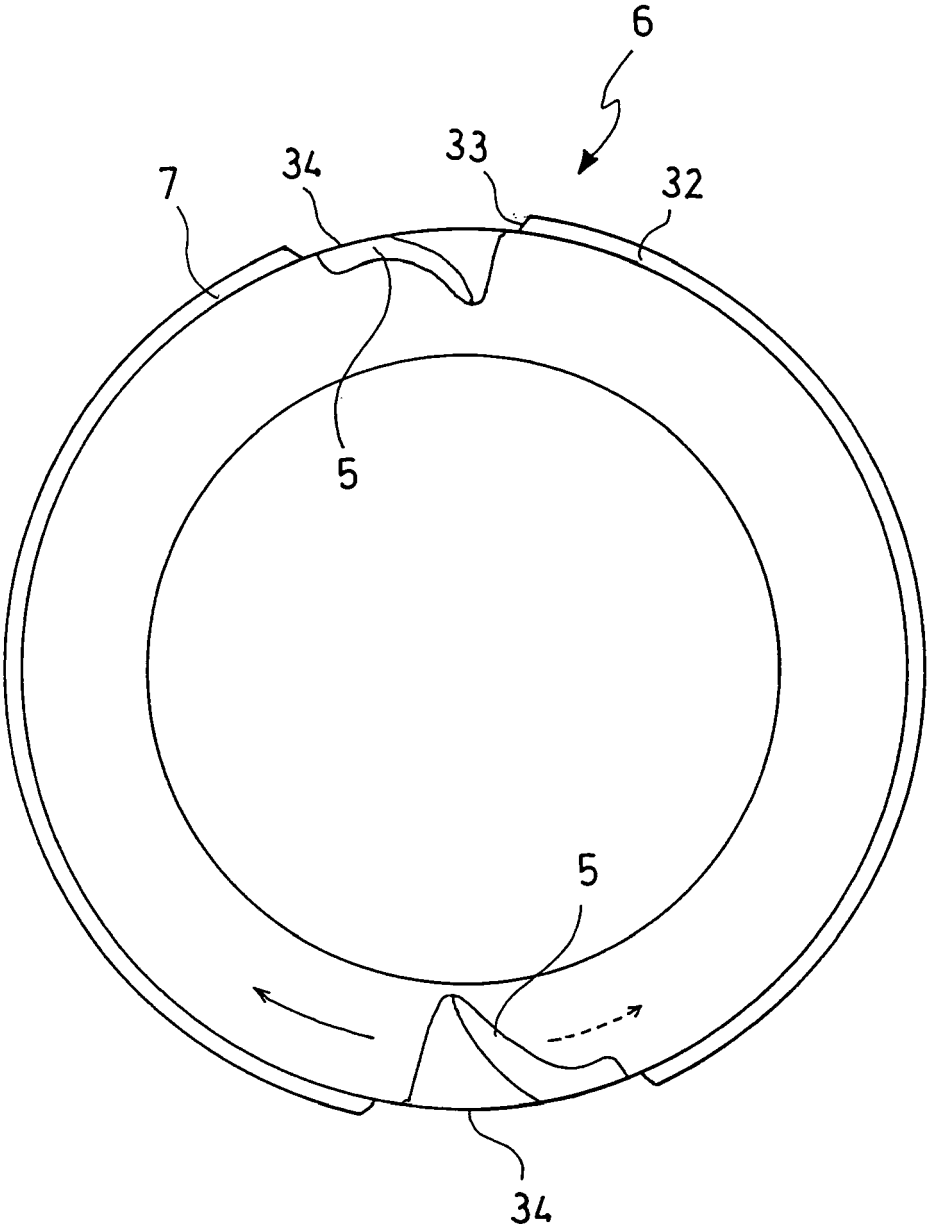

FIG.11

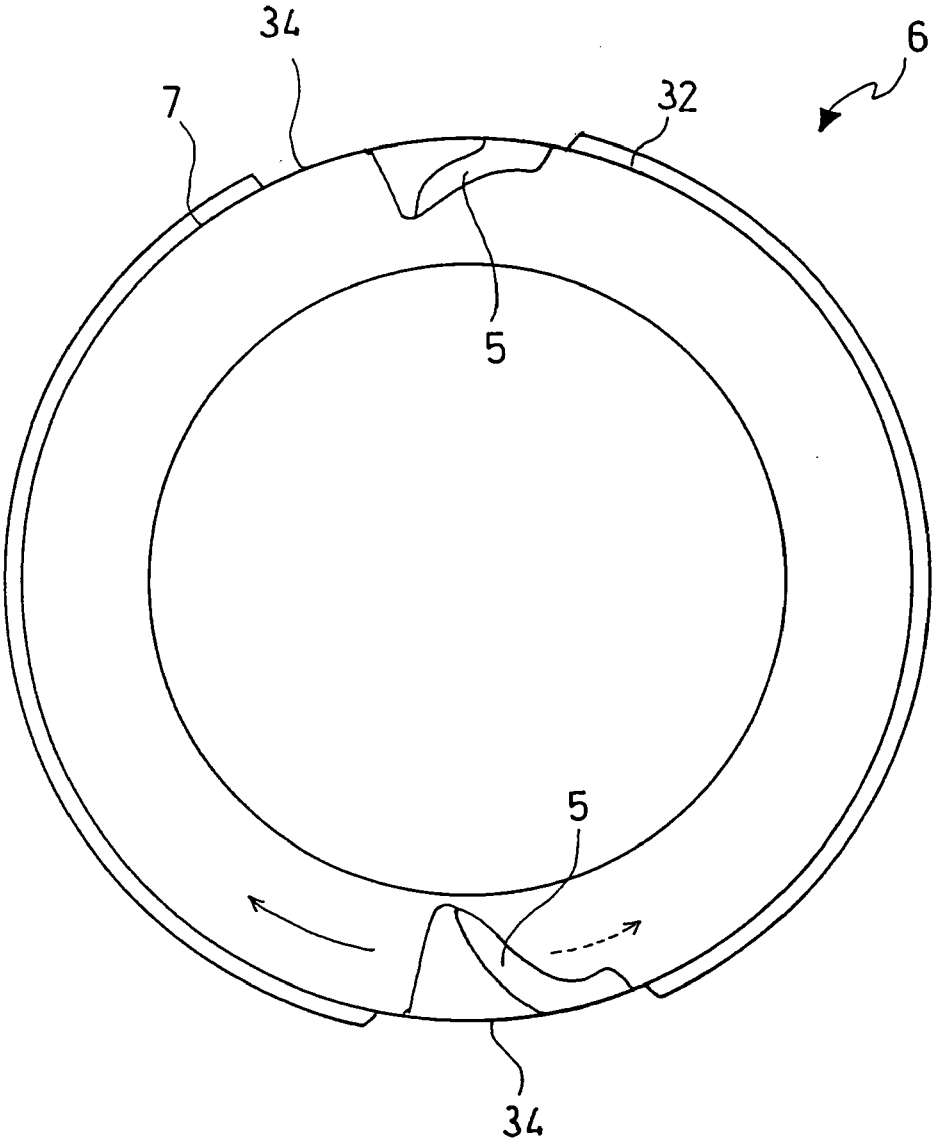

FIG.12

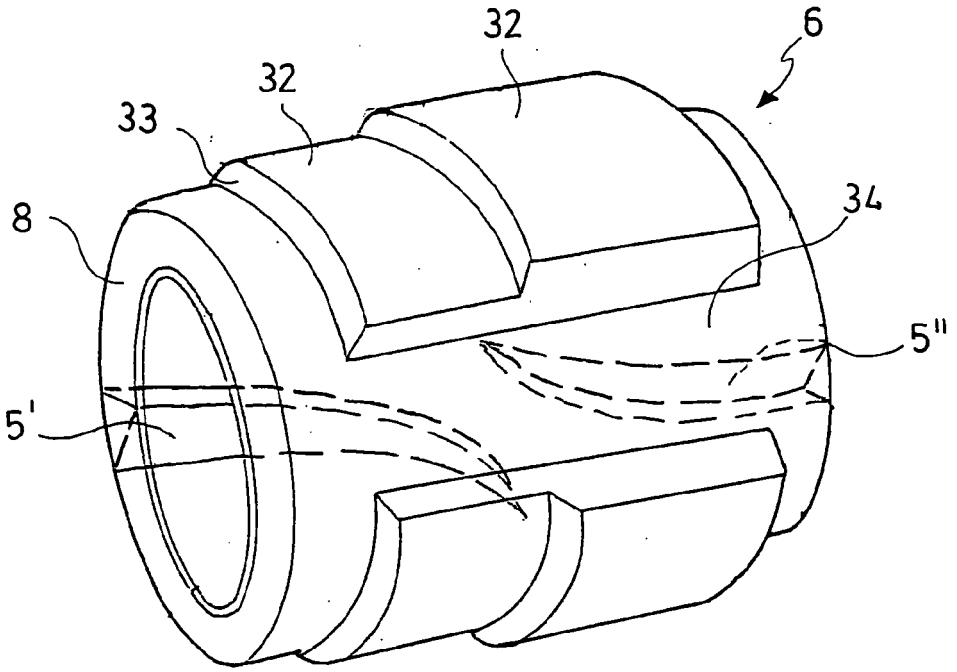

FIG.14

