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(54) **Cased hose reels**

(57) A cased hose reel comprising a drum (3) for carrying hose (2) and a casing (1) within which the drum (3) is mounted. The casing (1) of the reel defining a hose outlet window (14) which provides a path through the casing (1) for hose (2) and an access window through which access to the interior of the casing may be obtained.

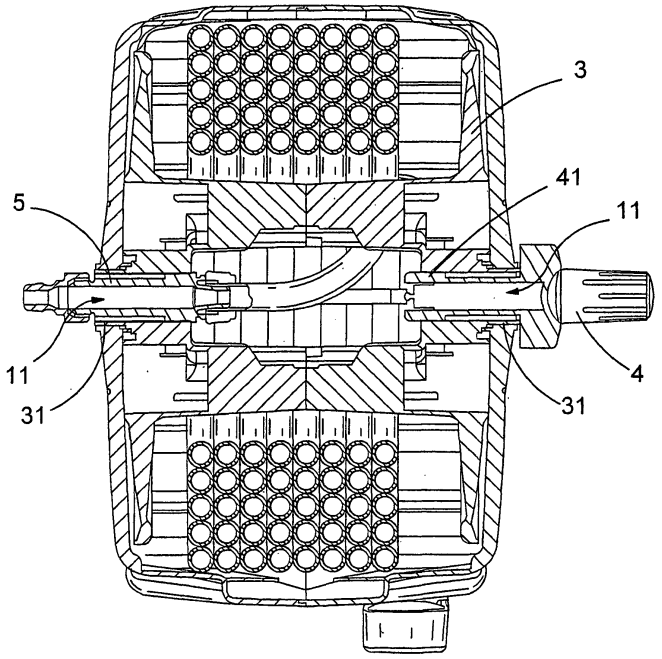

FIG.5

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Description

[0001] This invention relates to cased hose reels.

[0002] Cased hose reels are used for domestic purposes such as watering gardens, washing cars and similar tasks.

[0003] Existing cased hose reels have various limitations or problems and it is an aim of the present invention to address one or more of these shortcomings.

[0004] For example some cased hose reels are expensive to produce and/or store and/or transport, others are bulky, with others there can be difficulty in successfully winding hose back onto the reel without jamming or hose entanglement taking place and with others there are general issues to do with usability and versatility.

[0005] According to one aspect of the present invention there is provided a cased hose reel comprising a drum for carrying hose and a casing within which the drum is mounted.

[0006] The drum may comprise a tube like mounting portion via which the drum is supported for rotation in the casing and through which water may be channelled from an exterior to an interior of the casing.

[0007] According to another aspect of the present invention there is provided a cased hose reel comprising a drum for carrying hose and a casing within which the drum is mounted, the drum comprising a tube like mounting portion via which the drum is supported for rotation in the casing and through which water may be channelled from an exterior to an interior of the casing.

[0008] The tube like mounting portion may be provided on one side of the drum. A second mounting portion, which may be a tube like mounting portion, may be provided on a second opposite side of the drum. Typically, whilst the first tube like mounting portion is arranged to allow the channelling of water from the exterior to the interior of the casing, this is not true of the second mounting portion.

[0009] The drum may comprise a central tube portion that runs through the drum. At least one end of the central tube portion may comprise one of the tube like mounting portions.

[0010] The above constructions making use of one or more tube like mounting portion allow a compact structure to be obtained, particularly if the product is to be supplied in an unassembled or partly assembled state. In a more typically structured reel, the drum is supported for rotation in the casing by parts that project beyond the casing - for example a hose connector and/or a winding handle.

[0011] The first tube like mounting portion may carry a through casing hose connector. The through casing hose connector may be arranged to releasably receive a hose at each of its ends. The first tube like mounting portion may be arranged for receiving the through casing hose connector so that the reel may be supplied to a user without the through casing hose connector mounted in the first tube like mounting portion.

[0012] The second mounting portion may receive a winding handle for winding the drum. The second mounting portion may be arranged to receive the winding handle so that the reel may be supplied to a user without the winding handle mounted in the second mounting portion. The winding handle and second mounting portion may be arranged so that the winding handle may be push fitted into the second mounting portion and retained in the second mounting portion once pushed home.

[0013] These features can help to ensure that the reel, as entering the distribution chain, occupies as small a volume as possible.

[0014] The hose reel may have an assembled state and a non-assembled state. In such a case the hose reel may reach the consumer in the non-assembled state. The size of the hose reel in the non-assembled state then becomes the important size with regards to storage and transport costs.

[0015] An alternative approach to the use of one or more tube like mounting portions for supplying a compact style of reel is to supply the reel with the drum loosely contained in the casing. If this is done the reel can be supplied with a keeper in place that holds the drum in position within the casing during transit and that can be displaced by support mountings during assembly by the user. In such a case the support mountings may comprise a winding handle and/or through casing hose connector.

[0016] The reel may comprise a carrying handle mounted on the casing. The carrying handle may be pivotally mounted on the casing. The carrying handle may be moveable between a carrying position and a stowed position. The position of the handle in the stowed position may be chosen with the aim of minimising the overall dimensions of the reel.

[0017] The casing may have a base which is the lowermost portion of the reel when in its intended orientation for use and on which, in at least some cases, the reel may stand during use.

[0018] The carrying handle may be mounted to the casing at a location which is offset from a plane that includes the axis of rotation of the drum and is perpendicular to the base of the reel.

[0019] The carrying handle may be mounted to the casing at location which is towards the top of the casing, when the reel is in its intended orientation. The carrying handle may be mounted to the casing at a location that is longitudinally offset from a centre line of an upper surface of the casing.

[0020] Having the carrying handle mounted to the casing in an offset location can cause the hose reel to hang at an angle when carried by the carrying handle. Here hanging at an angle refers to an orientation where the base is not parallel to the horizontal.

[0021] The carrying handle may be moveable to a mounting position in which the handle may assist in mounting of the reel to a wall or another structure. The carrying handle may be moveable between the stowed position, the carrying position and the mounting position.

[0022] When in the stowed position, the carrying handle may rest against the casing. The casing may comprise a carrying handle mounting portion to which the carrying handle is mounted. When the carrying handle is in the stowed position the carrying handle may project from the remainder of the casing no further than the carrying handle mounting portion.

[0023] When in the carrying position and/or the mounting position, the carrying handle may project away from the casing.

[0024] The reel may comprise at least one wheel, to aid movement of the reel over a surface. Preferably a pair of wheels are provided. A respective wheel in the pair may be provided on each side of the casing. The wheels may be mounted towards a corner of the casing.

[0025] The reel may comprise a pull-along handle for pulling the cased hose reel across a surface. This enable a user to easily pull the reel across a surface. The pull-along handle may be collapsible. This allows the reel to be easily stowed away in a confined space. The pull-along handle may be slidably mounted relative to the casing. The pull-along handle may be able to be slid between a stowed position and an extended pull-along position. This allows the pull-along handle to be easily moved between the stowed and extended positions.

[0026] The pull-along handle may be mounted in a socket such that the handle may be slid through the socket between the stowed position and the extended position. The pull-along handle may comprise at least one tube which may be slidably mounted in the socket, and may have a stop portion arranged to abut against an abutting portion of the socket when the handle is in the extended position. The arrangement of a stop portion allows the tube to be prevented from being removed from the socket. This means that the handle is permanently attached to the casing and cannot be accidentally pulled completely out. It can be pulled out into the extended position but any further movement is prevented. This allows the handle to be provided without any kind of locking mechanism for securing the handle in the extended position. When a user wants to use the handle in the extended position, a pulling force is applied to the handle and it is slid out of the socket until the extended position is reached and the stop end abuts the abutting portion of the socket. When the handle is not needed in the extended position, the handle is released of any pulling force and can be pushed back or allowed to fall back under gravity to the stowed position.

