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(54) **Inflatable craft**

(57) An inflatable craft (1), particularly a dinghy, a tender, or the like, comprises a floating side structure (3) which is at least partially pneumatically inflatable. This

floating side structure (3) comprises at least one housing seat (7) that can be accessed therein through one or more access openings (8; 8', 8'') which are provided in the side floating structure (3).

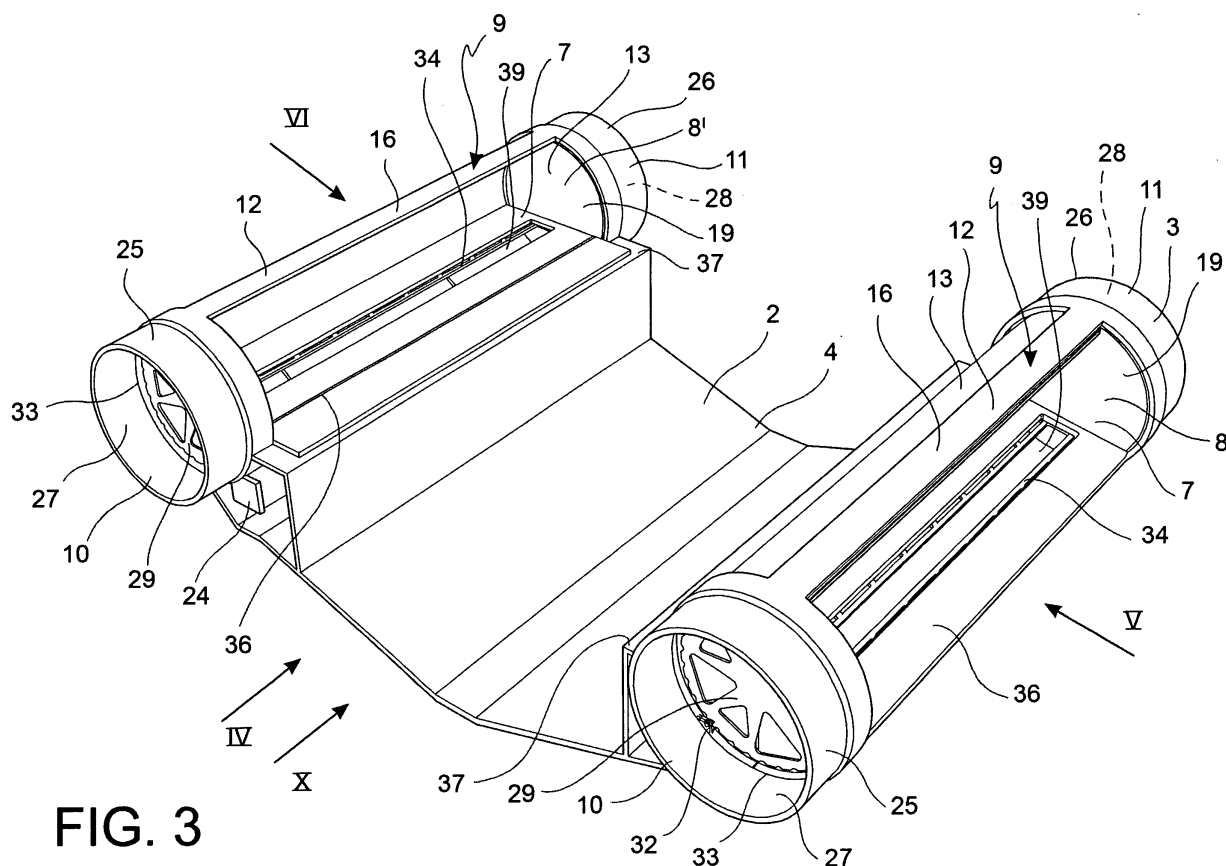


FIG. 3

Description

[0001] The present invention relates to an inflatable craft, particularly a dinghy, a tender or the like.

[0002] Inflatable crafts are particular boats provided with a central bottom and inflatable fabric tubulars wrapping the bottom on the sides thereof. One or more out-board motors are provided rearwards to propel the inflatable craft. The bottom can be also inflatable, or can be made of a rigid material, such as fiberglass or aluminum. This kind of inflatable crafts is particularly appreciated for the reduced rolling thereof both when they are standing still and during navigation thanks to the provision of the inflatable tubulars and for being easily transported thanks to the fabric tubulars being inflatable.

[0003] Inflatable crafts have been used in different applications over time. Particularly, they are effectively used for rescue operations or underwater excursions. Inflatable crafts have also been widely used as low-cost crafts as compared with crafts with a completely rigid hull. In recent times, the use of large-size inflatable crafts has been increasing, which are provided with a number of accessories and high-level equipment that have made them very comfortable, almost like non-inflatable hull crafts.

[0004] As compared with the latter, however, inflatable crafts suffer from a drawback in that they have little space available, which can be on the other hand provided in traditional crafts by arranging actual accommodations within the hull and/or by providing one or more raised planes thereon. For example, the provision of sufficiently comfortable beds or mats implies having a large space available, in addition to construction complexity deriving for example from the requirement of arranging movable structures allowing said beds or mats to be placed under the shadow and do not constitute an obstacle during navigation.

[0005] In the case of inflatable crafts intended to be used for rescue operations, a very felt drawback is the difficulty of taking on board the person being rescued without subjecting his/her body to abrupt or damaging movements when he/she is taken on board.

[0006] The object of the present invention is thus to provide an inflatable craft such as to at least partially overcome the drawbacks cited with reference to the inflatable crafts according to the prior art.

[0007] These and other objects are achieved by means of an inflatable craft according to claim 1.

[0008] In order to better understand the invention and appreciate the advantages thereof several exemplary non-limiting embodiments thereof will be described below with reference to the annexed drawings, in which:

[0009] Fig. 1 is a plan view of an inflatable craft according to the invention;

[0010] Fig. 2 is a side view of the inflatable craft in Fig. 1;

[0011] Fig. 3 is a perspective view of the portion in the frame III of the inflatable craft in Fig. 1;

[0012] Fig. 4 is a perspective view according to the arrow IV of the inflatable craft portion in Fig. 3;

[0013] Fig. 5 is a perspective view according to the arrow V of the inflatable craft portion in Fig. 3;

[0014] Fig. 6 is a perspective view according to the arrow VI of the inflatable craft portion in Fig. 3;

[0015] Fig. 7 is a perspective view of a detail of the inflatable craft portion in Fig. 3;

[0016] Fig. 8 is a perspective view of a further detail of the inflatable craft portion in Fig. 3;

[0017] Fig. 9 is a perspective view of a further detail of the inflatable craft portion in Fig. 3;

[0018] Fig. 10 is a partially phantom side view, according to the arrow X of the inflatable craft portion in Fig. 3;

[0019] Fig. 11 is an enlarged view of the detail in the frame XI of the inflatable craft portion in Fig. 10;

[0020] Fig. 12 is an enlarged view of the detail in the frame XII of the inflatable craft portion in Fig. 10;

[0021] Fig. 13 is a perspective exploded view of the inflatable craft portion in Fig. 3 according to a further possible embodiment of the invention;

[0022] Fig. 14a-14c are partially phantom side views of the inflatable craft portion in Fig. 10 according to a further possible embodiment in a plurality of particular use conditions.

[0023] With reference to Fig. 1 and 2, an inflatable craft is generally designated with numeral 1. The inflatable craft 1 can be for example a dinghy, a tender, or similar crafts. In the description below, particular reference will be made to a dinghy as a possible example of inflatable craft.

[0024] The dinghy 1 comprises a base structure 2 which is partially laterally surrounded by a floating side structure 3.

[0025] The base structure 2 comprises a bottom 4 that can take different shapes. In fact, it can comprise a pneumatically-inflatable fabric tube (inflatable craft of the foldable type), or can be made of a rigid material, such as fiberglass or aluminum (inflatable craft of the "hybrid" type).

[0026] The floating side structure 3 is at least partially pneumatically inflatable. To the purpose, it preferably comprises one or more inflatable tubulars 5. The tubulars 5 have the function of ensuring stability while the dinghy 1 has been floating and are preferably divided therein into a plurality of inner tubes, such that any damage to one of the inner tubes will not affect the remaining inner tubes and thus the dinghy 1 does not sink even when one of the inner tubes of the floating side structure 3 has been damaged.

[0027] The tubulars 5 are advantageously made of fabric suitable for use on crafts. For example, they can be made of polyester or polyamide fabric impregnated with specific elastomers. The fabric pieces are glued by suitable glues, preferably cold glued. The framework of the tubulars is preferably covered by a covering fabric. For example, PVC- or polyvinyl chloride-coated fabrics can be provided. Alternatively, a rubber-coated fabric can be

provided, particularly neoprene® on the inner side and hypalon® on the outer side.

[0028] The dinghy 1 is further preferably provided with one or more motors 6 that are arranged in the rear area ("at the stern"). This area is not surrounded by the floating side structure 5.

[0029] In the habitable area del dinghy, designated with numeral 41, being defined by the floating side structure 3, the dinghy 1 can be provided with various equipment for the control thereof and/or for accommodating the user/s. For example, seats or armchairs, a control board, housing compartments or further equipment well known to those skilled in the art can be provided.

[0030] Advantageously, the floating side structure 3 comprises at least one housing seat 7 that can be accessed by one or more access openings 8 provided in the floating structure 3.

[0031] In the inflatable craft 1 according to the invention, accordingly, the floating side structure 3 has not only a floating function, as in prior art inflatable crafts, but also has a housing function. Accordingly, the housing seats housing seats 7 can be used in several ways. For example, the housing seats 7 can be used as storage compartments, such as to at least partially clear the habitable area 41 of the craft 1 from the bulk of trunks or traditional compartments or at least reducing the overall dimensions thereof. Alternatively, or in addition thereto, the housing seats 7 can be configured such as to be capable of accommodating at least one person therein. For example, suitable support means can be provided therein, for example one or more beds. Thereby, the inflatable craft 1 acquires the advantages of non-inflatable crafts while retaining those navigation characteristics which make inflatable crafts so much appreciated.

[0032] To the purpose of making housing seats 7 accessible, the access openings 8 can be arranged and shaped in different manners. For example, only one access opening 8' can be provided facing the craft interior, i.e. facing the habitable area 41, and accessible therefrom. This solution is for example suitable in the case where the housing seats 7 act as a sleeping cabin for the user, or as a storage compartments. Alternatively, or in addition thereto, an access opening 8" can be provided facing the craft exterior, such as to facilitate loading and unloading items therefrom, for example when the inflatable craft is moored alongside a pier. Alternatively, or in addition thereto, an access opening can be provided facing downwards (not shown in the drawings), i.e. directly positioned in the fluid medium on which the craft is floating under operating conditions. A similar configuration is suitable, for example, when elements have to be let down on the fluid medium, such as a bathyscaphe. Alternatively, or in addition thereto, an access opening can be provided facing upwards (not shown in the drawings), i.e. facing the craft side opposite the side immersed in the fluid medium. This opening can be used for example to easily insert items in the housing seat.