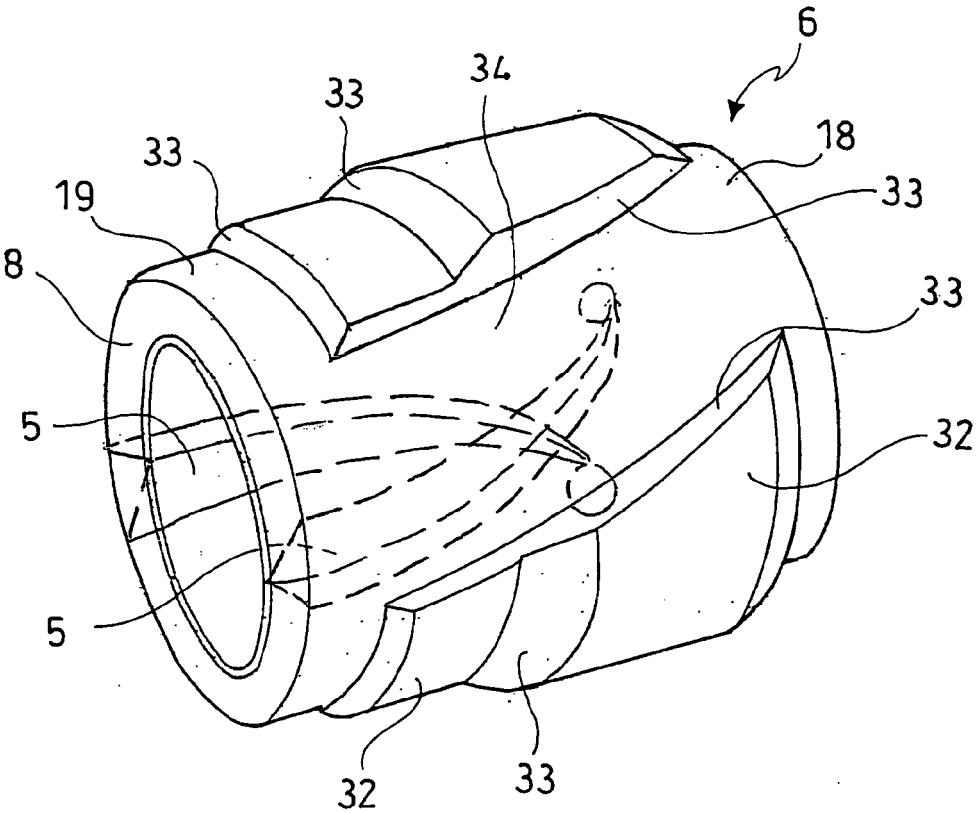

FIG.13

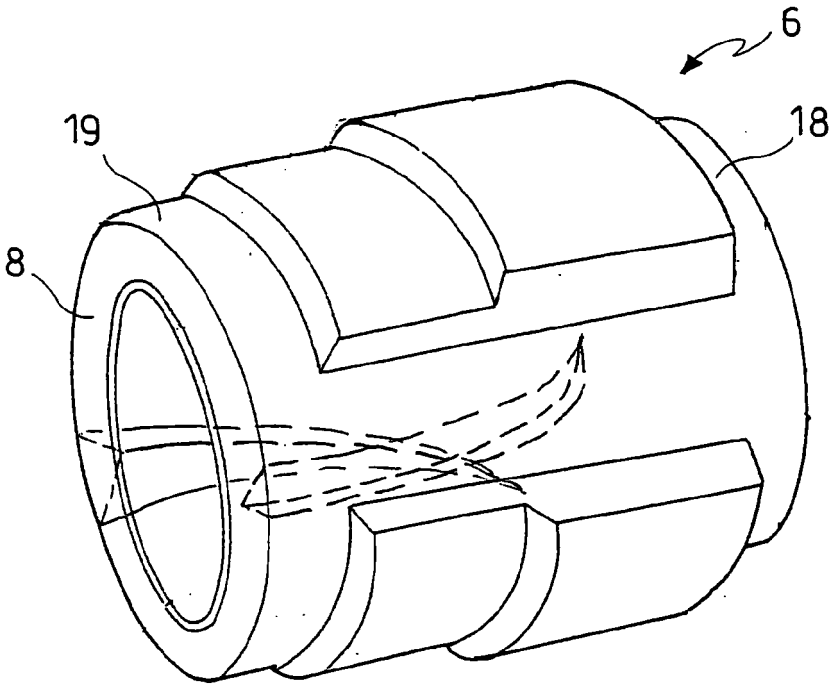

FIG.15

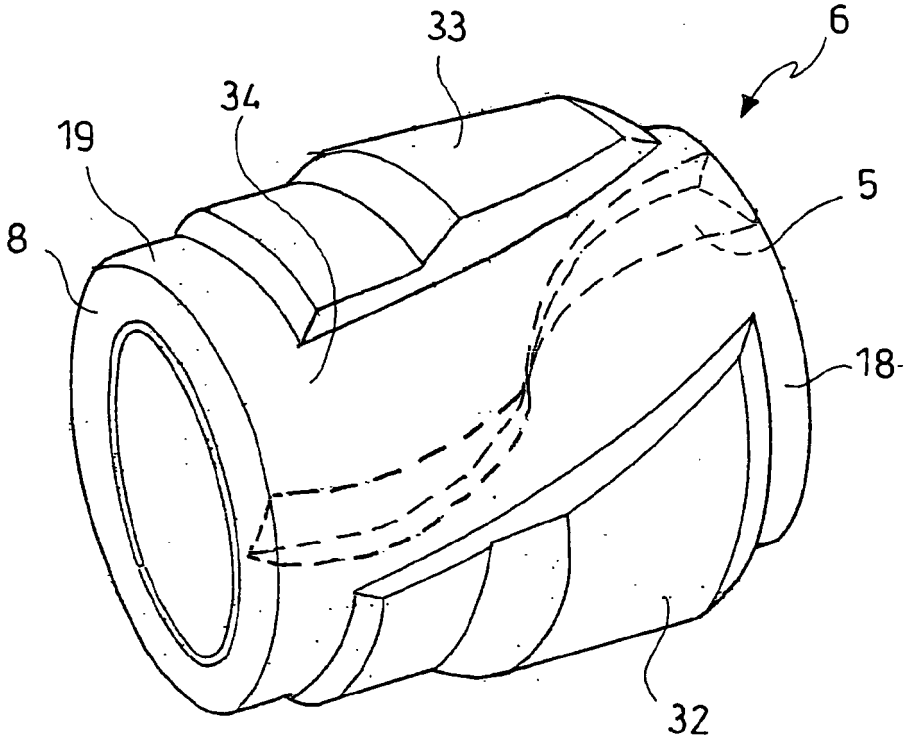