[0027] The pull-along handle may comprise two tubes and a hand grip portion, said two tubes may be linked across their ends remote from the casing by said hand grip portion. The hand grip portion is thus located in between the two tubes and provides a grip surface in a convenient central position. The two tubes may or may not have a stop portion. The handle can be assembled by passing the tubes through the sockets from below. The stop end does not have to be forced through the socket and instead remains below the socket. The tubes are then joined at their upper ends by the hand grip portion.

[0028] A locking means may be provided for holding the pull-along handle in a fixed position. This would allow the handle to be secured in a number of different positions, including the carrying and stowed positions, independent of a (reasonable) pushing or pulling force being applied to the pull-along handle.

[0029] The casing of the reel may comprise a hose viewing portion through which hose may be viewed as the hose is wound onto the drum.

[0030] According to another aspect of the present invention there is provided a cased hose reel comprising a drum for carrying hose and a casing within which the drum is mounted for rotation, wherein the casing comprises a hose viewing portion through which hose may be viewed as the hose is wound onto the drum.

[0031] The hose viewing portion may be distinct from a hose outlet window which provides a path through the casing for hose. The feature of having a hose viewing portion distinct from the hose outlet window allows the hose to be easily viewed while it is being wound onto the drum. The hose being fed through the hose outlet window does not block the user's view of the hose as they can view the hose from a different region of the casing.

[0032] The casing may define an access window through which access to the interior of the casing may be obtained. The casing may define a hose viewing window through which hose may be viewed as the hose is wound onto the drum. It will be appreciated therefore, that the casing may define a single window, two distinct windows or three distinct windows.

[0033] The hose viewing portion may comprise the hose viewing window. The hose viewing window may comprise an open aperture.

[0034] The hose viewing window may comprise a non-opaque covering member through which hose carried on the drum may be viewed. In this way the hose viewing window may be "glazed".

[0035] The provision of a hose viewing portion for example, a hose viewing window, may aid the user in ensuring that hose is being neatly layered onto the drum during rewind. This is a useful feature in a cased hose reel, especially where no automatic layering system is provided. It gives rise to a cheap and effective way of achieving neat layering and avoiding jamming of the drum.

[0036] The hose viewing window may be provided towards the top of the casing, with the hose reel in its intended orientation. The hose viewing window may be provided in a portion of the casing that is between the hose outlet window and the carrying handle. The casing may generally comprise a circumferential wall portion and two side wall portions. The hose viewing window may be provided in the circumferential wall portion of the casing. The window ideally extends across a substantial amount of the width of the casing.

[0037] The hose viewing portion may be at least partly

of non-opaque material through which hose may be viewed as the hose is wound onto the drum.

[0038] The casing of the reel may comprise a section which is of non-opaque material, at least a part of which section comprises the hose viewing portion. A front portion of the casing in the region of the hose outlet window may be of non-opaque material.

[0039] The access window may be provided in the base of the casing. The casing may comprise two foot portions and the access window may be defined in the casing between the two foot portion. The access window may be provided in the circumferential wall portion. The hose outlet window may be provided in the circumferential wall portion. The hose outlet window may be provided towards the base of the hose reel and may be provided in a wall portion that is generally perpendicular to the base.

[0040] The hose reel may comprise hose layering means, which may be in the vicinity of the hose outlet window. The hose layering means may comprise a manually actuated hose layering arrangement. The hose layering means may comprise a moveable hose guide. The hose guide may be slidably mounted on the casing.

[0041] The provision of a hose layering means allows a user to evenly distribute the hose inside the casing. This is especially advantageous when the hose reel has a low aspect ratio. i.e. the width of the drum is large in comparison with the diameter of the casing surrounding the drum.

[0042] At least part of the hose layering means may be supplied separately from the reel when the reel is in an unassembled state. At least part of the hose layering means may be mountable on the reel by a user. The hose layering means may comprise a handle. Said handle may be supplied separately from the reel and may be mountable on the reel by a user.

[0043] The hose layering arrangement may be arranged to allow remote actuation of the hose guide. This gives a user more freedom to actuate the hose guide from a position that may be more convenient. For example, the hose guide could be actuated from a position from which the hose can be more easily viewed.

[0044] The hose layering arrangement may comprise an actuator operable by a user for moving the hose guide. The actuator may comprise an actuator arm. It may be mounted at a first end to the hose guide.

[0045] The actuator arm may be pivotally mounted. This allows the arm to be easily actuated while allowing the hose guide to be moved in order to layer the hose as it is wound onto the drum.

[0046] The actuation arm may be mounted on the casing. It may be pivotally mounted relative to the casing. The actuator arm may be located substantially within the casing, and may have a second free end of the arm protruding from the casing to allow remote actuation of the hose guide. This allows the pivoted arm to be concealed in the casing, and therefore protected from breakage and excess wear. Having the free end of the arm protruding through the casing allows the arm to be easily used and the hose guide to be easily remotely actuated.

[0047] The free end may protrude through the hose viewing portion of the casing. This provides a way for a user to view the hose and adjust the hose guide accordingly, from the same location.

[0048] The feature of having a hose viewing window distinct from the hose outlet window is especially advantageous when the cased hose reel has a manually actuated hose layering arrangement. This allows the hose to viewed as the hose is wound onto the drum while having the outlet window and viewing window in different regions of the casing. Hence, a user can view the hose in one location in order to adjust the manual layering arrangement accordingly. The hose enters the casing in a different location. The place of entry of the hose into the casing is often not the most convenient place to observe the layering of the hose as the hose that is being fed into the casing often obstructs the user's view. Also, the hose may enter the casing at a location at the bottom of the casing. Further, the hose layering means may block the view of the hose from the hose outlet window. When the casing is on the ground, it makes the viewing of the hose especially difficult. The hose viewing window may be situated in such a location as to allow a user to establish the layering arrangement of the hose already in the casing. For example, if a large amount of hose is on one side of the hose reel, the user can adjust the manually actuated layering arrangement in order to wind the hose onto the other side of the drum.

[0049] At least one hose guiding roller may be provided in the casing. The hose guiding roller may be provided in the vicinity of the hose outlet window. A respective hose guiding roller may be provided at opposite ends of the hose outlet window. Preferably, however, a pair of hose guiding rollers are provided on the hose layering means, in particular on the hose guide.

[0050] The casing may comprise a reel mounting portion arranged to co-operate with a support bracket in mounting of the cased reel to another structure, for example a wall. The reel mounting portion may comprise a recess for receiving a support bracket.

[0051] The reel may comprise a second reel mounting portion which can be used in mounting the reel to another structure. The second reel mounting portion may be arranged to co-operate with a support bracket which is identical to the support bracket with which the first reel mounting portion is arranged to co-operate.

[0052] As mentioned above the cased reel may comprise a carrying handle which is arranged to be moveable to a mounting position in which the handle may assist in mounting of the reel to a wall or another structure. The carrying handle may comprise the second reel mounting portion.