[0033] The housing seats 7 can be variously arranged

in the floating side structure 3. Preferably, though not necessarily, they are arranged in symmetric positions on both sides of the craft 1, such as not to alter the stability thereof during navigation. Most preferably, they are arranged proximate to the stern of the inflatable craft 1.

[0034] From a constructional point of view, the housing seats 7 can be made in replacement of the space which is normally intended for one or more of the inner tubes of the tubulars which make up the floating side structure 3 in the inflatable crafts according to the prior art.

[0035] According to a possible embodiment, the housing seats 7 are defined by a rigid tubular structure to which one or more inflatable adjacent tubulars 5 are connected. According to another possible embodiment (not shown in the drawings), the housing seats 7 are also defined by an inflatable structure which is shaped such as to define the housing seats when pressurized air (or other gas) is blown therein.

[0036] Preferably, the access openings 8 are reversibly closable. In other words, these access openings can be opened and closed such as to allow and prevent access to the housing seats 7. To this purpose, the access openings 8 can be provided with suitable closing means.

[0037] Said closing means can be variously configured. In the case where no tight sealing concern are present, such as for example when the access openings are facing the interior of the inflatable craft 1, the closing means can be simple fabric coverings, which can be possibly closed by means of closing members, such as zip or strap fasteners, or the like. Alternatively, panels can be provided either movable relative to the floating side structure 3 or completely removable therefrom. In order to ensure the closure thereof, suitable locking means can be provided in the closed position. Movable rigid members can be then provided within the housing seat 7, as will be more detailed below with reference to a preferred embodiment of the invention. The closing means can be moved either by hand or suitable moving means can be provided, such as electric motors, or of different nature, which can be controlled by the user.

[0038] According to a further particularly advantageous aspect of the present invention, the shape of the floating side structure 3 with one or more housing seats 7 and one or more openings 8 for access therein can be exploited to use the inflatable craft 1 for rescue operations in water.

[0039] With reference to Fig. 3-13, several embodiments will be described of a dinghy being particularly suitable for such rescue operations. As will be apparent to those skilled in the art, the characteristics that will be described herein, possibly with the addition of several modifications, or variations, are also suitable for using the dinghy in a civilian or touristic context.

[0040] With reference to the figures stated above, a portion of a dinghy according to the invention (the dotted portion in the frame in Fig. 1) is depicted, particularly a portion of base structure 2 and a portion of the floating side structure 3 including the housing seats housing

seats 7 (two in the example, which are symmetrically arranged relative to the base structure 2).

[0041] According to the embodiment illustrated herein, both the base structure 2, and the portions of the floating side structure 3 are made of a rigid material. Particularly, the base structure 2 comprises the bottom 4, and the portion of floating side structure 3 comprises two rigid tubular structures 9, both preferably defining as many housing seats 7 therein. At two opposite ends 10 and 11 of each of the rigid tubular structures 9 the inflatable tubulars can be connected (not shown in Fig. 3-13) such that the craft 1 is suitable for navigation.

[0042] The bottom 4 and rigid tubular structures 9 are mutually associated with each other. For example, they can be made as one piece, or alternatively, they can be constructed separately and then connected to each other.

[0043] Advantageously, the rigid tubular structures 9 comprise an outer fixed tubular body 12 and an inner movable tubular body 13. The outer fixed tubular body is associated with the bottom 4, whereas the inner movable tubular body 13 is arranged within the outer fixed tubular body 12, i.e. it is arranged within the space defined by the latter. The outer fixed 12 and inner movable 13 bodies are preferably arranged substantially co-axial to each other. Furthermore, the inner movable tubular body 13 results to be pivoting about said common axis within the outer fixed tubular body 12.

[0044] Said mobility of the inner movable tubular body 13 relative to the outer fixed tubular body 12 makes it possible either to gain access to the housing seat 7 or not, according to the particular configuration being taken.

[0045] In fact, the outer fixed tubular body 12 advantageously forms the one or more access openings 8 to the housing seat 7. Particularly, according to the embodiment illustrated herein, the outer fixed tubular body 12 forms an inner access opening 8' and an outer access opening 8". The inner access opening 8' faces inwardly of the dinghy 1, particularly the habitable area 41, whereas the outer access opening 8" faces outwardly of the dinghy, i.e. under use conditions, the fluid medium on which the dinghy is floating (sea, lake, river, or the like).

[0046] In accordance with an embodiment, the inner movable tubular body 13 is movable relative to the outer fixed tubular body 12 between an outer closed position and an outer opened position. When the inner movable tubular body 13 is standing in the outer closed position (to this purpose, see for example Fig. 6 and Fig. 7, with reference to the rigid tubular structure 9'), the outer access opening 8" is closed and thus the housing seat 7 is not accessible from the exterior of the craft. On the other hand, when the inner movable tubular body 13 is standing in the outer opened position (to this purpose, see for example Fig. 6 and Fig. 7, with reference to the rigid tubular structure 9'), the outer access opening 8" is opened and thus the housing seat 7 results to be accessible from the exterior of the craft. It should be noted that, preferably, the outer access opening 8" is arranged and shaped such

that, under normal conditions of use of the craft, it is partially underneath the surface of the fluid medium on which the craft is floating.

[0047] Advantageously, to the outer closed position of the inner movable tubular body 13 there corresponds an inner opened position, i.e. such a position that the inner access opening 8' is opened, and to the outer opened position of the inner movable tubular body 13 there corresponds an inner closed position, such that the inner access opening 8' is closed. In other words, in a first position (in the outer closed and inner opened positions) the housing seat 7 can be accessed through the inner access opening 8' but not through the outer access opening 8". On the other hand, in a second position (in the outer opened and inner closed positions) the housing seat 7 can be accessed through the outer access opening 8" but not through the inner access opening 8'.

[0048] In order to make this selective accessibility to the housing seat 7 possible, the outer fixed tubular body 12 and the inner movable tubular body 13 are suitable shaped.

[0049] In accordance with an embodiment, the housing seat 7 is defined by two defining walls 14 and 15, preferably of annular shape, of the outer fixed tubular body 12, which are arranged at the two ends 10 and 11 of the rigid tubular structure 9 (Fig. 8), respectively. The two defining walls 14 and 15 are connected to each other by means of an upper bridge 16 and a lower bridge 17 of the outer fixed tubular body 12, which are axially developed. The upper bridge 16 and the lower bridge 17 are preferably placed in diametrically opposite positions and define, along with the defining walls 14 and 15, the outer 8" and inner 8' access openings. Advantageously, the upper bridge 16 and lower bridge 17 have an arc of circle development in the cross-size section thereof. The lower bridge 17 preferably has a greater width than the upper bridge 16. Thereby, they form both guides and holding means for the inner movable tubular body 13, which in turn has a cross-size that at least partially has an arc of circle development.

[0050] In greater detail, the inner movable tubular body 13 comprises two defining walls 18 and 19 being arranged at the ends 10 and 11 of the rigid tubular structure 9, which preferably have an annular shape (Fig. 9), respectively. The two defining walls 18 and 19 are preferably connected to each other by only one connecting bridge 20, preferably having an arc of circle development in the cross-size thereof, which is, most preferably, developed between the outer circumferences of the defining walls 18 and 19. The defining walls 18 and 19 and the connecting bridge 20 define the housing seat 7.

[0051] Advantageously, the connecting bridge 20 of the inner movable tubular body 13 has an extension of less than 360° in the cross-section thereof, such as to provide an intermediate access opening 21 for access to the housing seat 7.

[0052] Most advantageously, the intermediate access opening 21 is arranged such that, when the inner mov-

able tubular body 13 is in the outer closed-inner opened position, the intermediate access opening 21 is at least partially aligned with the inner access opening 8' of the outer fixed tubular body 12, and when the inner movable tubular body 13 is in the inner closed-outer opened positions, the intermediate access opening 21 is at least partially aligned with the outer access opening 8" of the outer fixed tubular body 12. Thereby, depending on the position of the inner movable tubular body 13 relative to the outer fixed tubular body 12, selective access to the housing seat 7 is provided, through the outer access opening 8" or through the inner access opening 8', respectively.

[0053] Obviously, such mechanism can be usefully adopted also when only one access opening is provided to the housing seat 7 in the outer fixed tubular body 12. For example, only the inner access opening 8' can be provided, and in this case the housing seat 7 results to be accessible only through this one opening. Alternatively, only the outer access opening 8" can be provided. These configurations are particularly suitable to the case where the housing seat 7 has the function of storage compartments or cabin for a craft user.

[0054] In order to ensure the relative mobility between the outer fixed tubular body 12 and the inner movable tubular body 13 without jamming, suitable rolling means can be provided. For example, rolls or balls 22 or similar (Fig. 8) can be provided in the lower bridge 17 of the outer fixed tubular body 12, which are capable of rolling on the connecting bridge 20 of the inner tubular body 13 while the latter is being moved such as to ensure a sufficient relative mobility between the inner movable tubular body 13 and the outer fixed tubular body 12.

[0055] In order to prevent water infiltration, particularly from the craft outer side, when the access openings are closed, suitable gaskets 23 (Fig. 7) are advantageously provided.

[0056] The inner movable tubular body 13 can be moved either manually or, preferably, automatically. In the latter case, actuating means are advantageously provided, for example electric motors 24, which adjust the movement of the inner movable tubular body 13. Obviously, actuating means of different nature can also be provided, for example hydraulic pumps.

[0057] Preferably, with each rigid tubular structure 9 is associated one of said motors 24. In accordance with an embodiment, from the defining walls 14 and 15 of the outer fixed tubular body 12 tubular projections 25 and 26 defining actuating seats 27 and 28 therein (see for example Fig. 7 and 8). These tubular projections 25 and 26 have a connecting function to the inflatable tubulars 5 of the floating side structure 3. At least one of these actuating seats 25 and 26 of each rigid tubular structure 9 is further intended to accommodate moving members of the inner movable tubular body 13. According to a possible embodiment, in this actuating seat is accommodated a rack or gear wheel 29 which is connected to the inner movable tubular body 13, for example by means of

a drive shaft (not shown in the figures). In order to allow this shaft to pass therethrough, the corresponding defining wall of the outer fixed tubular body 12 is provided with a through hole 30, preferably provided with a sealing gasket 31. The gear wheel or rack 29 is geared with a pinion 32 of motor 24, thereby moving the gear wheel or rack 24 and thus the inner movable tubular body 13. The motor 24 can be also entirely accommodated within the actuating seat. Alternatively, as shown in the figures, it may also be arranged outside thereof, for example in a suitable space 42 provided in the bottom 4, and in the tubular projections may be provided connecting through grooves 33 suitable to communicate the motor 24, external to the actuating seat, to the gear wheel or rack 29, internal to the actuating seat.

[0058] The actuating seats 27 and 28 can be tightly isolated by applying tympana 40 which make the actuating seats (Fig. 13) inaccessible from the outside.