FIG.16

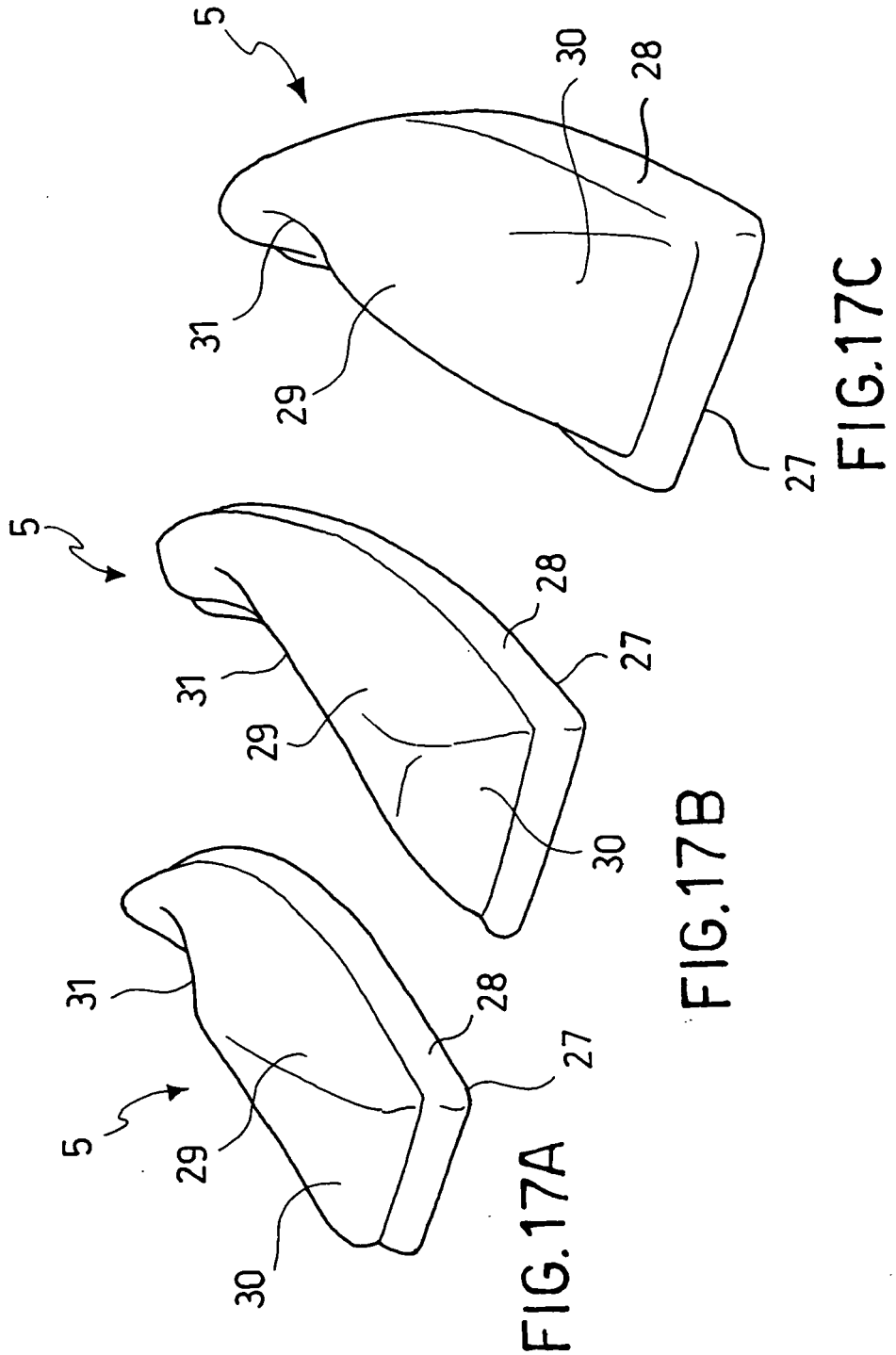

FIG.17A

FIG.17B

FIG.17C

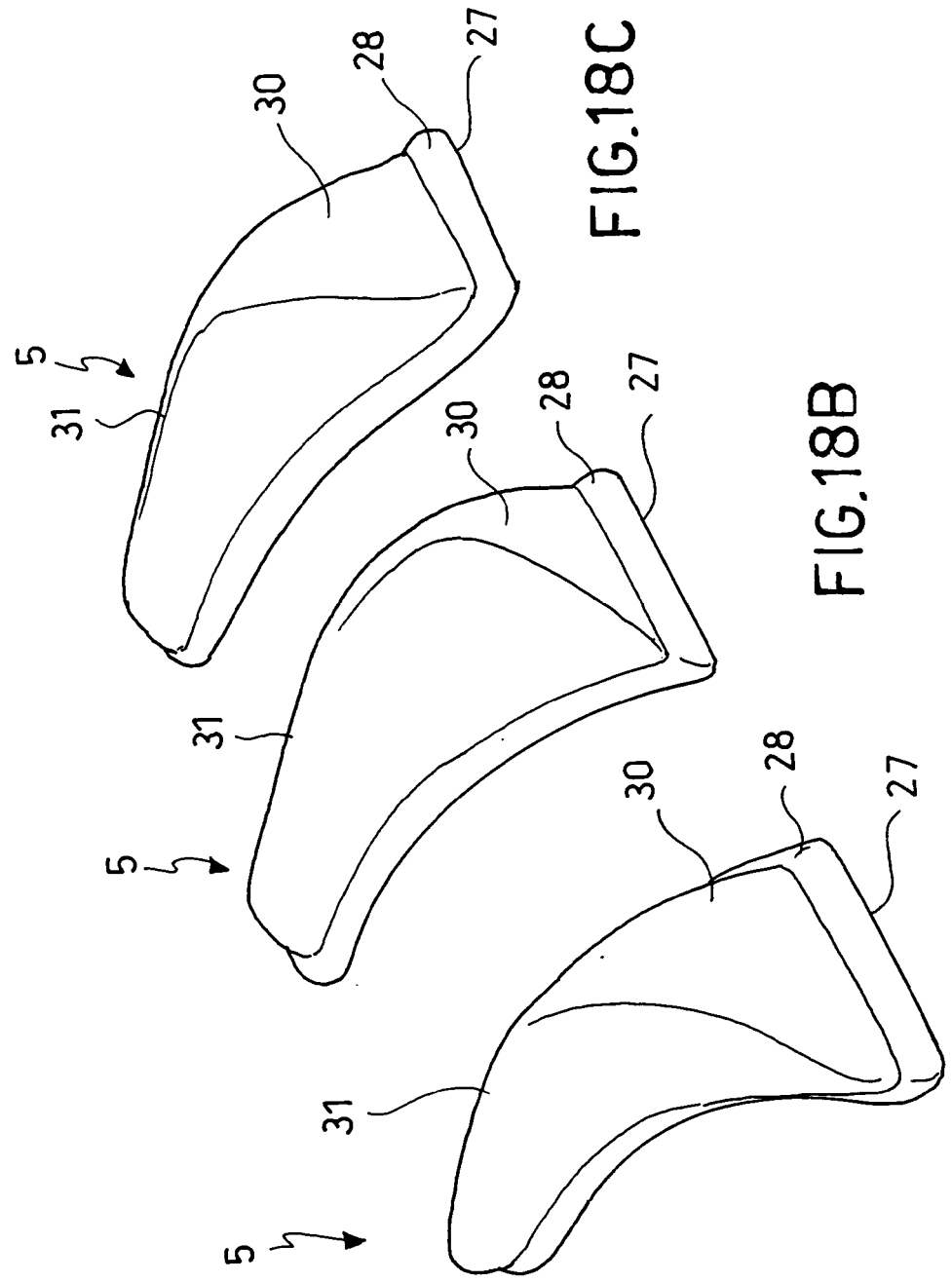

FIG.18C

FIG.18B

FIG.18A