[0053] The first reel mounting portion and the support bracket may be arranged so that the cased reel may be offered up to the bracket at one angle, and at this angle the support bracket and mounting portion may begin to

engage, and further arranged so that as the mounting portion and support bracket are brought into full engagement, the angle between the reel and support bracket changes.

[0054] The angle relative to the vertical at which it is suitable to have the reel in order to offer up the mounting portion of the reel to a support bracket mounted on a vertical wall may be the same angle at which the reel hangs when held by the carrying handle where this is offset as described above. With such an arrangement if the reel is held by the carrying handle it will naturally hang at a useful angle for offering up and locating the mounting portion on the support bracket.

[0055] The support bracket may comprise a retaining member for releasably retaining the carrying handle in the support bracket to help secure the reel to a structure on which the support bracket is mounted.

[0056] The cased reel may comprise an obstructing portion disposed between the hose outlet window and the drum. The obstructing portion may be arranged to obstruct a path from the outlet window to one end of a diameter of the drum so that the path that hose would follow in being wound onto the drum whilst the drum is being wound in one direction is more contorted than the path that hose would follow in being wound onto the drum whilst the drum is being wound in the opposite direction.

[0057] The introduction of such a contorted path can help prevent the drum being wound in the incorrect direction. Another solution to such a problem is to provide a one way clutch between the winding handle and the drum but that is a much more complex and expensive solution.

[0058] According to yet another aspect of the present invention there is provided a cased hose reel assembly comprising a cased hose reel as defined above and a length of hose carried on the drum.

[0059] According to a further aspect of the present invention there is provided a cased hose reel kit comprising a cased hose reel as defined above and a length of hose for mounting on the drum.

[0060] The kit may further comprise a second, feeder, length of hose and optionally watering tools. The kit may further comprise at least one support bracket of the type defined above.

[0061] According to a further aspect of the present invention there is provided a method of assembling a cased hose reel assembly from a cased hose reel and a length of hose supplied within the cased hose reel, the cased hose reel comprising a drum for carrying the hose, a casing within which the drum is mounted and which defines a hose outlet window and an access window allowing access to the interior of the casing, and a through casing hose connector, the method comprising the steps of:

removing the length of hose from the casing through the access window;

feeding one end of the hose through the hose outlet window and connecting that end of the hose to an end of the through casing hose connector which is inside the casing; and

winding the hose onto the drum, so pulling the hose in through the hose outlet window.

[0062] The drum in the cased hose reel assembly of the above further aspect of the invention may comprise a tube like mounting portion via which the drum is supported for rotation in the casing and which is arranged for receiving the through casing hose connector. In such a case, the method may comprise the step of inserting the through casing hose connector into the tube like mounting portion before connecting the hose to the through casing hose connector.

[0063] The hose reel may comprise a winding handle for winding the drum and the drum may comprise a second mounting portion on which the drum is mounted for rotation within the casing and the second mounting portion may be arranged to receive the winding handle. In such a case, the method may comprise the step of inserting the winding handle into the second mounting portion.

[0064] It will be clear that a cased hose reel/cased hose reel assembly used in such a method may have the optional features defined above in relation to other aspects of the invention.

[0065] According to yet another aspect of the invention there is provided a hose reel support bracket. The support bracket may have any one of or any combination of the features defined above in relation to support brackets.

[0066] The support bracket may comprise at least one stabilising portion for contacting with the casing of a supported hose reel. There may be a pair of stabilising portions, which may be provided either side of an engagement portion of the bracket, which may be a hook. Each stabilising portion may comprise a contact portion of elastomeric or rubbery soft material. This can improve grip and hence stability of a carried reel.

[0067] Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a cased hose reel assembly;

Figure 2 shows the cased hose reel assembly of Figure 1 mounted on support brackets;

Figure 3 is a side view of the cased hose assembly shown in Figure 2 mounted on support brackets;

Figure 4 is an underside view of the cased hose reel assembly shown in Figures 1 to 3;

Figure 5 is a section on line V - V on the cased hose reel assembly shown in Figure 3;

Figure 6 is a section on line VI - VI of the cased hose

reel assembly shown in Figure 4;

Figure 7 is a side view of one support bracket of the type shown in Figures 2 and 3 supporting the cased hose reel assembly;

Figure 8 is a top view of the support bracket shown in Figure 7;

Figure 9 is a front view of a slidable hose guide of the cased hose reel assembly shown in Figures 1 to 6, and

Figures 10 and 11 schematically show an alternative cased hose reel assembly which includes wheels.

Figure 12 is a rear isometric view of a cased hose reel with a pull-along handle and remotely actuated hose guide.

Figure 13 shows the handle of the cased hose reel of Figure 12.

Figure 14 is a partially cutaway view of part of the cased hose reel of Figure 12 showing the remotely actuated hose guide.

Figure 15 is a partially cutaway view of part of the cased hose reel of Figure 12 showing the mounting of a pivoted arm of the cased hose reel.

Figure 16 is a top-front isometric view of the cased hose reel of figure 12.

Figures 1 to 6 show a cased hose reel assembly which generally comprises a casing 1 within which hose 2 is carried on a drum 3 (see for example Figure 5).

[0068] The drum 3 is mounted for rotation within the casing 1 via a pair of tube like mounting portions 31 which project into respective apertures 11 formed within the casing 1. Again, these features may be most clearly seen in Figure 5. This arrangement means that the drum 3 is supported for rotation within the casing 1 by virtue of component parts of the drum itself, i.e. the tube like mounting portions 31.

[0069] A winding handle 4 is provided for winding the drum 3 in order to draw hose 2 onto the drum 3. A spigot 41 of the winding handle 4 fits within one of the tube like mounting portions 31. In the present embodiment as the cased hose reel is provided to the user, the winding handle 4 is not mounted on the cased hose reel but rather comes as a separate component. Thus the spigot 41 of the winding handle 4 is arranged so that it may be push fitted into the correct tube like mounting portion 31 and once so inserted it is retained in position and becomes operative to wind the drum 3.

[0070] Similarly, the other tube like mounting portion 31 carries a through casing hose connector 5 (as can be best seen in Figure 5). Again, as the cased hose reel is supplied to the user in this embodiment, this through casing hose connector 5 is not inserted in the tube like mounting portion 31 of the drum 3 but rather is supplied separately so that the user may insert the through casing hose connectors into the tube like mounting portion 31. The through casing hose connector 5 and the respective tube like mounting portion 31 are arranged so that the through casing hose connector 5 may be inserted into the tube like mounting portion and then captured once in this position.

[0071] The fact that as supplied to the user, neither the winding handle 4 nor the through casing hose connector 5 are inserted into the casing 1 means that the overall dimensions of the cased hose reel are kept to a minimum. Perhaps more importantly, the space which one reel occupies during transit and storage is kept to a minimum. It will be appreciated that the size of the box or packaging which would be required to house the cased hose reel if the through casing hose connector 5 and winding handle 4 were mounted in the casing 1 is significantly greater than that required when these components are not mounted in the casing 1. This reduction of volume can have a significant impact on transport and storage costs.

[0072] In the present embodiment the ability to provide the winding handle 4 and through casing hose connector 5 as separate components for fitting by the user is facilitated by the inclusion of the tube like mounting portions 31 which support the drum 3 in the casing 1.

[0073] An alternative approach would be for the winding handle 4 and through casing hose connector 5 to directly support the drum 3 for rotation within the casing 1. In such a case, if the winding handle 4 and through casing hose connector 5 were not in place during transit/storage then the drum would be free to move about inside of the casing. This would mean that the apertures in the casing 11 would become out of register with corresponding apertures in the drum 3 making it difficult or impossible for the user to insert the winding handle 4 and/or through casing hose connector 5.