[0059] Advantageously, in order to allow the rescue operations while minimizing the stress caused to the body of the person to be rescued as much as possible, the inflatable craft 1 comprises a support plate 34 suitable to support a person's body, which is arranged in the housing seat 7 (Fig. 7). Thereby, during the rescue operations, it is possible to load the person directly on the support plate 34 by means of the outer access opening 8". After the body has been placed on the support plate 34 without being subjected to trauma, the outer access opening 8" is closed and the inner access opening 8' is opened in the same manner as described above, which also grants access to the housing seat 7 and hence support plate 34 from within the craft, i.e. the habitable area 41 of the latter. It should be noted that, as stated above, the outer access opening 8" is preferably arranged and shaped such that, under normal conditions of use of the craft, it is partially beneath the surface of the fluid medium on which the craft is floating. Most preferably, the support plate 34, when the outer access opening 8" is opened and thus an amount of the fluid medium flows to the housing seat 7, is partially submerged in the fluid medium. Thereby, the stress to which the body of the person to be rescued is subjected while he/she is being loaded to the support plate are further minimized. In fact, as the latter is partially submerged, the person's body always results at least partially supported by the hydraulic thrust of the fluid medium.

[0060] According to a possible embodiment, the support plate 34 is hinged to the outer fixed tubular body 12 or, alternatively, to the bottom 4 at hinges 43. The connection to the latter elements is preferably such that the support plate 34 can perform rotations about an axis parallel to the axis of the rigid tubular structure 9.

[0061] In order to avoid interferences between the support plate 34 and the inner movable tubular body 13, the latter can comprise circumferential grooves 38 corresponding to the hinge points (Fig. 9).

[0062] In order to support the support plate 34, the inner movable tubular body 13 advantageously comprises

rest means, such as for example protrusions 35 projecting inwardly of the housing seat 7. Thereby, the position of the inner movable tubular body 13 affects the position of the support plate 34.

[0063] Particularly, according to a preferred embodiment, when the inner movable tubular body 13 is in the outer closed position, the support plate 34 is supported by the projecting protrusions 35 (Fig. 11). In this configuration, the support plate 34 is preferably in the horizontal position (with reference to the normal conditions of use of the craft). On the other hand, when the inner movable tubular body 13 is in the inner closed position, i.e. in the outer opening position, the support plate 34 is supported, by the outer fixed tubular body 12 in addition to the hinges 43, at the outer access opening 8", particularly by the lower bridge 17 defining the outer access opening 8" (Fig. 12) underneath. In this condition, the support plate 34 results to be slightly inclined downwards, i.e. towards the fluid medium on which the craft is floating under use condition, such as to facilitate the loading operations of the person's body to be rescued.

[0064] In greater detail, starting from the latter configuration, while the inner movable tubular body 13 is being moved from the outer opened position to the outer closed position, in an intermediate position between these two positions the projecting protrusions 35 come in contact with the lower portion of the support plate 34, by dragging the latter by the effect of the movement of the inner movable tubular body 13. After the latter has reached the outer closed position, the support plate is held in position, preferably horizontal as stated above, by the protrusions 35.

[0065] The support plate 34 is preferably grid-shaped, such as to allow water drainage (Fig. 7). Most preferably, the support plate 64 is suitable to accommodate and support an advanced spinal board. Any excess water that may be accumulated in the housing seat 7 is not such as to prevent proper navigation. Optionally, suitable ejection means may be however provided (not shown in the figures) for excess water, for example a pump suitable to withdraw water from the housing seat 7 and drain the latter outwardly of the craft 1.

[0066] In accordance with an embodiment, the craft 1 comprises a mat 36 arranged on the support plate 34, on which the rescued person's body can be placed (Fig. 3-5).

[0067] The mat 36 is preferably removably connected to the support plate 34, such as to be secured in position during use and to be removed when required, for example, for cleaning operations.

[0068] Advantageously, the mat 34 has a greater overall extension than the extension of the support plate 34, i.e., in other words, it has a rest plane (on which the person's body can be placed) having a greater size than the surface of the support plate 34. Further advantageously, the mat 36 is arranged in the housing seat 7 such that, when the inner movable tubular body 13 is in the outer closed position, i.e. the inner opening position, the mat

36 is partially projecting inwardly of the craft outside the housing seat 7 through the inner access opening 8' (Fig. 3 and 4, rigid tubular structure 9'). In this condition, the support plate 34, as stated above, is preferably horizontal and the projecting portion of the mat 36 is also preferably horizontal. To the purpose, the latter is preferably supported in this position by a rest plane 37 of the base structure 2.

[0069] On the other hand, when the inner movable tubular body 13 is in the inner closed position (Fig. 3 and 4, rigid tubular structure 9"), the mat 36 is completely accommodated within the housing seat 7 and is partially supported by the inner movable tubular body, particularly the portion thereof is supported which results projecting through the inner access opening 8' in the inner opened position.

[0070] In accordance with an embodiment, the mat 36 comprises first 36' and second 36" portions (Fig. 10-12). The first portion 36' is connected to the support plate 34 and preferably has an extension almost equal to that of the latter. The second portion 36" is movably connected to the first portion, such as to be capable of performing rotations relative to the latter, preferably about a common side thereof. The second portion 36" results projecting inwardly of the craft through the inner access opening 8' when the inner movable tubular body 13 is in the inner opened position (Fig. 11). In this condition the second portion 36" of the mat 36 results to be supported by the rest plane 37.

[0071] When the inner movable tubular body is in the inner closed position, the second portion 36" is also accommodated within the housing seat 7, which is supported by the connecting bridge 20 of the inner movable tubular body 13 (Fig. 12).

[0072] The mat 36 preferably has an opening 39 for water to be drained through the grid of the support plate 34.

[0073] Alternatively or preferably in addition to the second portion 36", the mat 36 can further comprise a third portion 36''' (Fig. 14a-14c). The first portion 36' is also in this case connected to the support plate 34 and preferably has an extension almost equal to that of the latter. The second portion 36", when provided, and the third portion 36''' are movably connected to the first portion 36' on two opposite sides thereof, such as to be capable of performing rotations relative to the latter, preferably about common sides thereof. When the inner movable tubular body 13 is in the inner opened position (Fig. 14a), the second portion 36" results projecting inwardly of the craft through the inner access opening 8', whereas the third portion 36''' is accommodated within the housing seat 7 supported by the inner movable tubular body 13. In this condition, the second portion 36" of the mat 36 results supported by the rest plane 37.

[0074] When the inner movable tubular body is in the inner closed position (Fig. 14c), the second portion 36" is accommodated within the housing seat 7, supported by the connecting bridge 20 of the inner movable tubular

body 13, whereas the third portion 36''' results projecting out of the craft through the outer access opening 8'', preferably at the fluid medium surface, on which it tends to float in the absence of weights thereon.

[0075] In an intermediate position between the outer closed position and the inner opened position, both the second portion 36'', and the third portion 36''' are accommodated within the housing seat 7, both being supported by the inner movable tubular body 13 on two opposite sides of the housing seat (Fig. 14b).

[0076] Such a craft can be duly used for first-aid operations.

[0077] Under navigation conditions, in fact, the inner movable tubular bodies 13 are hold in the outer closed position. In these conditions, the outer access openings 8'' result to be closed and water is thus prevented from flowing into the housing seat. When the person to be rescued has been reached, the inner movable tubular bodies 13 are moved to the respective outer opening positions. The person's body can be thus loaded through the outer access openings 8'' directly on the mat 36, which results to be slightly inclined as it is supported by the support plate 34, which is also slightly inclined.

[0078] After the body has been loaded, the inner movable tubular bodies 13 are brought back to the outer closed position. Thereby, the support plate 34 and mat 36 are brought to the horizontal position while the inner access openings 8' are opened and the second portion 36'' of the mat 36 is deployed inwardly of the craft by being supported on the rest plane 37. In these conditions it is possible to act directly on the rescued person's body from within the craft. At the same time, the craft is capable of resuming navigation as the housing seat 7 is no longer communicating with the fluid medium on which the craft is floating.

[0079] According to a possible embodiment, in order to ensure a simple assembly of the floating side structure 3, the outer fixed tubular body 12 comprises a first separable portion 12' including the upper bridge 16 and first portions 14' and 15' of the defining side walls 14 and 15, which in turn comprise second portions 14'' and 15'' (Fig. 13). Thereby, the outer fixed tubular body 12 results openable and the inner movable tubular body 13 can be inserted therein. The first portion 12' of the outer fixed tubular body 12 and the second portions 14'' and 15'' of the defining walls 14 and 15 are thus connected to each other and mutually fixed such that the inner movable tubular body 13 cannot be released.

[0080] From the above description, those skilled in the art may appreciate how the inflatable craft according to the invention, as compared with an equally sized inflatable craft according to the prior art, provides a larger space due to the provision of the housing seats provided within the floating side structure. This additional space can be used as a storage compartments or actual cabin where the craft user can be accommodated. This results in the inflatable craft according to the invention maintaining the navigation characteristics substantially un-

changed which are peculiar to inflatable crafts as dinghies, while ensuring space and comfort comparable to non-inflatable crafts a hull.

[0081] Those skilled in the art may also appreciate how the inflatable craft according to the invention, when used for rescue purposes, ensures much higher safety and efficacy standards than those ensured by prior art inflatable crafts which are presently used to this purpose. In fact, due to the provision of the housing seat and openings for allowing access therein, the rescued person can be directly taken on board, without his/her body being subjected to movements and shocks that may be potentially very dangerous for him/her.

[0082] To the embodiments of the inflatable craft described herein according to the invention those skilled in the art, aiming at meeting particular requirements, may be capable of carrying out a number of additions, changes, or replacements of elements with others functionally equivalent, without however departing from the scope of the annexed claims.

Claims

1. An inflatable craft (1), particularly a dinghy, tender, or the like, comprising a floating side structure (3) which is at least partially pneumatically inflatable, **characterized in that** said floating side structure (3) comprises at least one housing seat (7) that can be accessed therein through one or more access openings (8; 8', 8'') provided in the floating side structure (3).
2. The inflatable craft (1) according to claim 1, wherein said housing seat (7) is shaped for one person to be accommodated therein and said one or more access openings (8; 8', 8'') are shaped such as to allow said person to pass therethrough for gaining access to the interior of the housing seat (7).
3. The inflatable craft (1) according to claim 1 or 2, wherein said housing seat (7) is equipped with support means (34) for one person.
4. The inflatable craft (1) according to any preceding claim, wherein within said housing seat (7) a bed, a mat or the like is arranged.
5. The inflatable craft (1) according to any preceding claim, wherein said housing seat (7) can be accessed through an inner access opening (8') and through an outer access opening (8''), said inner access opening (8') facing inwardly of the inflatable craft (1) and said outer access opening (8'') facing outwardly of the inflatable craft (1).
6. The inflatable craft (1) according to any preceding claim, wherein said one or more access openings

(8; 8', 8") can be reversibly closed.