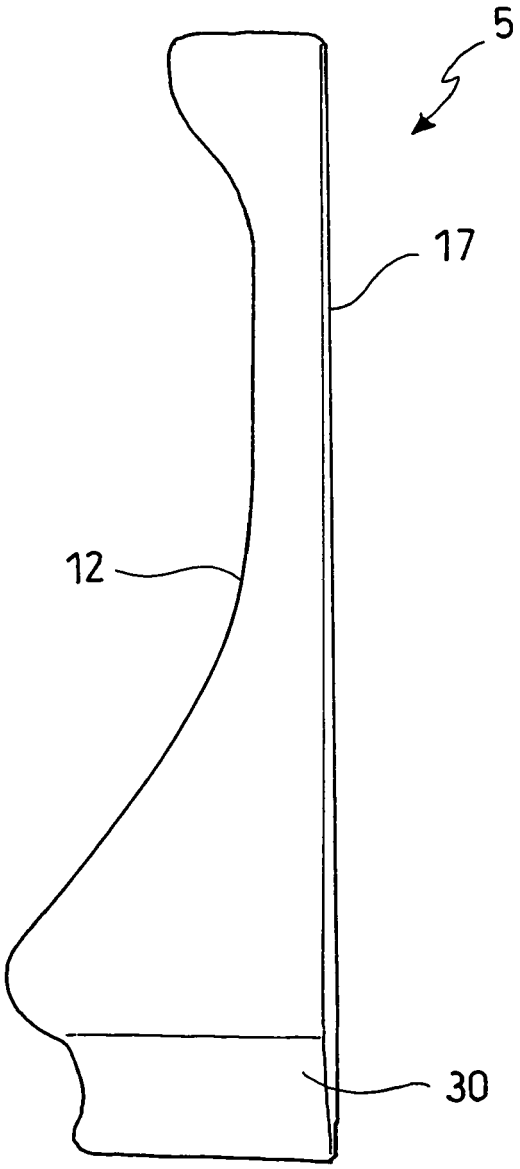

FIG. 19

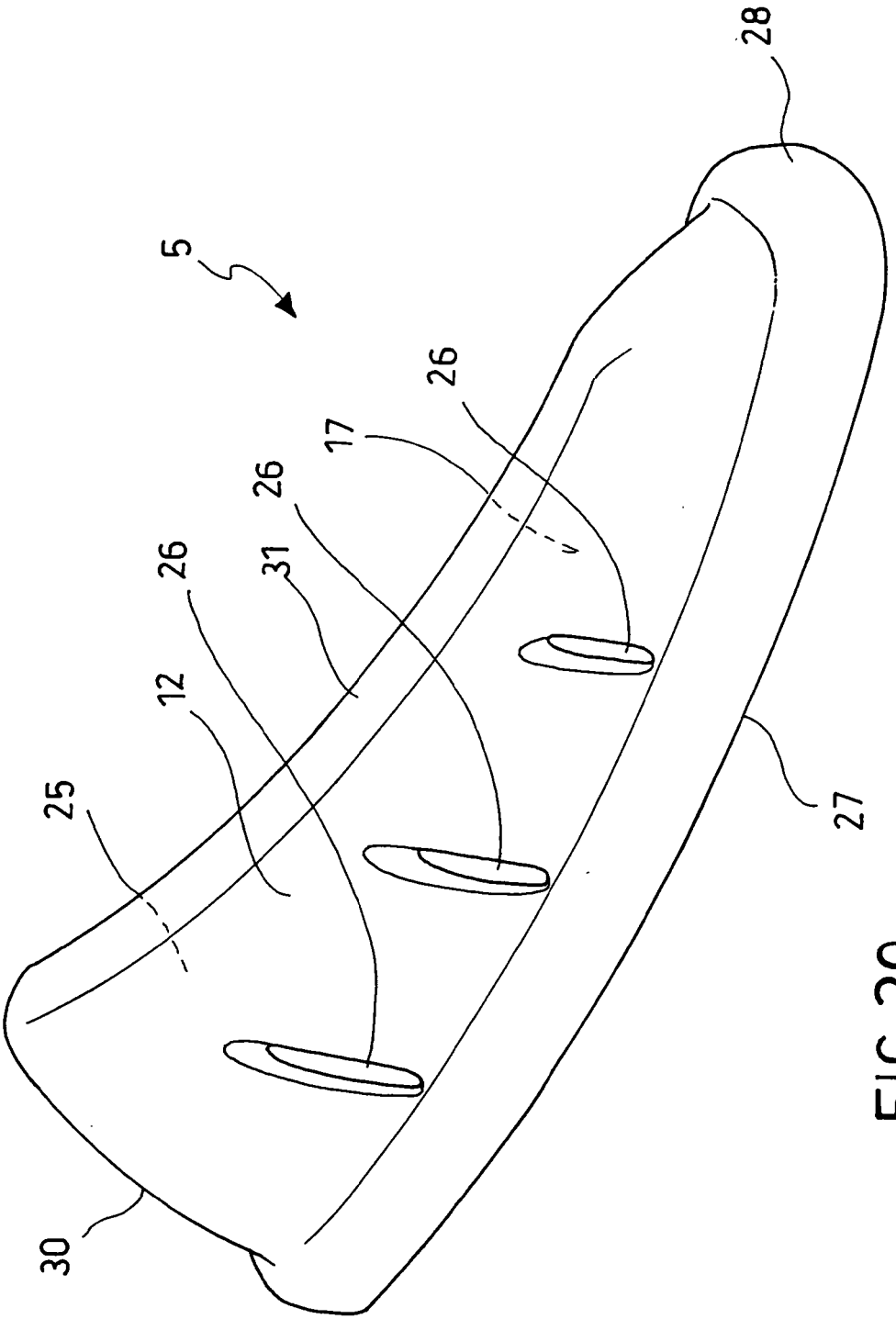

FIG.20

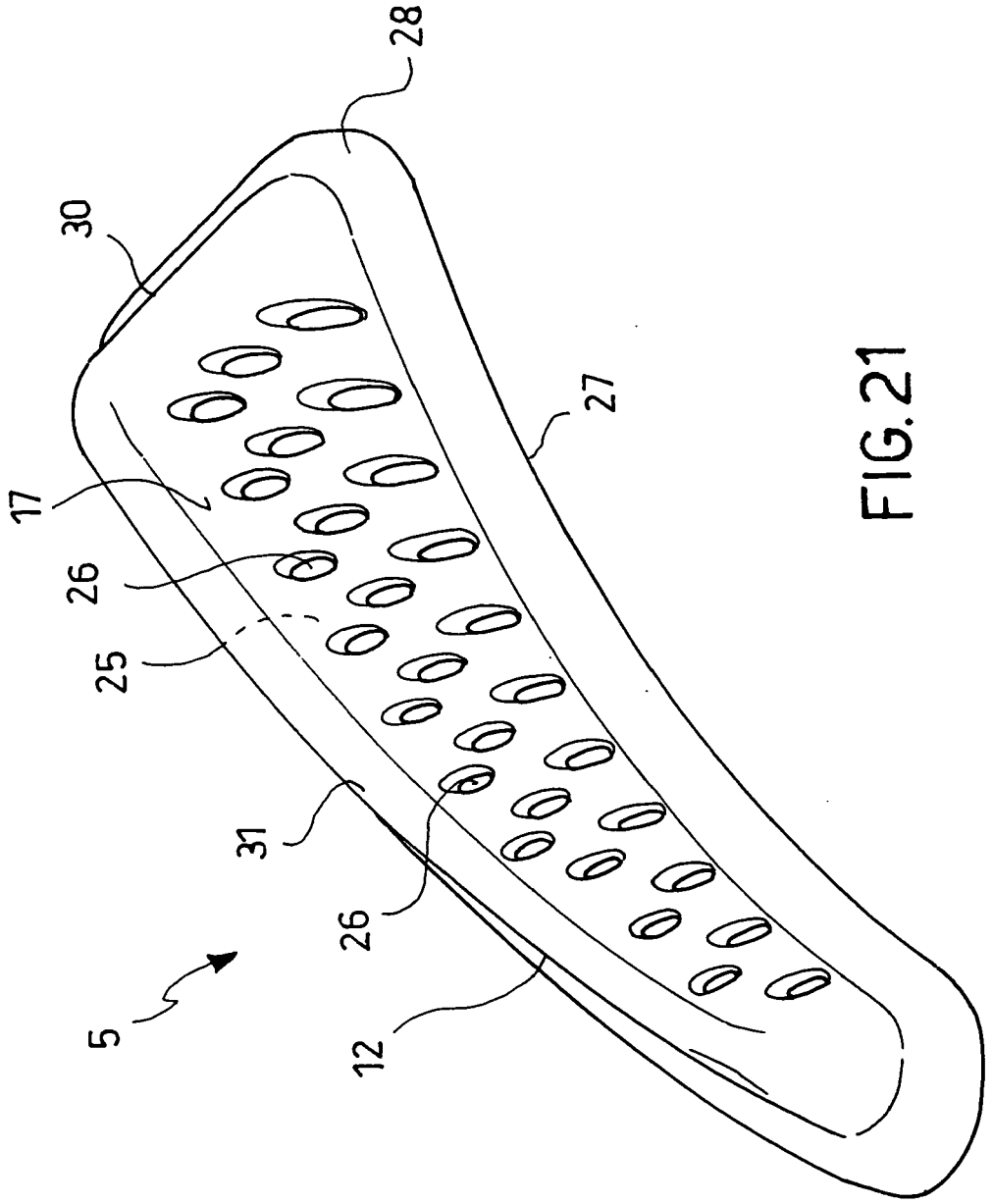

FIG.21