[0074] As a less preferred alternative to the use of at least one tube like mounting portion 31, a keeper could be provided for holding the drum 3 in position relative to the casing 1 during storage and transit. In such a case this keeper could be displaced by the insertion of one of the through casing hose connector 5 and winding handle 4 and then removed altogether before inserting the winding handle 4 or through casing hose connector 5 as appropriate.

[0075] In the present embodiment the casing comprises a pair of facing side wall portions 12 which for a large part of their perimeter are generally circular and a circumferential wall portion 13 which joins the side wall portions 12 (see Figure 1).

[0076] Three windows or apertures are provided in the circumferential wall portion 13. A first of these is a hose

outlet window 14 which is provided in the circumferential wall portion 13 towards a base of the casing. It is through this hose outlet window 14 that hose 2 passes from the exterior to the interior of the casing in normal operation.

[0077] At a location on the circumferential wall portion 13 which is close to, but above the hose outlet window 14 when the cased hose reel is orientated to its normal operative orientation is a hose viewing window 15. This hose viewing window 15 performs an important function in that a user may view the hose wound on the drum 3 within the casing 1 and thus may monitor the layering of hose 2 onto the drum 3 as the hose is being wound into the casing 1. This is important because if smooth operation of the cased hose reel is to be achieved and jamming of the hose 2 within the casing 1 is to be avoided it is preferable for the hose 2 to be neatly layered onto the drum 3.

[0078] In some existing products, complex layering mechanisms are provided to ensure neat and effective layering of the hose 2 as it is rewound onto the drum 3. Whilst such a complex automatic layering system might be used in the present type of hose reel the provision of the hose viewing window at a position which is convenient for the user to observe the hose 2 as it is being wound onto the drum 3 provides a much more simple, cheap and elegant solution to this problem.

[0079] The third aperture or window is a hose access window 16 which is provided in an underside of the casing and which can be seen in Figure 4. This hose access window 16 defined in the base of the casing 1 allows a user access to the interior of the casing 1. This is useful in a particular method of assembly of the hose reel assembly as will be described in more detail below.

[0080] A slidable hose guide 6 is provided in the hose outlet window 14. This slidable hose guide 6 may be seen clearly in Figures 1 and 2 and is shown in isolation in Figure 9. In the present embodiment the slidable hose guide 6 provides two functions.

[0081] It is mounted for slidable movement within the hose outlet window 14 and thus may be slid from one end position as shown in Figures 1 and 2 to an opposite end position where it is located on the opposite side of the hose outlet window 14.

[0082] As most clearly seen in Figure 9, the slidable hose guide comprises a pair of guide rollers 61 which are arranged to rotate about parallel axes which in this case are perpendicular to the direction of sliding movement that the guide 6 is allowed to follow. Thus, with the hose reel in its intended orientation as shown for example in Figure 1, the axes of rotation of the guide rollers 61 are vertical. Each of the guide rollers 61 is concavely shaped so as to provide a smooth guiding surface which closely follows the external shape of the hose 2 with which the hose reel is intended to be used. The slidable hose guide 6 also comprises a handle portion 62 which may be grasped by a user for sliding the hose guide 6 back and forth within the hose outlet window 14. The handle portion 62 is another 'user fit' component. Thus, when the reel is provided to the consumer, the handle portion 62 is separate from the reel and may be mounted by a push fit onto the remainder of the hose guide 6 during assembly. This again helps to minimise the overall dimensions of the reel as shipped.

[0083] The provision of the guide rollers 61 facilitates one of the functions of the slidable hose guide in that they smoothly guide hose into and out of the casing 1. The rollers 61 allow hose 2 to be drawn out of the casing smoothly at an angle other than perpendicular to the plane of the hose outlet window 14. This guiding function of course operates both as hose is drawn off of the drum 3 as well as when the hose 2 is wound back onto the drum 3.

[0084] The other function of the slidable hose guide 6 is to aid the user in layering the hose 2 onto the drum 3 as the hose 2 is wound back onto the drum. As mentioned above, the hose viewing window 15 allows the user to monitor progress of layering of hose 2 as it is wound onto the drum. The slidable hose guide 6 helps the user to guide the hose 2 onto the drum 3 in such a way as to achieve even layering. Whilst the user must still manually move the slidable hose guide 6 back and forth to achieve the layering effect, this is preferable to trying simply to guide the hose 2 by hand into the casing 1 to achieve even layering.

[0085] The cased hose reel comprises a carrying handle 7 which is mounted to a carrying handle mounting portion 17 of the casing 1. The carrying handle mounting portion 17 is provided at an offset location, as can be seen for example in Figure 3, so that the carrying handle 7 is mounted to the casing 1 at a position which is offset from the centre of the upper part of the circumferential wall portion 13. To put this another way the carrying handle is mounted at a position which is offset from a plane which includes the axis of rotation of the drum 3 and is perpendicular to the base of the casing 1. This means that the overall height of the cased hose reel is slightly less than would be the case if the carrying handle mounting portion 17 was located centrally on the upper surface of the circumferential wall portion 13. It also means that if the cased hose reel is carried by the carrying handle 7 it will hang down "at an angle". By this it is meant that when being carried by the carrying handle 7 the base of the cased hose reel will be at an angle relative to its orientation when the cased hose reel is placed on a horizontal surface. This carrying angle is of course influenced by the weight distribution within the cased hose reel.

[0086] The fact that in the present embodiment, the cased hose reel will hang at an angle whilst being carried by the carrying handle 7 proves to be advantageous when mounting the cased hose reel on another structure via support brackets 8 (see Figure 3 for example) secured to another structure (not shown, for example a wall).

[0087] The carrying handle 7 is pivotally mounted to the casing at the carrying handle mounting portion 17 and is movable from a stowed position as shown in Figure 1 to a mounting position as shown in Figure 3. Further-

more, when moving from the stowed position shown in Figure 1 to the mounting position shown in Figure 3 the carrying handle 7 moves through one or more positions which may be described as carrying positions. When the carrying handle 7 is in the stowed position it lies in contact with the circumferential wall portion 13 of the casing 1 and projects no further from the circumferential wall portion of the casing than does the carrying handle mounting portion 17. Again this leads to the cased hose reel having an overall dimension which is as small as possible when being shipped and stored etc.

[0088] Figures 2 and 3 show the cased hose reel supported by two support brackets 8 one interacts with a portion of the casing 1 near the base and one with the carrying handle 7. One of the support brackets 8 is shown in isolation in Figures 7 and 8.

Each support bracket comprises a main body portion 81 which is arranged to be screwed or otherwise fixed to supporting structure for example a wall (not shown) and a hook portion 82 which is arranged to support the cased hose reel. Furthermore, opposite ends of the main body portion 81 are provided with oval shaped stabilising buffer portions 83 which can contact with a carried hose reel as shown in Figure 3 to more securely support the hose reel in the carried position.