7. The inflatable craft (1) according to any preceding claim, wherein said floating side structure (3) comprises one or more tubulars (5) which can pneumatically inflated and one or more rigid tubular structures (9; 9', 9"), said at least one housing seat (7) being defined by one of said one or more rigid tubular structures (9; 9', 9").
8. The inflatable craft (1) according to the preceding claim, comprising a rigid bottom (4) which is partially laterally surrounded by said floating side structure (3), said one or more rigid tubular structures (9; 9', 9") being connected to or made as one piece with said bottom (4).
9. The inflatable craft (1) according to claim 7 or 8, wherein said one or more rigid tubular structures (9; 9', 9") comprise an outer fixed tubular body (12) and an inner movable tubular body (13) which is co-axially arranged within said outer fixed tubular body (12) and pivoting relative thereto about a common axis thereof.
10. The inflatable craft (1) according to the preceding claim, wherein said one or more access openings (8; 8', 8") are provided in the outer fixed tubular body (12) and said inner movable tubular body (13) is shaped such as to act as a closing member for said one or more access openings (8; 8', 8").
11. The inflatable craft (1) according to claim 9 or 10, wherein said outer fixed tubular body (12) provides an inner access opening (8') facing inwardly of the inflatable craft (1) and an outer access opening (8") facing outwardly of said inflatable craft (1), said inner movable tubular body (13) being movable relative to said outer fixed tubular body (12) between an outer closed position and an outer opened position such that:
 - when the inner movable tubular body (13) is standing in the outer closed position, said outer access opening (8") is closed and said inner access opening (8') is opened; and
 - when the inner movable tubular body (13) is standing in the inner closed position, said outer access opening (8") is opened and said inner access opening (8') is closed.
12. The inflatable craft (1) according to the preceding claim, wherein said inner movable tubular body (13) comprises an intermediate access opening (21) for gaining access to the housing seat (7), said intermediate access opening (21) being arranged such that:
 - when the inner movable tubular body (13) is

standing in the outer closed position, the intermediate access opening (21) is at least partially aligned with the inner access opening (8') of the outer fixed tubular body (12); and

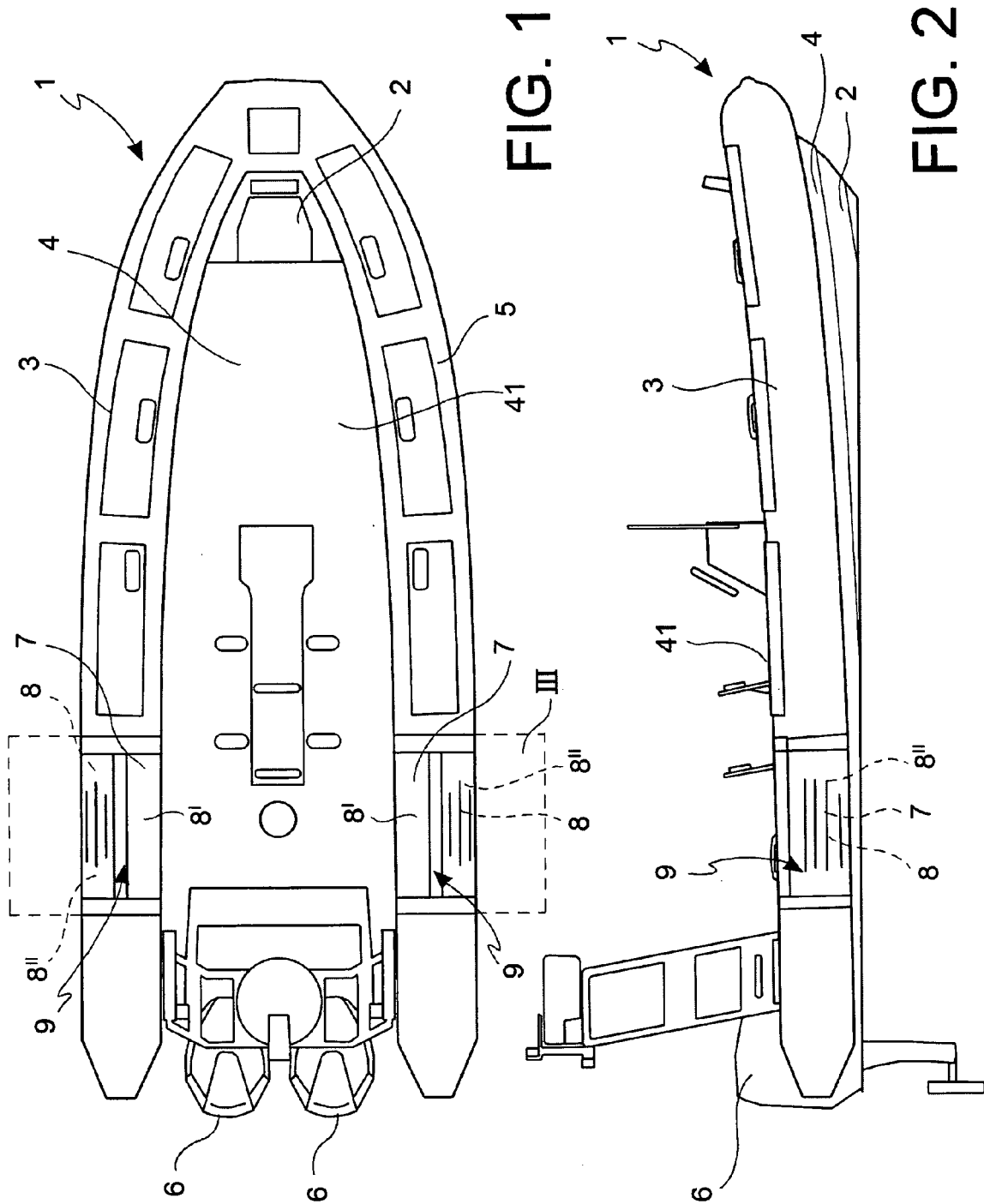
- when the inner movable tubular body (13) is standing in the inner closed position, the intermediate access opening (21) is at least partially aligned with the outer access opening (8") of the outer fixed tubular body (12).

13. The inflatable craft (1) according to claim 11 or 12, comprising a support plate (34) suitable to support a person's body placed in the housing seat (7), wherein said support plate (34) is hinged to said outer fixed tubular body (12) and said inner movable tubular body (13) comprises rest means (35) for said support plate (34), such that:

- when the inner movable tubular body (13) is in said outer closed position, the support plate (34) is supported by the rest means (35); and
- when the inner movable tubular body (13) is in that inner closed position, the support plate (34) is supported by said outer fixed tubular body (12) at said outer access opening (8").

14. The inflatable craft (1) according to the preceding claim, comprising a mat (36) being arranged on said support plate (34) having a greater extension than the latter, said mat (36) being arranged in the housing seat (7) such that, when the inner movable tubular body (13) is in said outer closed position, the mat (36) is partially projecting out of the housing seat (7) through the inner access opening (8'), and when the inner movable tubular body (13) is in said inner closed position the mat (36) is completely accommodated in the housing seat (7) by being partially supported on said inner movable tubular body (13) or partially projecting out of the housing seat (7) through the outer access opening (8").

15. The inflatable craft (1) according to any claim 9 to 14, comprising actuating means (24) for moving the inner movable tubular body (13) relative to the outer fixed tubular body (12).