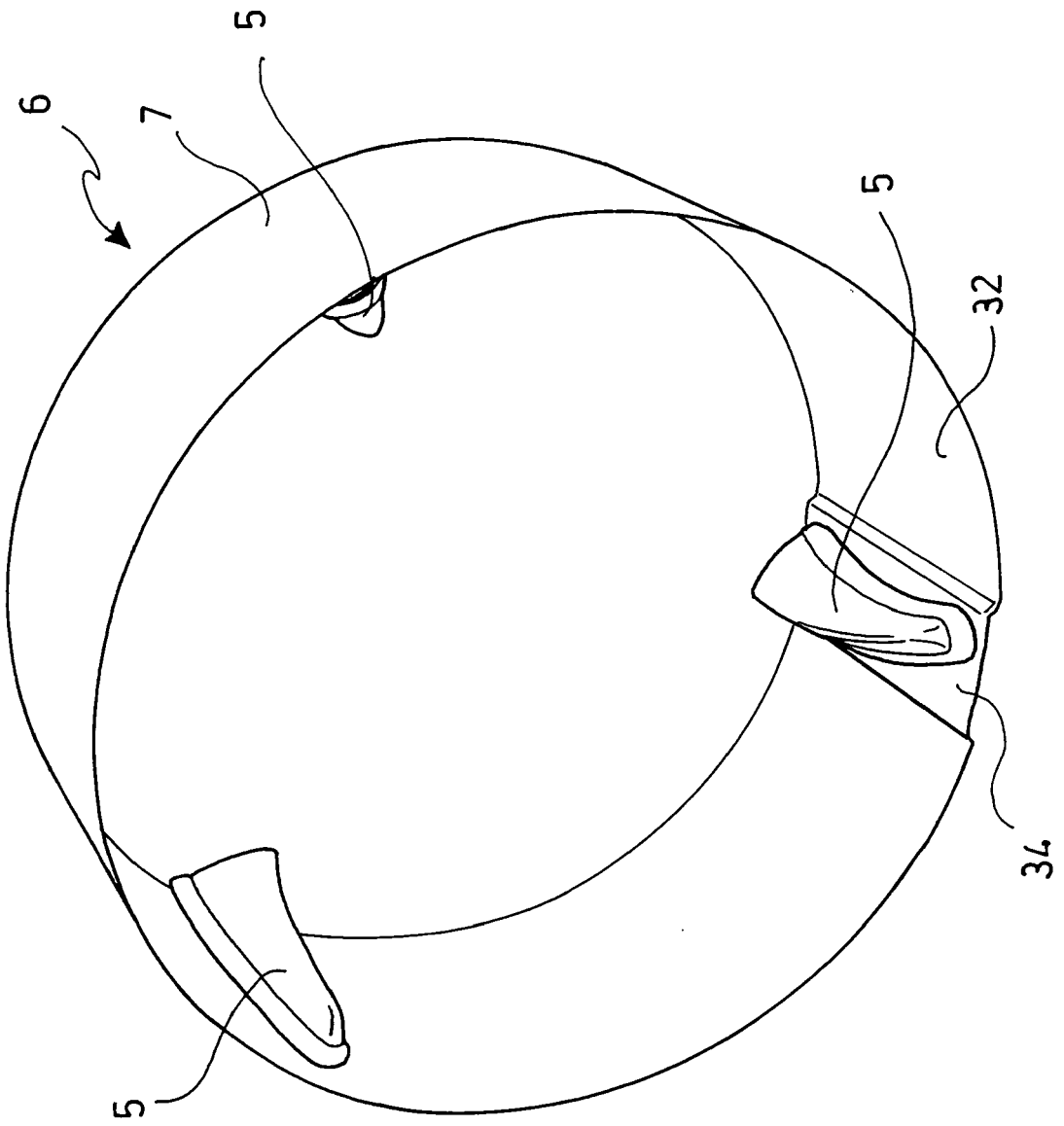

FIG. 22

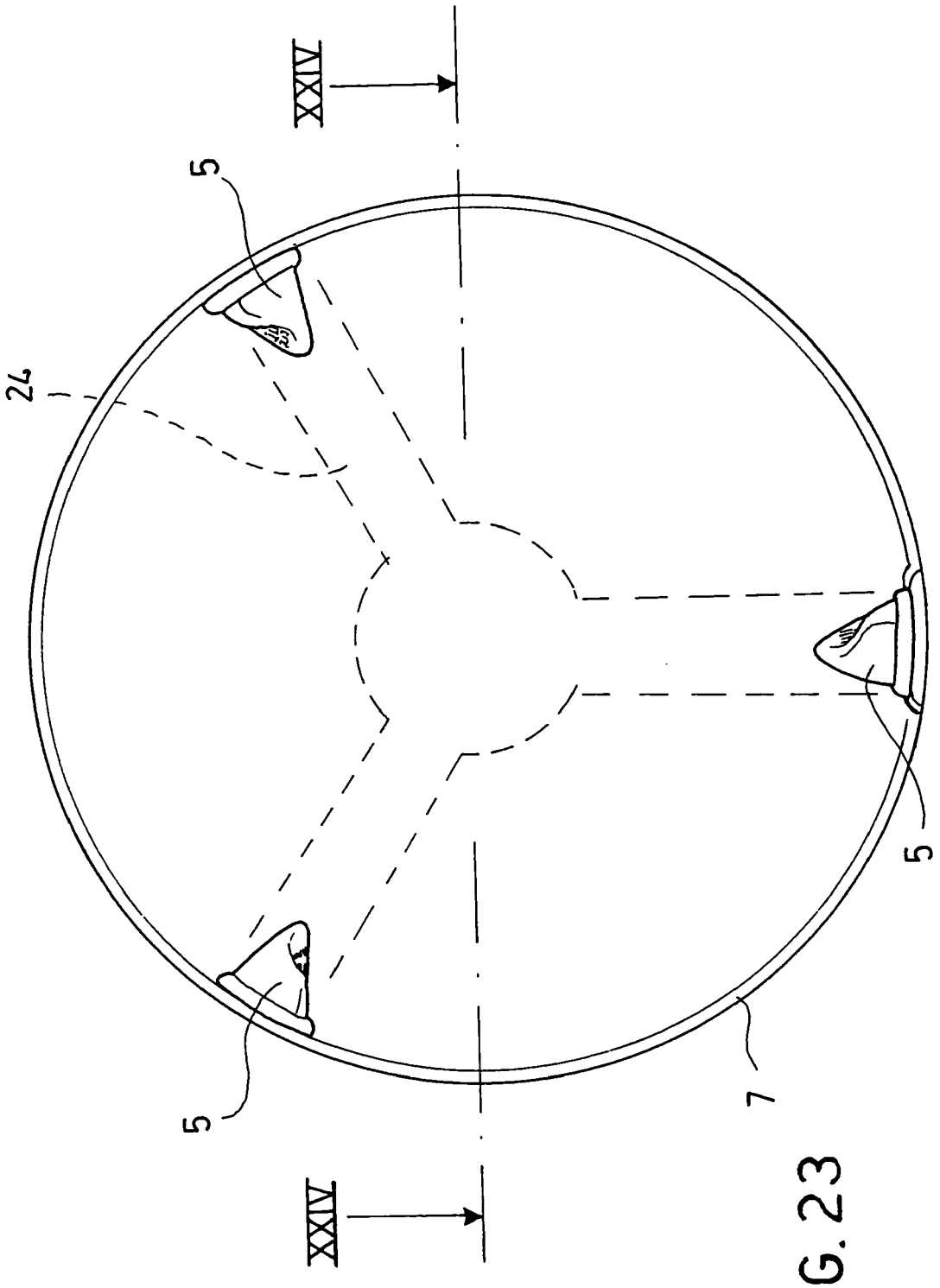

FIG. 23

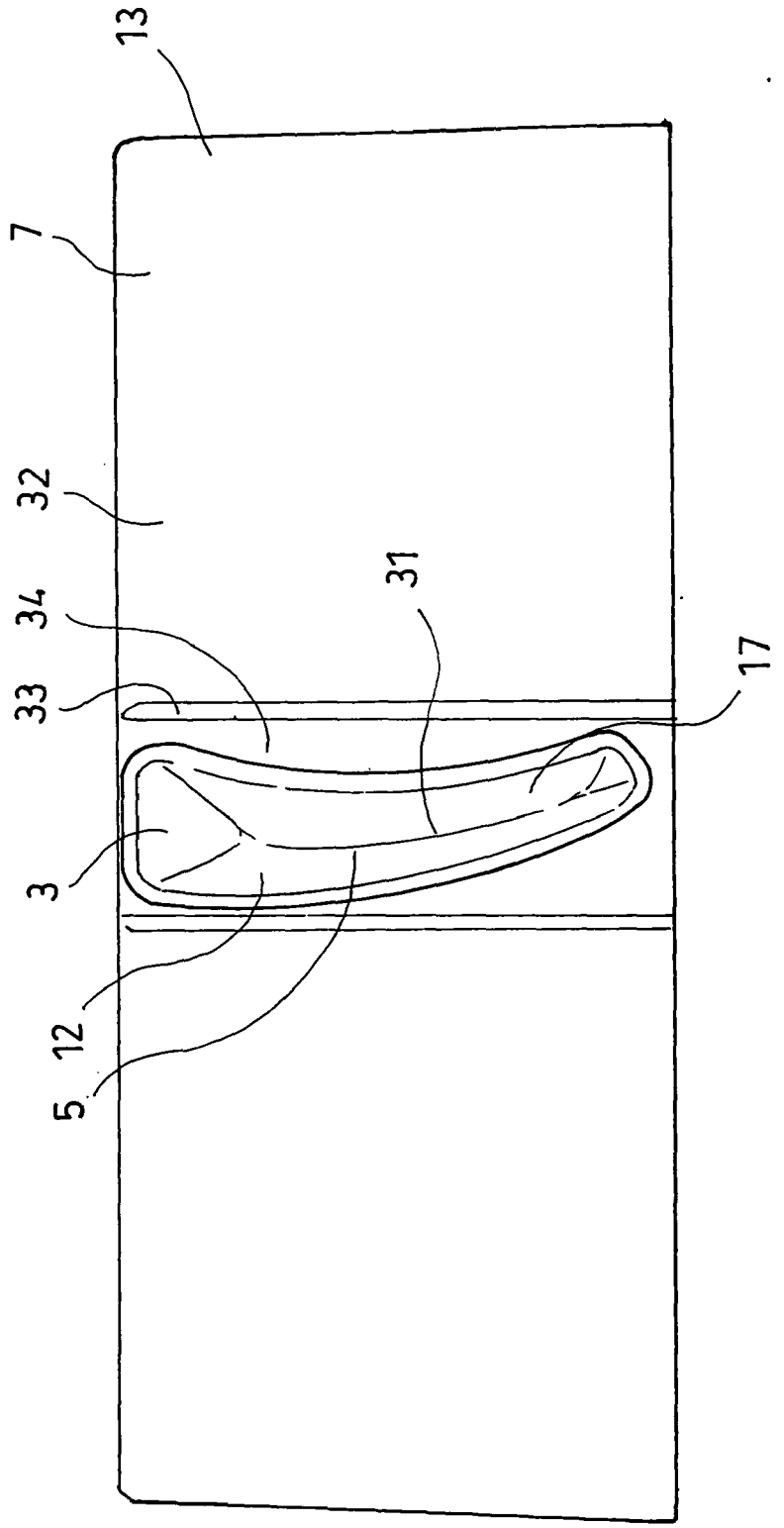