[0089] It will be appreciated that as well as being able to use the hose reel in a free standing fashion as illustrated in Figure 1 it is also possible to use the hose reel when mounted to a wall via support brackets 8. As can be clearly seen in Figure 3 when the hose reel is mounted to a structure such as a wall (not shown) by the support brackets 8 the reel projects longitudinally away from the wall such that the side wall portions 12 of the casing 1 are generally perpendicular to the wall surface. This means that if the hose is pulled "straight out" of the hose outlet window 14 the hose 2 will travel in a direction which is generally perpendicular to the wall surface. Because the hose reel is mounted in this orientation the provision of the stabilising buffer portion 83 on the main body 81 of the support brackets 8 is important to provide stability. The surface of the buffer portions 83 which contacts with the casing 1 may be provided with a elastomeric or rubber like substance to improve grip.

[0090] As can be seen in Figure 3, when the hose reel is mounted to a wall (not shown) or other structure via the support brackets 8 a portion of the carrying handle rests in the hook portion 82 of one of the support brackets 8. Although not shown in the drawings, keeper means may be provided on the support bracket 8 to help lock the carrying handle 7 in position in the hook portion 82.

[0091] As can be seen in Figure 3, a corner portion at the base of the casing 1 is supported by the other support bracket 8. As is most clearly appreciated from Figure 6, the casing defines a support bracket recess 18 at the corner portion of the casing 1 which is at the end of the base which is remote from the hose outlet window 14. This support bracket receiving recess 18 is shaped so as to co-operate with the hook portion 82 of the support bracket 8 to stably support the cased hose reel. Furthermore, the profile of the wall portions 181 of the casing defining the bracket receiving recess 18 are shaped to contact with the hook portion 82 of the support bracket 8 during mounting of the cased hose reel onto the support bracket 8 and once mounted. More particularly, the wall portions 181 of the casing defining the recess 18 comprise a radiused or bulbous portion 181a which is arranged to contact with and fit in the U shaped space defined by the hook portion 82 of the support bracket 8 and an inclined wall portion 181b which is arranged to allow the introduction of the support bracket 8 into the support bracket receiving recess 18 with the reel at an angle to its final supported position.

[0092] The orientation of the reel shown in Figure 6 corresponds to the final orientation of the hose reel when mounted on a support bracket itself mounted to a vertical wall. However, during the process of mounting the hose reel to the bracket 8 the hose reel could be tilted forward from the orientation shown in Figure 6 so that the left hand edge of the hose reel as shown in Figure 6 is lower than the right hand edge such that the inclined wall portion 181b would be closer to vertical - i.e. the reel may be allowed to hang at an angle. With this orientation, the hose reel may be offered up to the support bracket 8 and the upstanding part of the hook portion 82 of the support bracket 8 may be introduced into the region defined between the inclined wall portion 181b and the radiused portion 181a. The hose reel may then be rocked back towards the wall i.e. towards a vertical position. Once in this vertical position the carrying handle 7 can be located over the hook portion 82 of the other support bracket, i.e. the upper support bracket as shown in the orientation of Figure 3 to hold the reel in position.

[0093] With such an arrangement a majority, if not all, of the weight of the hose reel, will be supported by the lower bracket with the orientation shown in Figure 3 and the upper support bracket will primarily hold the hose reel in the vertical position back against the wall or other structure to which the hose reel is mounted.

[0094] In the present embodiment the buffer portions 83 contact with the casing 1 towards its base but the respective buffer portions 83 do not contact with the carrying handle 7. In other embodiments however, the buffer portions might contact with both or all mounting portions of a supported reel.

[0095] Referring still to Figure 6 another feature of the shape of the casing 1 wall structure will be described. An obstructing portion 141 is provided in the region of the hose outlet window 14. This obstructing portion serves to block a straight line path from the outlet window 14 to one end of a diameter of the drum or to put this more functionally, it serves to ensure that hose 2 must follow a more contorted path to be wound onto the drum if the drum 3 is wound in one direction than if the drum 3 is wound in the other direction. Thus, in the orientation shown in Figure 6, if the drum 3 is wound in a anti-clockwise direction then hose 2 may easily enter the casing 1

through the hose outlet window 14 and onto the drum 3 at a side towards the base of the casing 1. However, if the drum 3 is wound in the opposite direction, i.e. in the clockwise direction, then hose 2 entering the casing 1 has to pass the obstructing portion 141 and almost double back on itself in order to be wound onto the drum 3 at a position towards the left hand side of the casing 1 in the orientation shown in Figure 6 (what might be called the front of the reel).

[0096] The provision of such an obstructing portion 141 provides a simple yet effective way of helping to ensure that the winding handle 4 of the cased hose reel is only operated in the desired direction. As an additional measure to try and ensure that this is the case, the direction of intended winding is shown by an arrow embossed into the side wall 12 of the casing adjacent to the winding handle 4.

[0097] As mentioned above, when the cased hose reel is supplied to a user it comes in a partially assembled state. In particular, the through casing hose connector 5 and winding handle 4 are not mounted in the drum 3 and casing 1 but are provided as separate components. Furthermore, the hose 2 which is to be mounted on the drum is supplied as a bundle within the casing 1 but is not fitted in a state such that it is ready for use.

[0098] Thus, in the case of the present embodiment the user will purchase a cased hose reel assembly kit which comprises the cased hose reel in a non-assembled state, the length of hose 2 provided within the casing, a pair of support brackets 8, one or more hose fittings to connect to the free end of the hose 2, and optionally an additional length of hose plus connectors for use as a feeder hose for connection of the hose reel via an external end of the through casing hose connector 5 to a tap.

[0099] Thus the user must use this kit to assemble a cased hose reel assembly before use. In carrying this out the following steps may be followed.

1) The bundle of hose provided in the casing is removed from the casing 1 via the access window 16;

2) The through casing hose connector 5 and winding handle 4 are mounted on the drum and casing;

3) One end of the hose 2 is fed through the hose outlet window 16 and in particular it may be fed through the space between the guide rollers 61 provided in the slidable guide 6. Before or after feeding the end of the hose 2 between the rollers 61, the handle portion 62 can be mounted on the remainder of the slidable guide 6 by the user.

4) The user may then connect the inserted end of the hose to an end of the through casing hose connector 5 which is inside the casing (this connection is shown in Figure 5);

5) The user may then use the winding handle 4 to wind the remainder of the hose 2 onto the drum 3.

6) In doing so the user may use the slidably mounted guide 6 to ensure even layering of the hose 2 onto the drum.

[0100] At this stage the cased hose reel assembly may be connected to the tap via a suitable feeder hose and a watering tool such as a nozzle or spray gun may be connected to the end of the main hose which is not connected to the through casing hose connector 5.

[0101] It will be noted that the mounting brackets 8 used for supporting the corner of the casing 1 and capturing the carrying handle 7 may be identical and indeed in this embodiment they are identical.

[0102] Figures 10 and 11 show an alternative cased hose reel assembly. In this case wheels are provided to allow movement of the cased hose reel over a surface. In this particular embodiment, the main body of the cased hose reel is the same as that described above in relation to Figures 1 to 6 and the wheeling arrangement is provided as a structure to which the cased hose reel may be mounted. In alternatives, wheels may be mounted directly to the casing 1 of the cased hose reel.

[0103] In the cased hose reel assembly shown in Figures 10 and 11, the wheeling arrangement comprises a support 101 on which are mounted a pair of wheels 102 and a handle post 103 which connects a handle portion 104 to the support 101. The support 101 is arranged to support a corner of the base of the cased hose reel and may comprise a support bracket having a similar or identical structure to the support bracket 8 described above. Thus, a support bracket of the support 101 may be arranged to engage with the support receiving aperture 18 of the cased hose reel. Furthermore, the support 101 is arranged such that the pair of wheels 102 are provided at a spacing which is such that the body of the casing 1 may fit between the wheels 102.