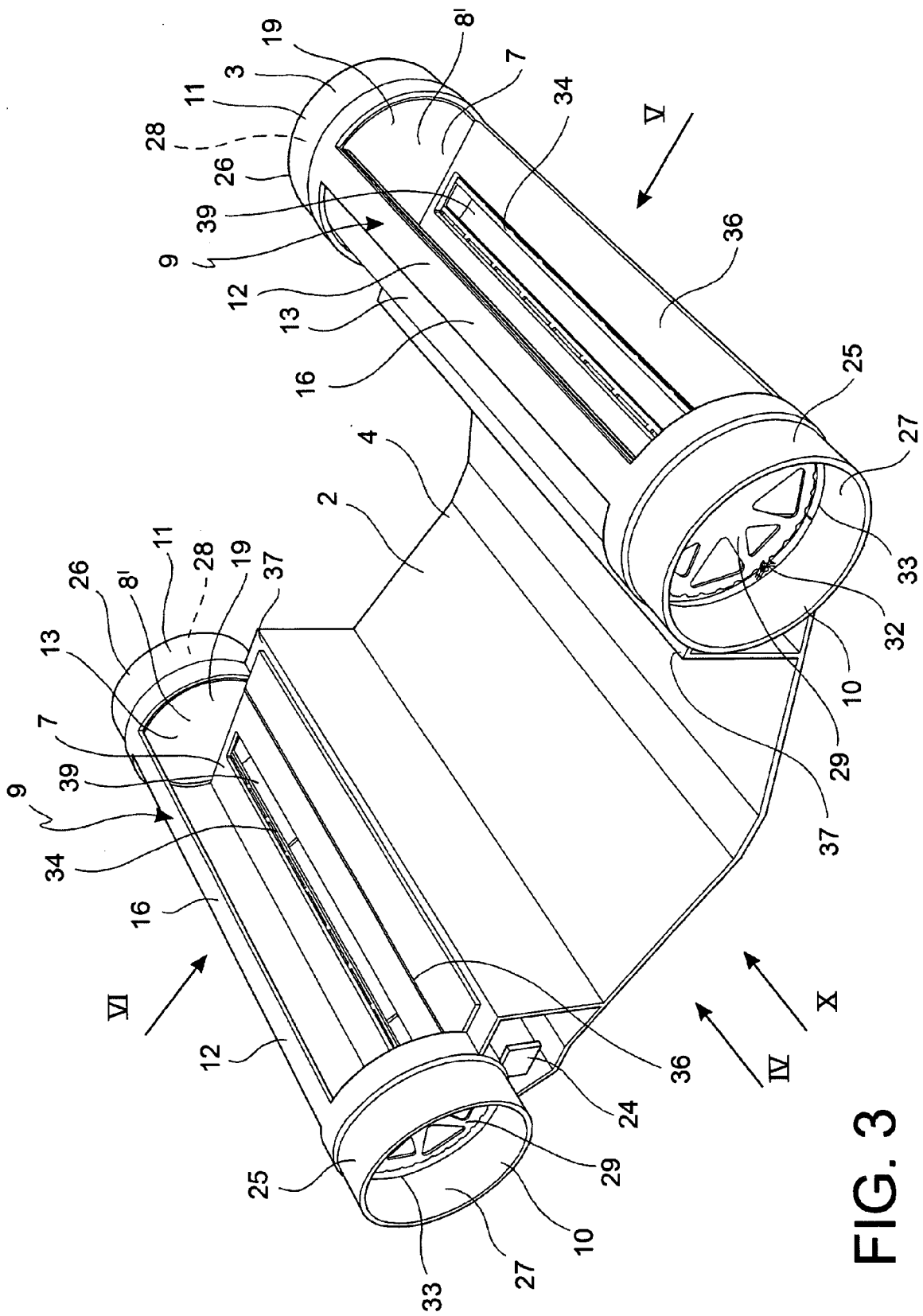


FIG. 3

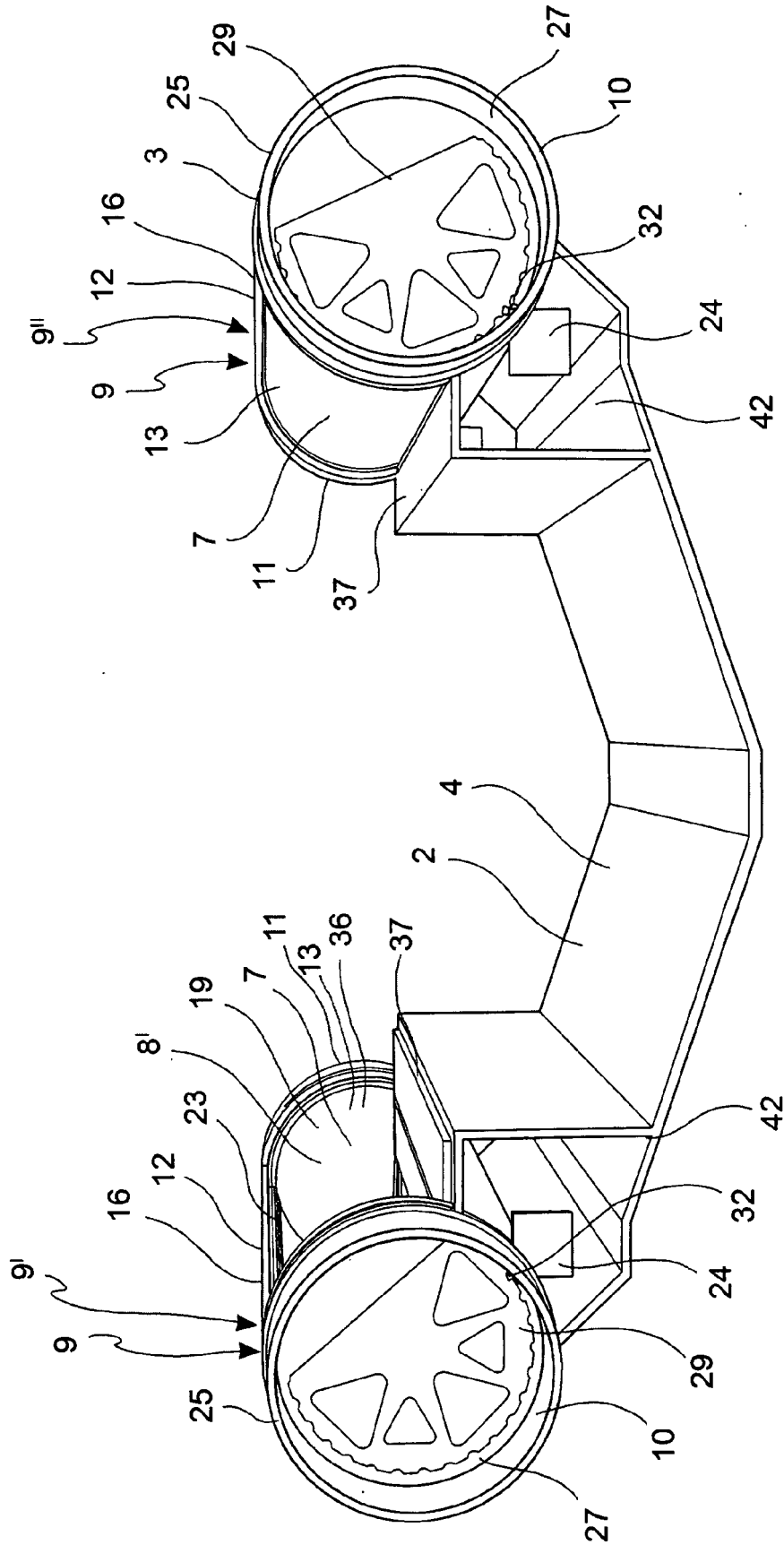


FIG. 4

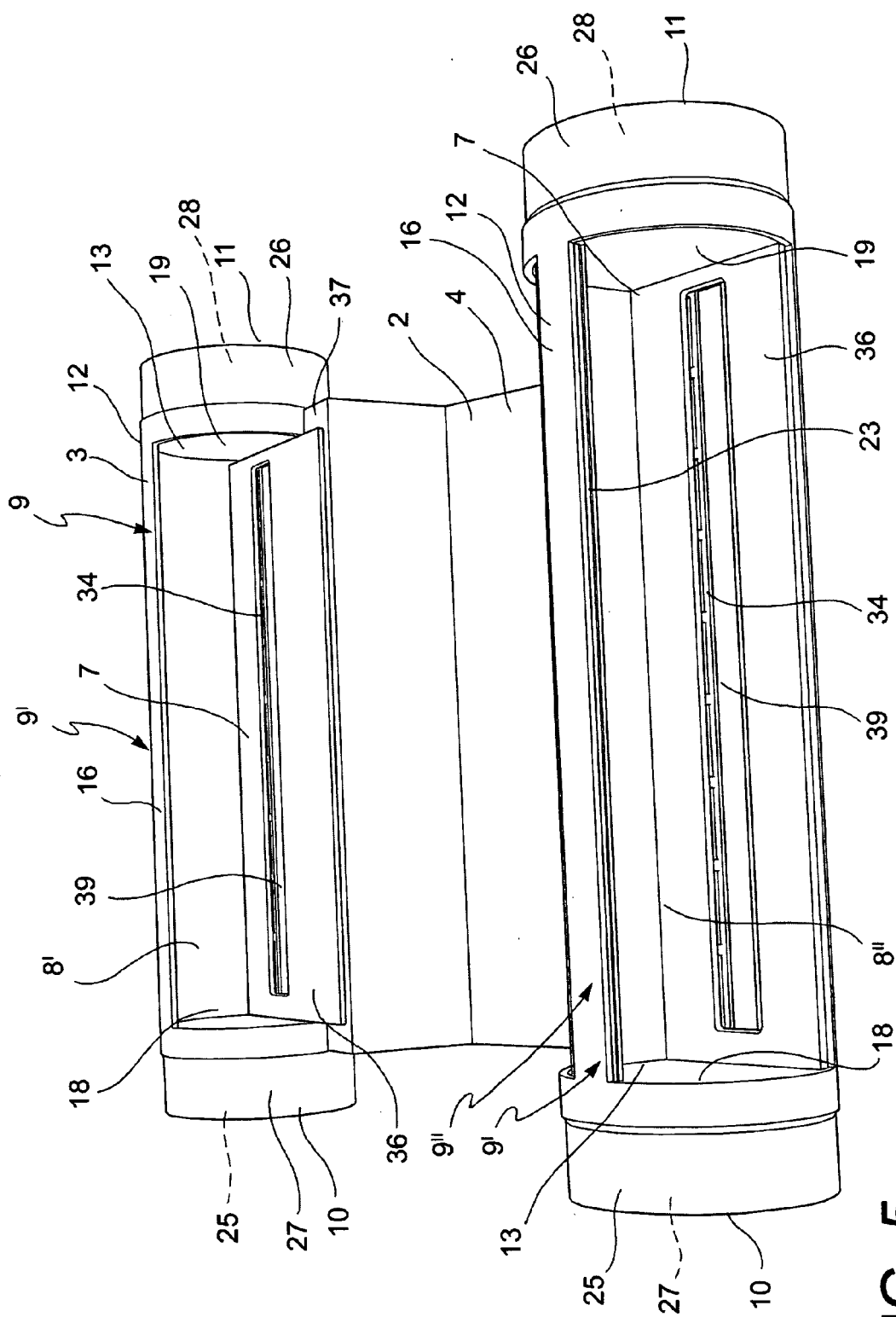