FIG. 24

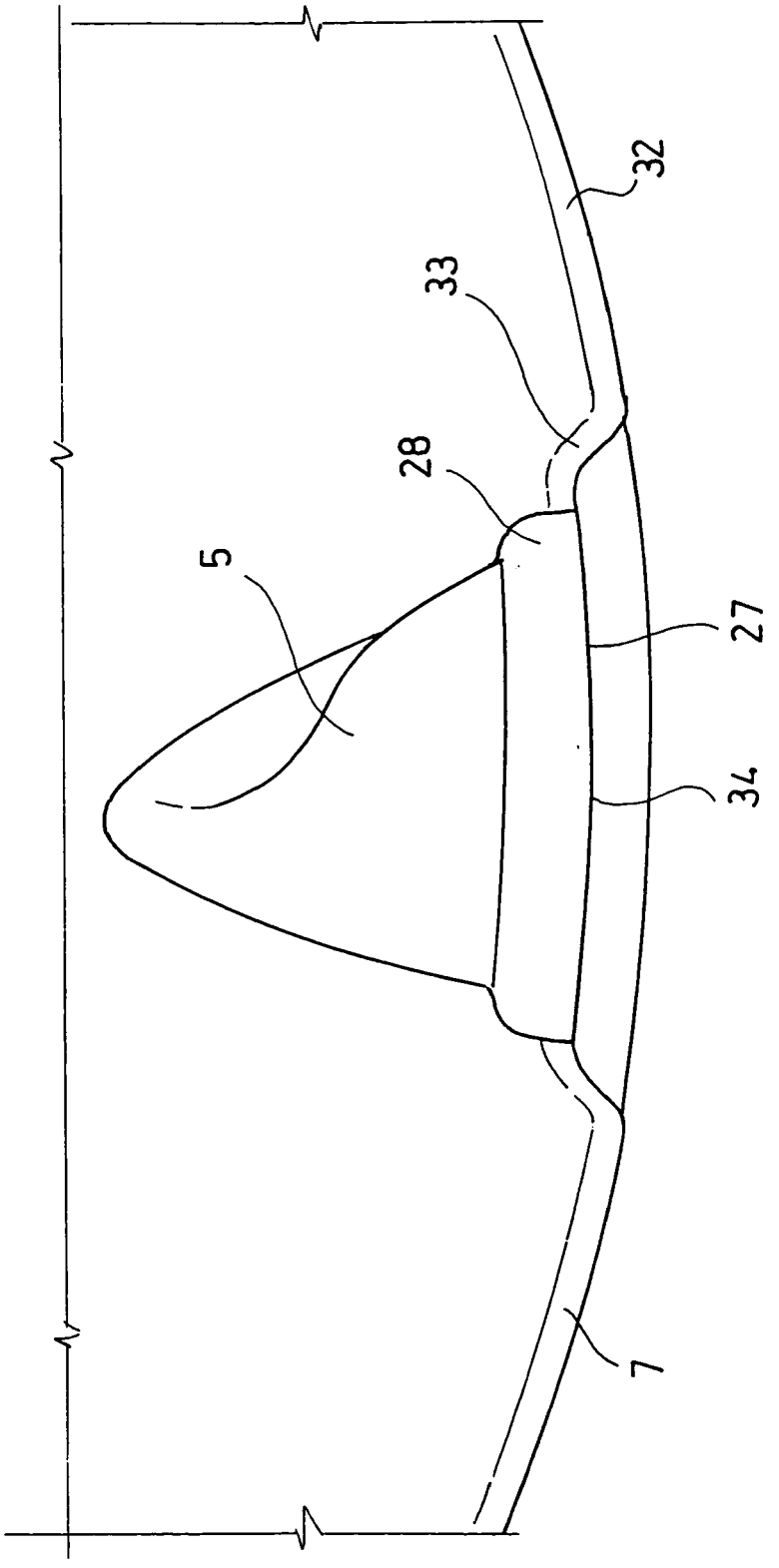

FIG.25

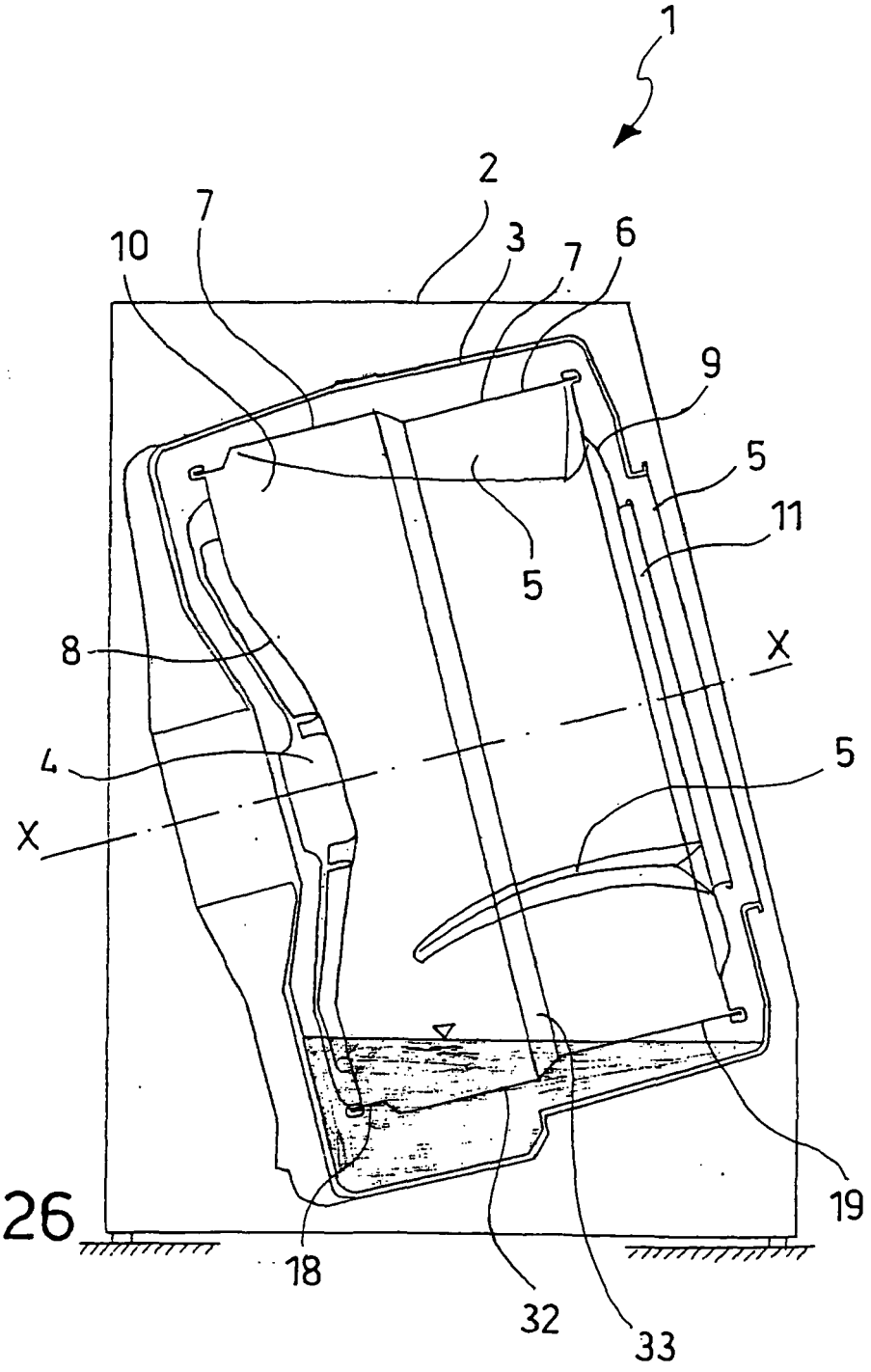

FIG.26

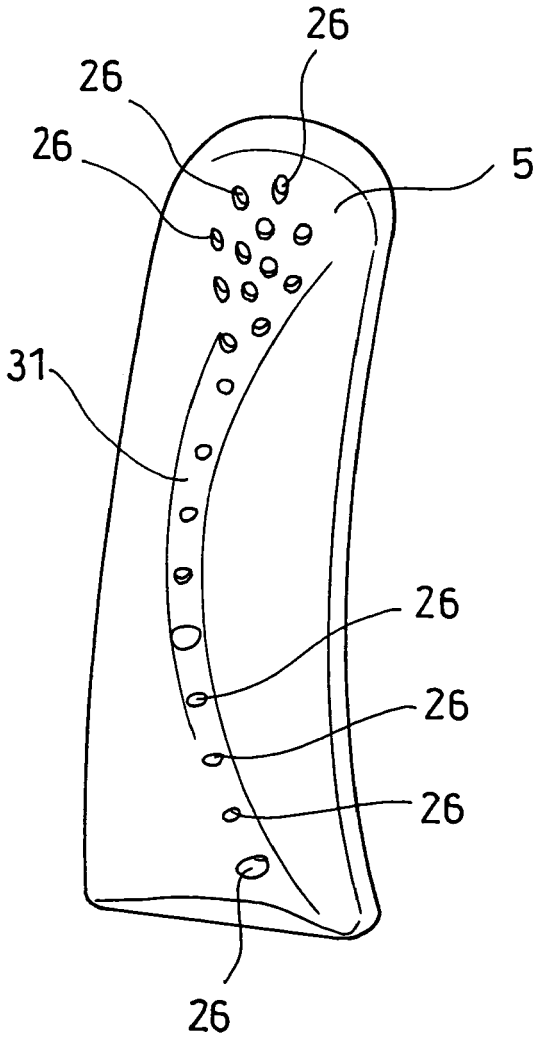