[0104] In a similar way as described above in relation to Figure 3, the cased hose reel can be supported by the bracket provided on the support 101 and the handle 7 of the cased hose reel is captured in a handle receiving bracket 105 provided on the handle post 103 to hold the cased hose reel in position.

[0105] The cased hose reel is removably mounted on the wheeling arrangement as shown in Figures 10 and 11. This means that the cased hose reel may be used in a free standing mode as shown in Figure 1, a supported but fixed mode as shown in Figure 3, or a wheeling mode as shown in Figures 10 and 11.

[0106] Thus the product may be provided in a simple format, i.e. freestanding alone; a "two in one" format where either wheeling or fixed mounting is provided as well as the free standing option; or a "three in one" format where both the wheeling option and the fixed mounting option are provided in addition to the free standing option.

[0107] It will be appreciated that the important function of the hose viewing window 15 is to allow the hose 2 to

be viewed. Thus, whilst in the present embodiment the hose viewing window is an uncovered aperture and this is preferred as a cost effective way of providing the ability to view the hose 2, this is not essential. For example, the hose viewing window 15 could comprise a cover element which might be of say transparent material, which might be colourless plastic, and might be fixed in place.

[0108] In a further alternative a whole section of (for example a front section in the region of the hose outlet window) or even the whole of the casing, might be of a non-opaque (or see-through) material chosen and arranged to allow viewing of the hose as it is wound onto the drum.

[0109] Figures 12 to 16 show a further cased hose reel, which is in the form of a hose cart. This cased hose reel shares many common features with the cased hose reels as previously described in relation to Figures 1 to 9 and 10 to 11. The description below concentrates on the features of the cased hose reel of Figures 12 to 16 which differ from those previously described. The numbering in Figures 12 to 16 follows that of previous Figures, with the addition of 1000 to each of the reference numbers of parts that correspond to parts in the earlier Figures.

[0110] Figure 12 shows a cased hose reel comprising a casing 1001, within which hose (not shown) may be carried on a drum to form a cased hose reel assembly. The casing 1001 comprises a pair of facing side wall portions 1012 which for a large part of their perimeter are generally circular and a circumferential wall portion 1013 which joins the side wall portions.

[0111] A hose outlet window 1014 is provided in the circumferential wall portion 1013 towards the base of the casing. A pair of wheels 1102 are also provided in the vicinity of the base of the casing, one on each side of the circumferential wall portion 1013. These allow movement of the cased hose reel over a surface.

[0112] A hose viewing window 1015 is provided at a location on the circumferential wall portion 1013 which is above the hose outlet window 1014 when the cased hose reel is orientated in its normal operative orientation. The hose viewing window 1015 is located substantially towards the top of the rear side of the cased hose reel.

[0113] The cased hose reel also comprises a telescopic handle 1110 located towards the rear of the casing above the hose outlet window 1014 and adjacent the hose viewing window 1015. The handle 1110 is provided to allow a user to pull the cased hose reel over a surface. The handle 1110 comprises two parallel tube-like members 1111. The tube-like members are joined at their upper ends by a plastic hand grip moulding 1113. The moulding 1113 gives a user a convenient holding place from which the handle 1110 can be operated. Each tube-like member 1111 can be slid in and out of a socket 1112 in the casing 1001. This allows the height of the handle to be varied between a stowed position, where the tube-like members extend downwards from the sockets 1112 and the grip moulding 1113 rests adjacent the casing 1001, and a pulling position, where the tube-like members 1111 extend upwards from the sockets 1112.

[0114] The tube-like members 1111 comprise a detent 1114 located towards their lower ends. During assembly, the upper ends of the tube-like members are slid upwards through the sockets 1112 from an underside. The tubes-like members are then joined at their upper ends by the hand grip moulding 1113.

[0115] Alternatively, (as can be seen in Figure 13) the lower ends of the tube-like members are inserted into the sockets 1112 from above using a downwards force 1116. The detent 1114 is depressed into the tube-like member 1111, allowing the member to fit through the socket 1112 and for the lower end of the tube-like member to exit the socket and the detent 1114 to be re-exposed. The detent 1114 then resumes its original protruding shape.

[0116] When a pulling force is applied to the tube-like member 1111, it is pulled upwards through the socket until the detent 1114 abuts the base 1115 of the socket 1112. The detent 1114 is not depressed and so prevents the tube-like member 1111 from being pulled back out of the socket 1112.

As an alternative, or in addition to having a detent 1114 in the tube-like members 1111, at least one of the tube-like members may comprise a flared portion. The flared portion provides a similar function to the detent 1114, as it would prevent the tube-like member 1111 from being pulled out of the socket 1112 under a (reasonable) force.

[0117] Assembling by sliding the tube-like members 1111 upwards through the sockets 1112 avoids having to force the detent 1114 or flared portion through the sockets 1112. This allows assembly even when the detents 1114 or flared portions cannot be depressed. Once assembled, this allows a stronger pulling force to be applied to the handle 1110 without removing it from the sockets 1112.

[0118] At the side of each socket 1112 is provided a respective thumbscrew 1117, which acts as a locking means on the handle 1110. Each thumbscrew passes through a threaded hole (not shown) in the side of the socket. Tightening of the thumbscrew 1117 into the socket 1112 applies sideways pressure to the tube-like members 1111. They can be prevented from moving up and down by this sideways pressure and thus secured in place within the sockets 1112. Thus any height of the handle can be maintained, independent of a (reasonable) pushing or pulling force being applied to the handle 1110.

[0119] The cased hose reel of Figure 12 comprises a slidable hose guide 1006, similar to that described with reference to Figures 1, 2 and 9, and a pivoted actuator arm 1201 for remotely actuating the slidable hose guide 1006. The actuator arm 1201 comprises a hand grip 1202 at an upper end of the arm. The arm 1201 is contained within the rear of the casing 1001 and the hand grip 1202 exits the casing through the hose viewing window 1015 at the top of the rear of the casing 1001. The lower end of the arm 1201 is, in this embodiment, rigidly connected to the slidable hose guide 1006, located in the hose outlet window 1014 at the bottom of the rear of the casing 1001.

The arm 1201 is pivotably mounted on the casing 1001.

[0120] The arm 1201 has a boss 1203 connected to it via a link member 1205. The boss 1203 is provided towards the midpoint of the arm 1201. The link member 1205 allows the boss 1203 to be located a distance away from the arm 1201. The boss 1203 comprises a generally circular disc with the plane of the disc being generally parallel to the adjacent wall of the casing 1001. The disc is contained within a bush 1204. The bush 1204 is formed with spaced lips 1207 and 1208. These lips 1207, 1208 project around opposite parts of the boss 1203, capturing it in the bush 1204. They each provide a semi-circular recess for the boss to sit in. The boss 1203 is still able to rotate. Hence, the boss 1203 and bush 1204 form a pivotable joint.

[0121] The bush 1204 is formed integrally with the casing 1001. The casing 1001 is formed from two halves, the joining line between the two halves being midway between the sides of the facing side wall portions 1012 in the plane of rotation of the drum inside the casing 1001. The two halves join on a joining line 1300 which extends between the lips 1207, 1208, midway along the width of the bush 1204. Hence, the bush 1204 is moulded into both halves of the casing, with both lips 1207, 1208 being formed from both halves of the casing 1001.