FIG. 5

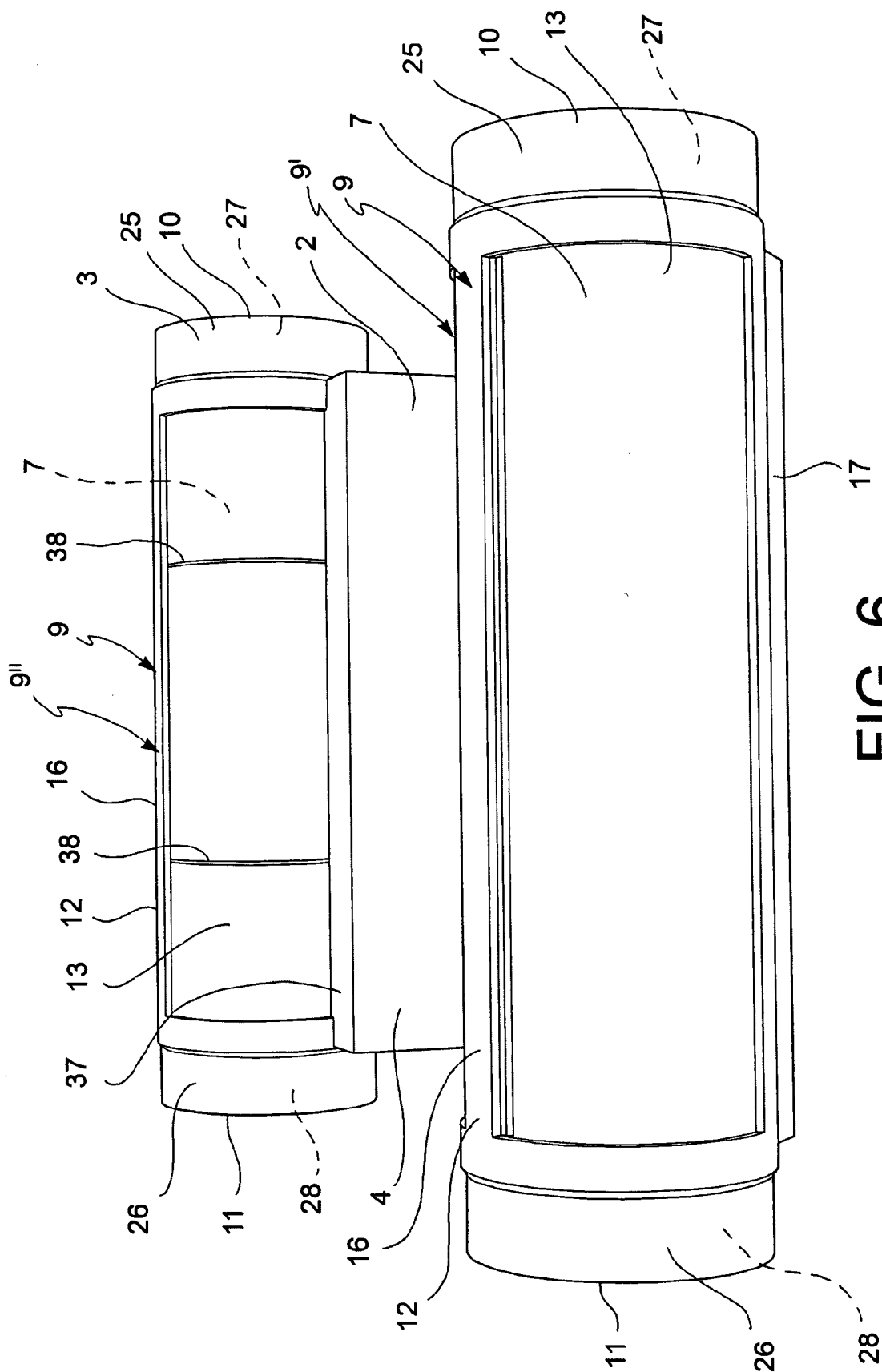


FIG. 6

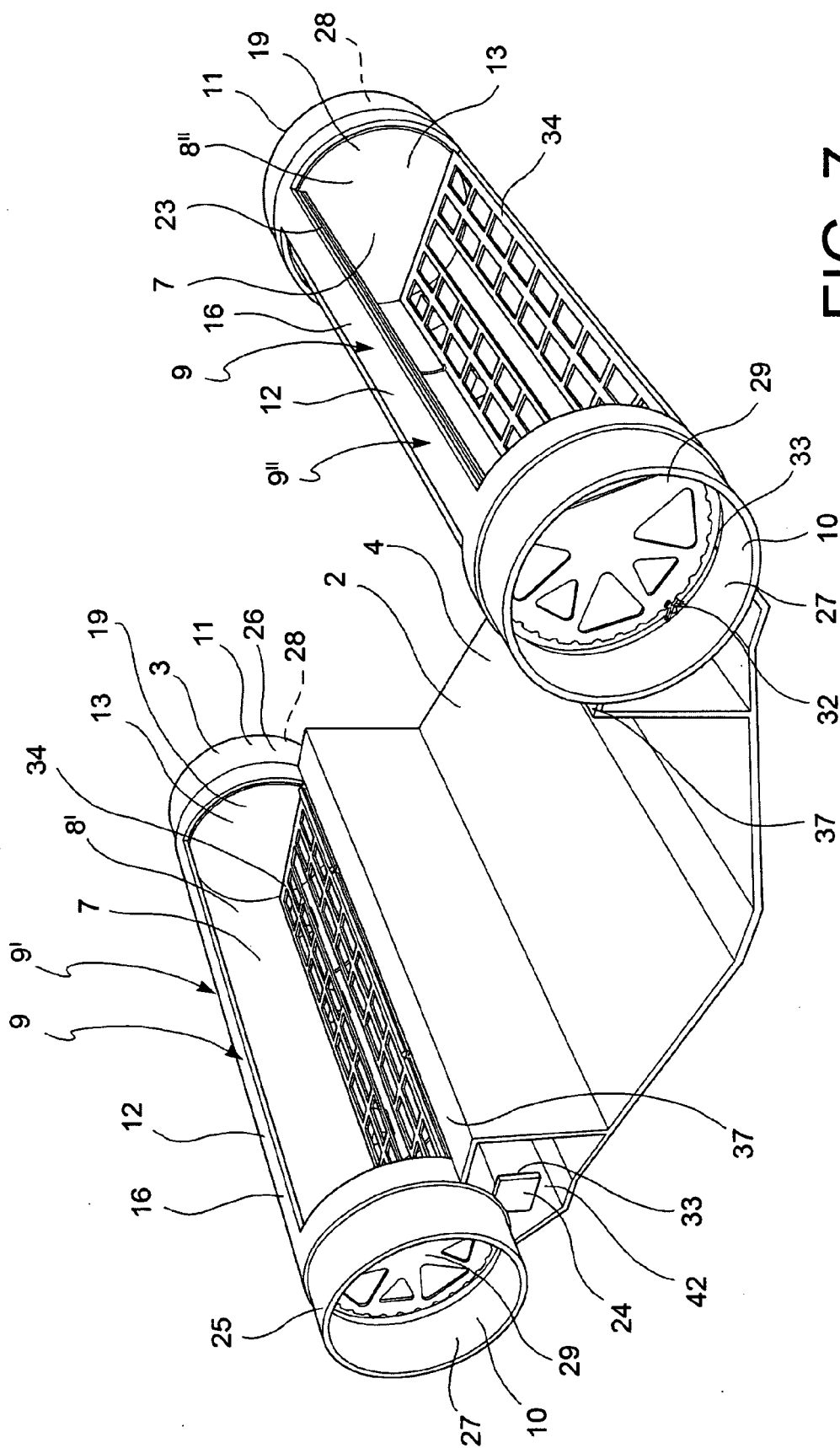
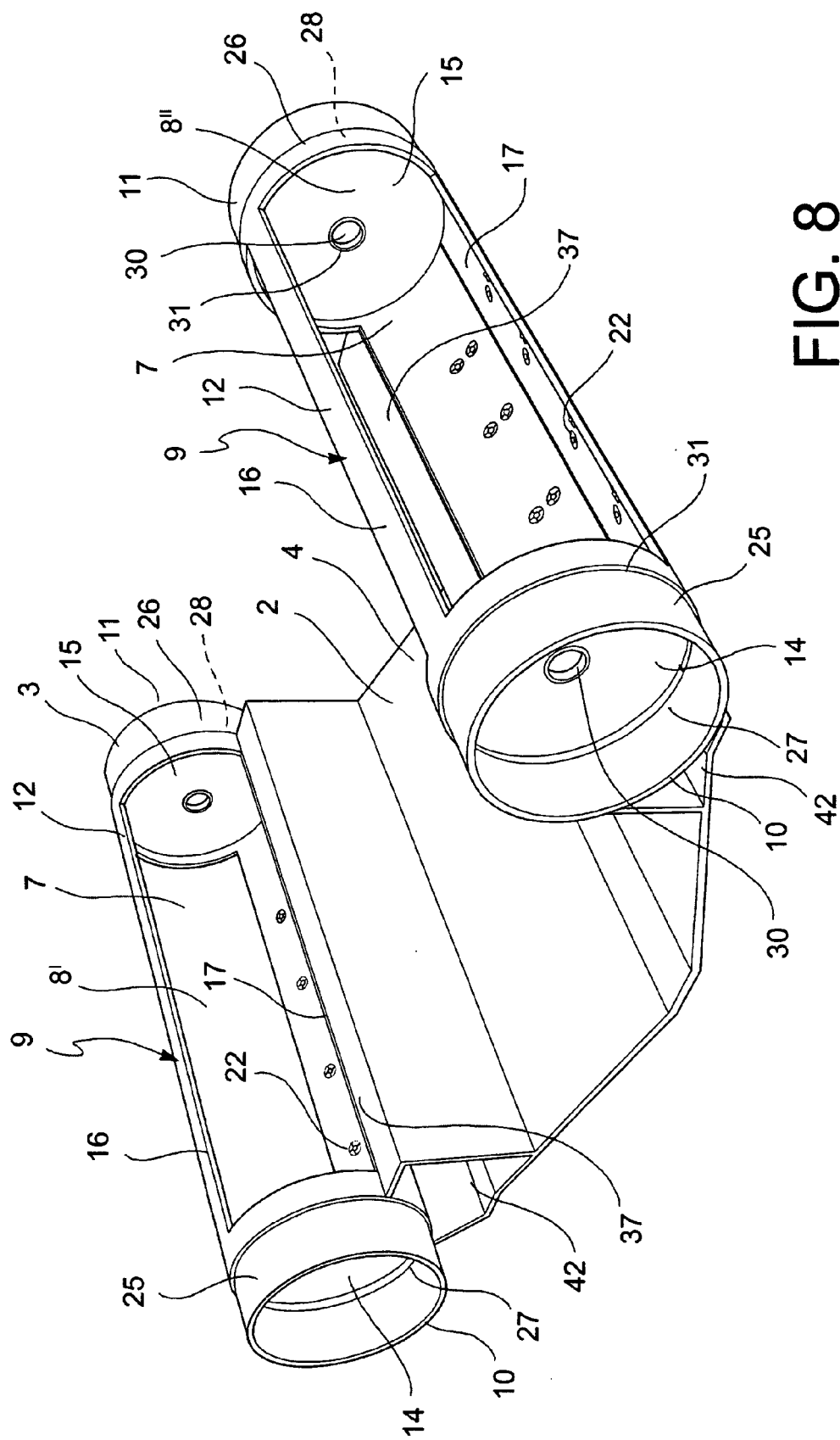