FIG.27

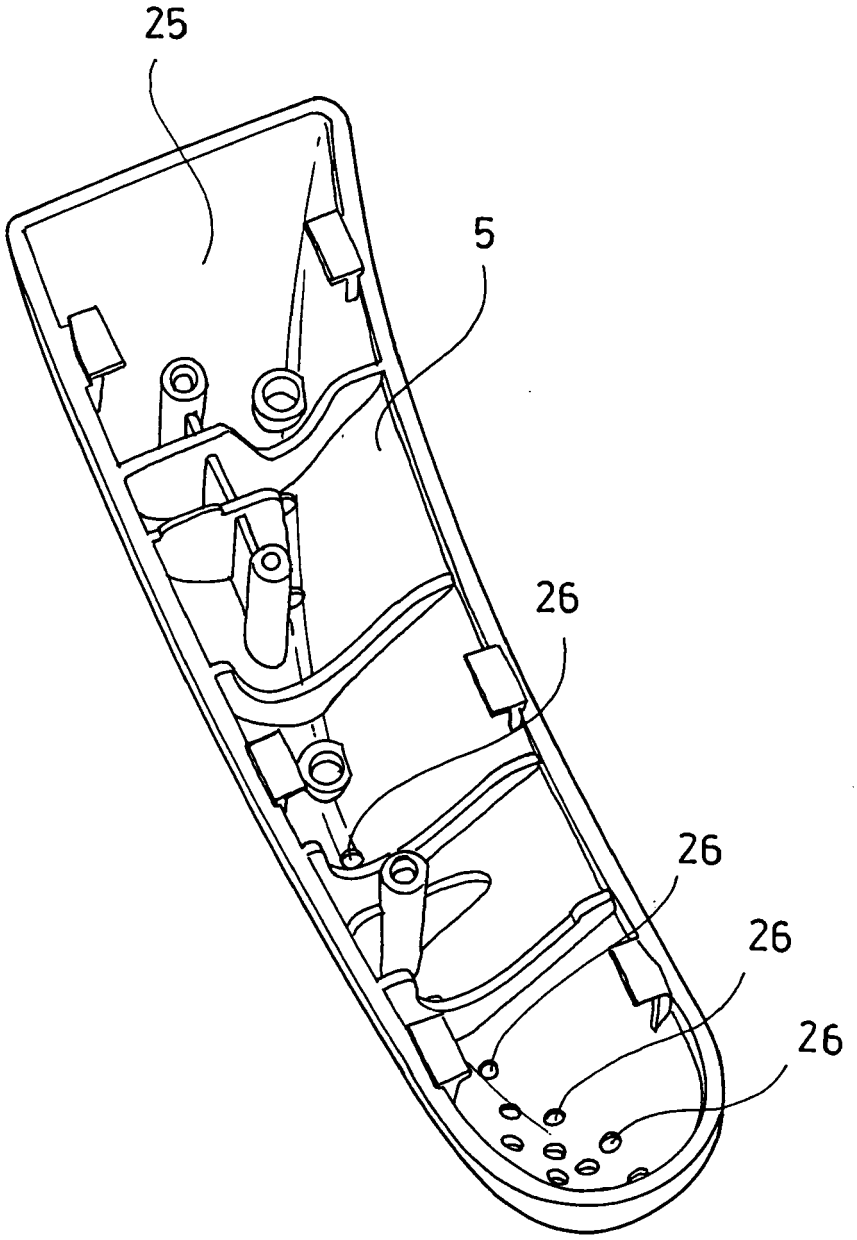

FIG. 28

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 42 5469

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	9 November 2006	Clivio, Eugenio

CATEGORY OF CITED DOCUMENTS

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