[0122] The arm 1201 is kinked (as can be seen in Figure 15). The apex of the kink is located near the midpoint of the arm 1201. The arm 1201 is kinked so that the apex of the kink is the point on the arm 1201 nearest the adjacent wall of the casing 1001. The boss 1203 is connected to the arm 1201 via the link member 1205 at the location of the apex of the kink.

[0123] The hose outlet window 1014 of the cased hose reel has an arcuate edge. The hose outlet window 1014 is in the form of a smile shape. The radius of curvature of the arcuate edge is approximately the same as that of the path of the hose guide 1006 when it is actuated with the pivoted arm 1201. The hose outlet window 1014 matches up with the path of the hose guide 1006. This allows the hose to be passed through the hose outlet window 1014 when the hose guide 1006 is in various positions along this path. The curved hose outlet window 1014 provides a greater range of positions of the hose guide 1006 from which the hose can pass through the hose outlet window 1014, than a correspondingly sized rectangular hose outlet window. Conversely, a smaller curved hose outlet window 1014 can be used and still allow a hose to pass through the hose outlet window in the same range of positions of the hose guide 1006, as a larger rectangular hose outlet window.

[0124] The cased hose reel also comprises a stand 1400. The stand is provided at a front bottom region of the casing 1001. The stand comprises two parallel legs 1401 which extend outwards and downwards from the casing 1001. These legs are secured to the casing by an upper end region of the legs. They are secured by a mounting joint 1402 (as seen in figure 14). The upper end of each leg protrudes through a hole in the casing 1001. The mounting joint 1402 is located on the leg 1401 outside and adjacent the casing 1001.

[0125] At the other end of the legs 1401 there is provided a substantially flat rectangular platform 1403. The platform 1403 is provided with sockets 1404 into which the legs 1401 fit. The platform 1403 has a resilient rubber surface for resting against a surface on which the reel is stood and avoiding slippage. The platform 1403 is provided at an angle to the legs 1401 that allows the platform to lie flat against the surface.

Further Statements of Invention in numbered paragraphs

[0126]

1. A cased hose reel comprising a drum for carrying hose and a casing within which the drum is mounted.

2. A cased hose reel according to paragraph 1 in which the casing of the reel comprises a hose viewing portion through which hose may be viewed as the hose is wound onto the drum and wherein the hose viewing portion is distinct from a hose outlet window which provides a path through the casing for hose.

3. A cased hosed reel according to paragraphs 1 or 2 in which the hose viewing portion comprises a hose viewing window which comprises an open aperture or a non-opaque covering member through which hose carried on the drum may be viewed.

4. A cased hosed reel according to paragraph 3 in which the hose viewing window is provided towards the top of the casing, with the hose reel in its intended orientation.

5. A cased hosed reel according to any preceding paragraph in which the drum comprises a tube like mounting portion via which the drum is supported for rotation in the casing and through which water may be channelled from an exterior to an interior of the casing.

6. A cased hosed reel according to paragraph 5 in which the tube like mounting portion is provided on one side of the drum and a second mounting portion is provided on a second opposite side of the drum.

7. A cased hosed reel according to paragraph 5 or paragraph 6 in which the drum comprises a central tube portion that runs through the drum, one end of the central tube portion comprising the tube like mounting portion.

8. A cased hosed reel according to any one of paragraphs 5 to 7 in which the tube like mounting portion

carries a through casing hose connector.

9. A cased hosed reel according to any one of paragraphs 5 to 8 comprising a second mounting portion arranged to receive a winding handle for winding the drum.

10. A cased hosed reel according to paragraph 9 in which the winding handle and second mounting portion are arranged so that the winding handle may be push fitted into the second mounting portion and retained in the second mounting portion once pushed home.

11. A cased hosed reel according to any one of paragraphs 1 to 4 in which the reel is supplied with a keeper in place that holds the drum in position within the casing during transit and that can be displaced by support mountings during assembly by the user.

12. A cased hosed reel according to paragraph I 1 in which the support mountings comprise a winding handle and/or through casing hose connector.

13. A cased hosed reel according to any preceding paragraph in which the reel comprises a carrying handle mounted on the casing which is movable between a carrying position and a stowed position.

14. A cased hosed reel according to paragraph 13 in which the position of the handle in the stowed position is chosen with the aim of minimising the overall dimensions of the reel.

15. A cased hosed reel according to paragraph 13 or 14 in which the carrying handle is mounted to the casing at a location which is offset from a plane that includes an axis of rotation of the drum and is perpendicular to a base of the reel.

16. A cased hosed reel according to any one of paragraphs 13 to 15 in which the carrying handle is moveable to a mounting position in which the handle is arranged to assist in mounting of the reel to a wall or another structure.

17. A cased hosed reel according to any one of paragraphs 13 to 16 in which the casing comprises a carrying handle mounting portion to which the carrying handle is mounted, the reel being arranged so that when the carrying handle is in the stowed position the carrying handle projects from the remainder of the casing no further than the carrying handle mounting portion.

18. A cased hose reel according to any preceding paragraph in which the cased hose reel comprises at least one wheel, to aid movement of the reel over a surface.

19. A cased hose reel according to any preceding paragraph in which the cased hose reel comprises a pull-along handle for pulling the cased hose reel across a surface.

20. A cased hose reel according to paragraph 19 in which the pull-along handle is collapsible.

21. A cased hose reel according to paragraph 19 or paragraph 20 in which the pull-along handle is slidably mounted relative to the casing.

22. A cased hose reel according to paragraph 21 in which the pull-along handle can be slid between a stowed position and an extended pull-along position.

23. A cased hose reel according to paragraph 22 in which the pull-along handle is mounted in a socket such that the handle can be slid through the socket between the stowed position and the extended position.

24. A cased hose reel according to paragraph 23 in which the pull-along handle comprises at least one tube which is slidably mounted in the socket, and has a stop portion arranged to abut against an abutting portion of the socket when the handle is in the extended position.

25. A cased hose reel according to paragraph 24 in which the handle comprises two tubes and a hand grip portion, said two tubes being linked across their ends remote from the casing by said hand grip portion.

26. A cased hose reel according to any one of paragraphs 19 to 25 in which a locking means is provided for holding the pull-along handle in a fixed position.

27. A cased hosed reel according to any preceding paragraph in which the casing defines an access window through which access to the interior of the casing may be obtained.

28. A cased hosed reel according to paragraph 27 which comprises three distinct windows.

29. A cased hosed reel according to paragraph 27 or 28 in which the access window is provided in the base of the casing.

30. A cased hosed reel according to any preceding paragraph which comprises hose layering means.

31. A cased hosed reel according to paragraph 30

in which the hose layering means comprises a manually actuated hose layering arrangement.

32. A cased hosed reel according to paragraph 30 or 31 in which the hose layering means comprises a moveable hose guide.

33. A cased hosed reel according to paragraph 32 in which the hose guide is slidably mounted on the casing.

34. A cased hose reel according to paragraph 32 or paragraph 33 in which the hose layering arrangement is arranged to allow remote actuation of the hose guide.

35. A cased hose reel according to any one of paragraphs 32 to 34 in which the hose layering arrangement comprises an actuator operable by a user for moving the hose guide.

36. A cased hose reel according to paragraph 35 in which the actuator comprises an actuator arm, mounted at a first end to the hose guide.