FIG. 7



8
G.
F

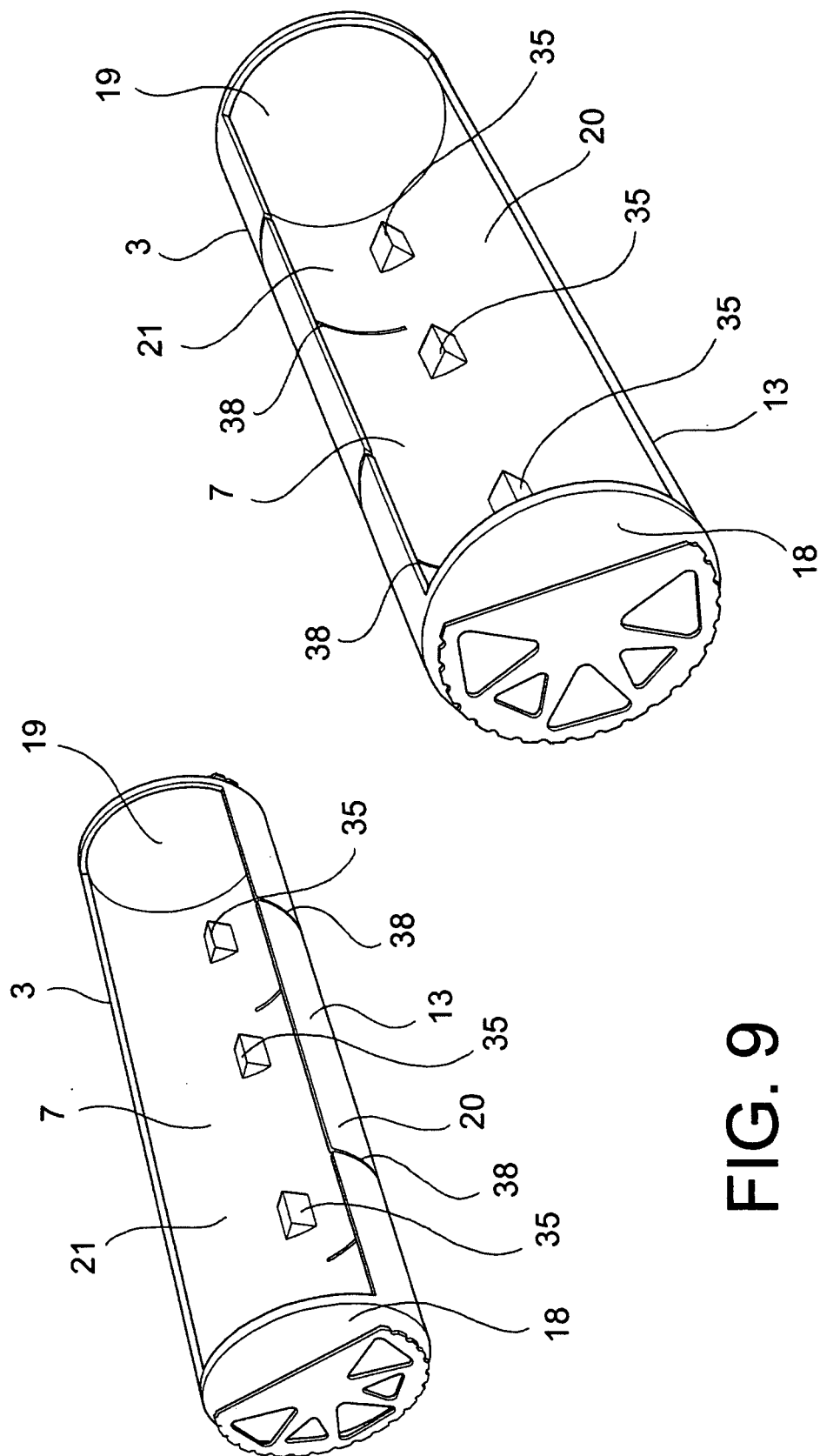


FIG. 9

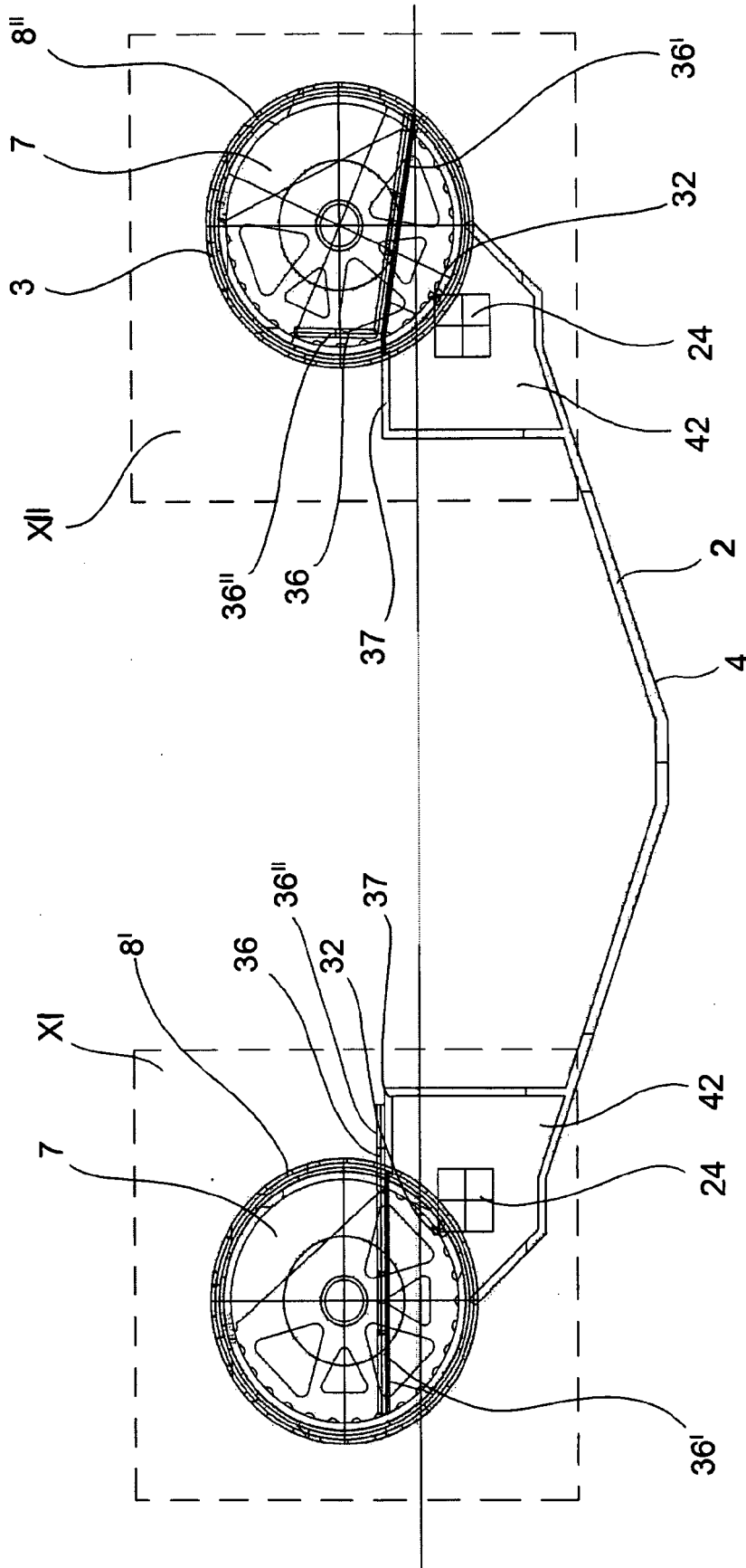


FIG. 10

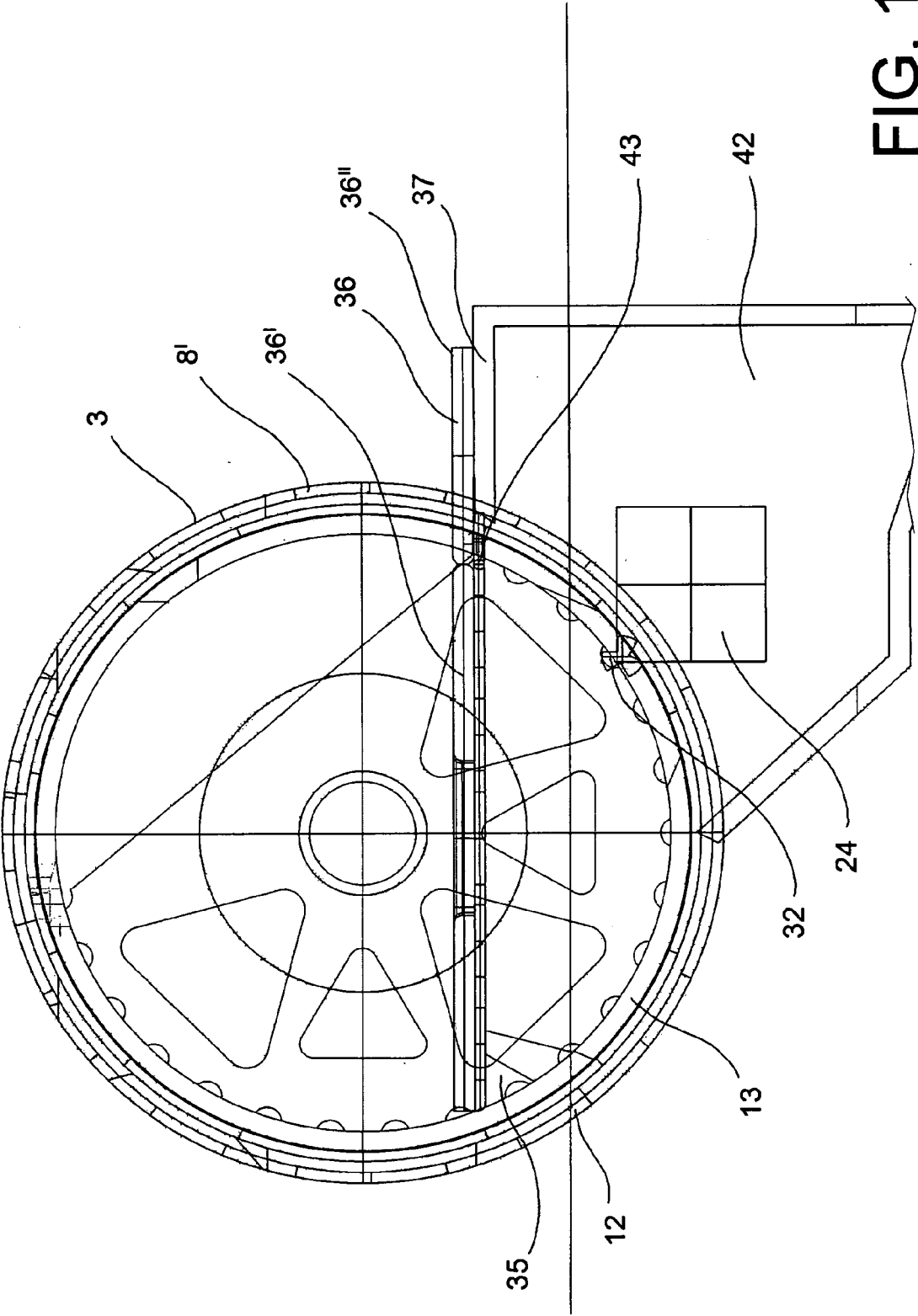


FIG. 11

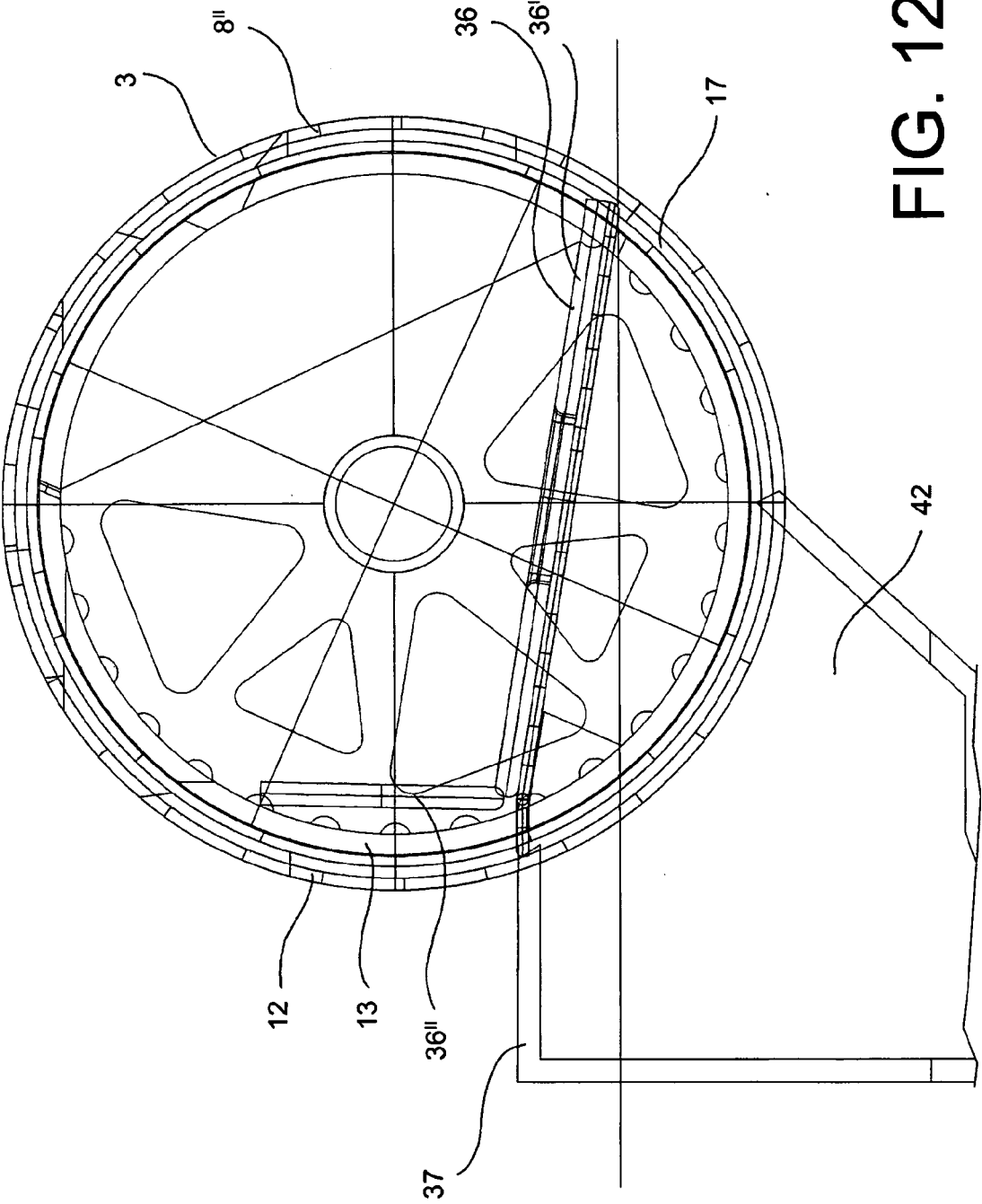


FIG. 12

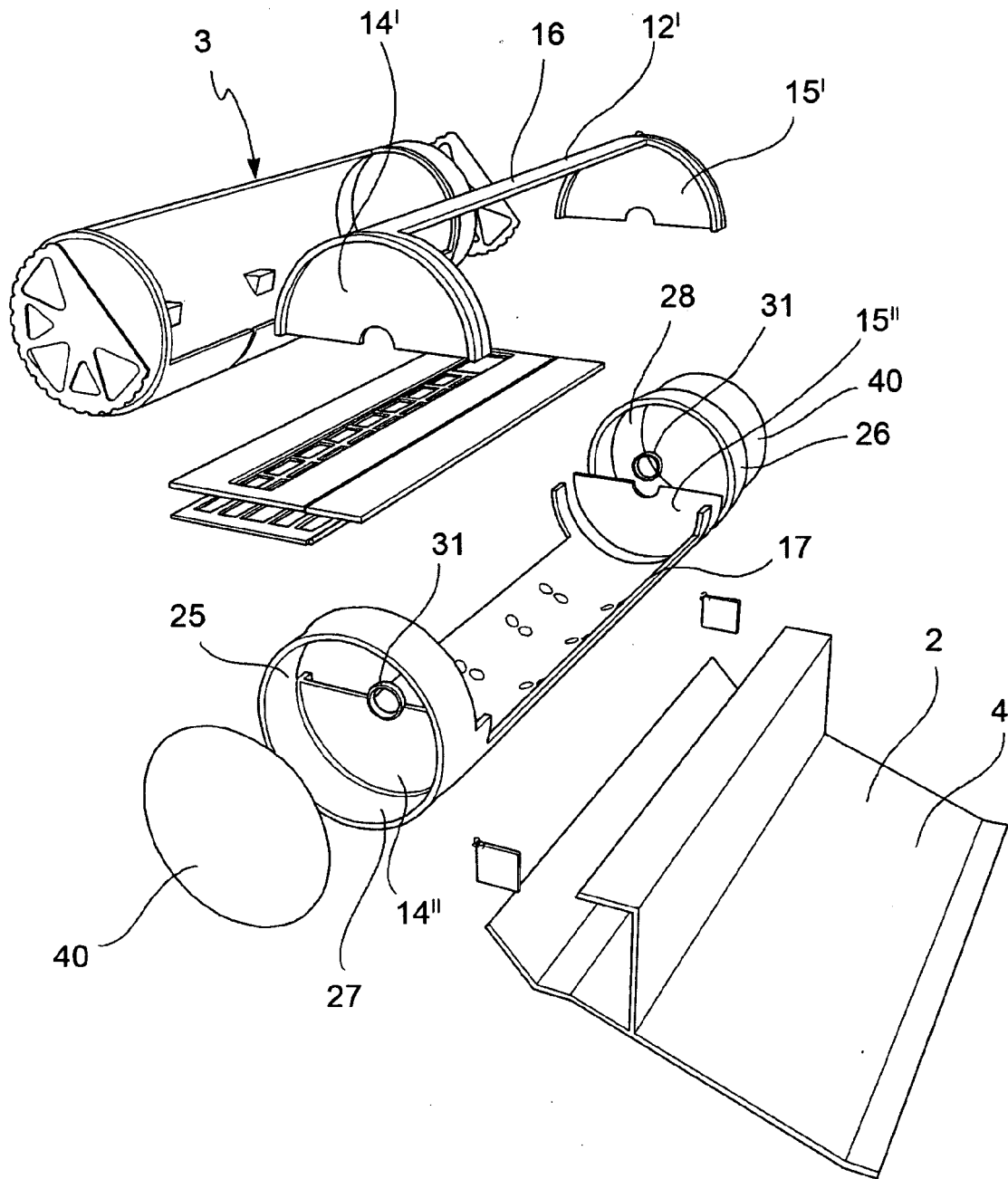


FIG. 13

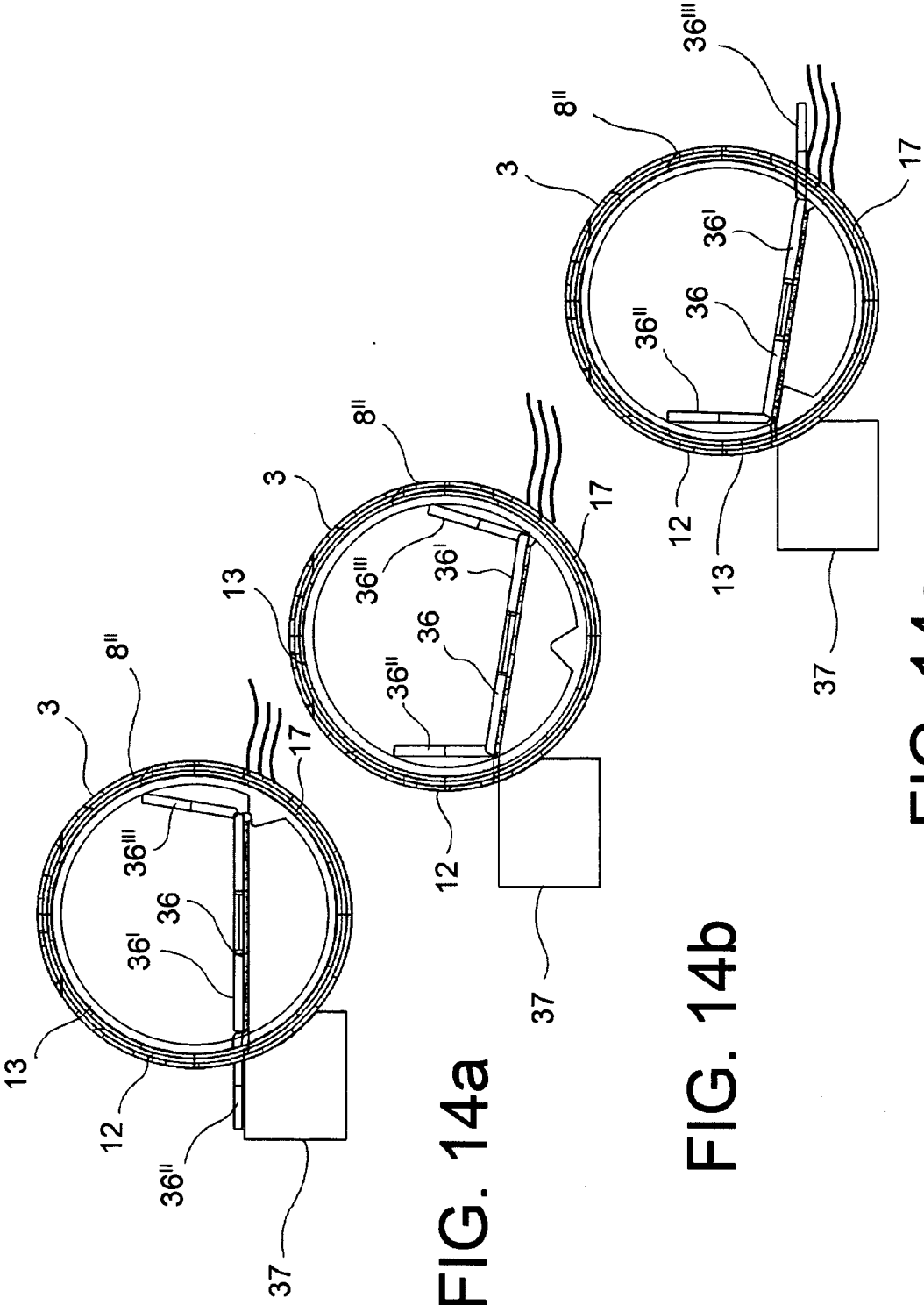


FIG. 14a

FIG. 14b

FIG. 14c

Application Number
EP 09 42 5366

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	FR 1 057 573 A (HENNEBUTTE G.-B.-L.) 9 March 1954 (1954-03-09)	1,3,5-6	INV. B63B7/08 B63C9/02 B63C9/28
A	* the whole document *	2,4,7-15	
X	EP 1 900 626 A1 (DISCOV RIB [FR]) 19 March 2008 (2008-03-19)	1,3,5-6	
A	* figures *	2,4,7-15	
X	US 2007/209569 A1 (KIM HAN JUN [KR]) 13 September 2007 (2007-09-13)	1,3,5-6	
A	* the whole document *	2,4,7-15	
X	EP 0 826 592 A1 (ZODIAC HURRICANE TECHNOLOGIES [CA]) 4 March 1998 (1998-03-04)	1,3,5-6	TECHNICAL FIELDS SEARCHED (IPC) B63B B63C
A	* the whole document *	2,4,7-15	
A	GB 2 430 381 A (MFC SURVIVAL LTD [GB]) 28 March 2007 (2007-03-28)	1-15	
A	* the whole document *	1-15	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 February 2010	Examiner Lindner, Volker
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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ON EUROPEAN PATENT APPLICATION NO.**

EP 09 42 5366

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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12-02-2010

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 1057573	A	09-03-1954	NONE	
EP 1900626	A1	19-03-2008	FR 2905667 A1	14-03-2008
US 2007209569	A1	13-09-2007	NONE	
EP 0826592	A1	04-03-1998	DE 69606635 D1	16-03-2000
			DE 69606635 T2	31-08-2000
			ES 2142542 T3	16-04-2000
			GR 3033168 T3	31-08-2000
GB 2430381	A	28-03-2007	DE 102006045318 A1	12-04-2007
DE 29600433	U1	13-06-1996	WO 9717251 A1	15-05-1997
			EP 0797523 A1	01-10-1997