37. A cased hose reel according to paragraph 36 in which the actuator arm is pivotally mounted.

38. A cased hose reel according to paragraph 36 or 37 in which the actuation arm is mounted on the casing.

39. A cased hose reel according to paragraph 36 in which the actuator arm is pivotally mounted relative to the casing.

40. A cased hose reel according to any one of paragraphs 36 to 39 in which the actuator arm is located substantially within the casing, with a free end of the arm protruding from the casing to allow remote actuation of the hose guide.

41. A cased hose reel according to paragraph 40 in which the free end protrudes through the hose viewing portion of the casing.

42. A cased hosed reel according to any preceding paragraph in which at least one hose guiding roller is provided in the casing.

43. A cased hosed reel according to any of paragraphs 32 to 41 in which a pair of hose guiding rollers are provided on the hose guide.

44. A cased hosed reel according to any preceding paragraph in which the casing comprises a reel mounting portion arranged to co-operate with a support bracket in mounting of the cased reel to another structure, for example a wall.

45. A cased hosed reel according to paragraph 44 in which the reel comprises a second reel mounting portion arranged to be used in mounting the reel to another structure and arranged to co-operate with a support bracket which is identical to the support bracket with which the first reel mounting portion is arranged to co-operate.

46. A cased hosed reel according to any preceding paragraph which comprises an obstructing portion disposed between a hose outlet window and the drum.

47. A cased hosed reel according to paragraph 46 in which the obstructing portion is arranged to obstruct a path from the outlet window to one end of a diameter of the drum so that the path that hose would follow in being wound onto the drum whilst the drum is being wound in one direction is more contorted than the path that hose would follow in being wound onto the drum whilst the drum is being wound in the opposite direction.

48. A cased hose reel comprising a drum for carrying hose and a casing within which the drum is mounted in which the casing of the reel comprises a hose viewing portion through which hose may be viewed as the hose is wound onto the drum and wherein the hose viewing portion is distinct from a hose outlet window which provides a path through the casing for hose.

49. A cased hose reel comprising a drum for carrying hose, a casing within which the drum is mounted, and a pull-along handle for pulling the cased hose reel across a surface, wherein the pull-along handle is slidably mounted relative to the casing and can be slid between a stowed position and an extended pull-along position.

50. A cased hose reel comprising a drum for carrying hose, a casing within which the drum is mounted, and a hose layering arrangement in which the hose layering arrangement is arranged to allow remote actuation of the hose guide.

51. A cased hosed reel assembly comprising a cased hose reel according to any preceding paragraph and a length of hose carried on the drum.

52. A cased hose reel kit comprising a cased hose reel according to any one of paragraphs 1 to 50 and a length of hose for mounting on the drum.

53. A method of assembling a cased hose reel assembly from a cased hose reel and a length of hose

supplied within the cased hose reel, the cased hose reel comprising a drum for carrying the hose, a casing within which the drum is mounted and which defines a hose outlet window and an access window allowing access to the interior of the casing, and a through casing hose connector, the method comprising the steps of:

removing the length of hose from the casing through the access window;
feeding one end of the hose through the hose outlet window and connecting that end of the hose to an end of the through casing hose connector which is inside the casing; and
winding the hose onto the drum, so pulling the hose in through the hose outlet window.

54. A method according to paragraph 53 in which the drum comprises a tube like mounting portion via which the drum is supported for rotation in the casing and which is arranged for receiving the through casing hose connector and the method comprises the further step of inserting the through casing hose connector into the tube like mounting portion before connecting the hose to the through casing hose connector.

55. A method according to paragraph 53 or 54 in which the hose reel comprises a winding handle for winding the drum, the drum comprises a second mounting portion on which the drum is mounted for rotation within the casing and the second mounting portion is arranged to receive the winding handle and the method comprises the step of inserting the winding handle into the second mounting portion.

56. A hose reel support bracket for supporting a hose reel according to any one of paragraphs 1 to 50, which comprises at least one stabilising portion for contacting with the casing of a supported hose reel.

57. A hose reel support bracket comprising a pair of stabilising portions provided either side of an engagement portion of the bracket.

58. A hose reel support bracket according to paragraph 56 or 57 in which the or each stabilising portion comprises a contact portion of elastomeric or rubbery soft material.

Claims

1. A cased hose reel comprising a drum for carrying hose and a casing within which the drum is mounted, the casing defining a hose outlet window and an access window through which access to the interior of the casing may be obtained.

2. A cased hose reel according to claim 1 in which the cased hose reel comprises a through casing hose connector and the access window is arranged to allow removal of a length of hose from the casing through the access window and allow connection of the end of a hose which has been fed through the hose outlet window to an end of the through casing hose connector which is inside the casing.

3. A cased hose reel according to any preceding claim in which the casing comprises a hose viewing portion through which hose may be viewed as the hose is wound onto the drum.

4. A cased hose reel according to claim 3 in which the hose viewing portion comprises a hose viewing window such that the casing defines three distinct windows.

5. A cased hose reel according to any preceding claim in which the casing of the reel comprises a circumferential wall portion and two side wall portions, wherein the access window is provided in the circumferential wall portion.

6. A cased hosed reel according to any preceding claim in which the access window is provided in the base of the casing.

7. A cased hosed reel according to any preceding claim in which the drum comprises a tube like mounting portion via which the drum is supported for rotation in the casing and through which water may be channelled from an exterior to an interior of the casing.

8. A cased hosed reel according to claim 7 in which the tube like mounting portion carries a through casing hose connector.

9. A cased hosed reel according to any preceding claim in which the reel comprises a carrying handle mounted on the casing which is movable between a carrying position and a stowed position, wherein the casing comprises a carrying handle mounting portion to which the carrying handle is mounted, the reel being arranged so that when the carrying handle is in the stowed position the carrying handle projects from the remainder of the casing no further than the carrying handle mounting portion.

10. A cased hosed reel according to any preceding claim which comprises an obstructing portion disposed between the hose outlet window and the drum, wherein the obstructing portion is arranged to obstruct a path from the outlet window to one end of a diameter of the drum so that the path that hose would follow in being wound onto the drum whilst the drum is being wound in one direction is more contorted than the

path that hose would follow in being wound onto the drum whilst the drum is being wound in the opposite direction.

11. A cased hosed reel assembly comprising a cased hose reel according to any preceding claim and a length of hose carried on the drum.

12. A cased hose reel kit comprising a cased hose reel according to any one of claims 1 to 10 and a length of hose for mounting on the drum.

13. A method of assembling a cased hose reel assembly from a cased hose reel and a length of hose supplied within the cased hose reel, the cased hose reel comprising a drum for carrying the hose, a casing within which the drum is mounted and which defines a hose outlet window and an access window allowing access to the interior of the casing, and a through casing hose connector, the method comprising the steps of:

removing the length of hose from the casing through the access window;
feeding one end of the hose through the hose outlet window and connecting that end of the hose to an end of the through casing hose connector which is inside the casing; and
winding the hose onto the drum, so pulling the hose in through the hose outlet window.

14. A method according to claim 13 in which the drum comprises a tube like mounting portion via which the drum is supported for rotation in the casing and which is arranged for receiving the through casing hose connector and the method comprises the further step of inserting the through casing hose connector into the tube like mounting portion before connecting the hose to the through casing hose connector.

15. A method according to claim 13 or 14 in which the hose reel comprises a winding handle for winding the drum, the drum comprises a second mounting portion on which the drum is mounted for rotation within the casing and the second mounting portion is arranged to receive the winding handle and the method comprises the step of inserting the winding handle into the second mounting portion.

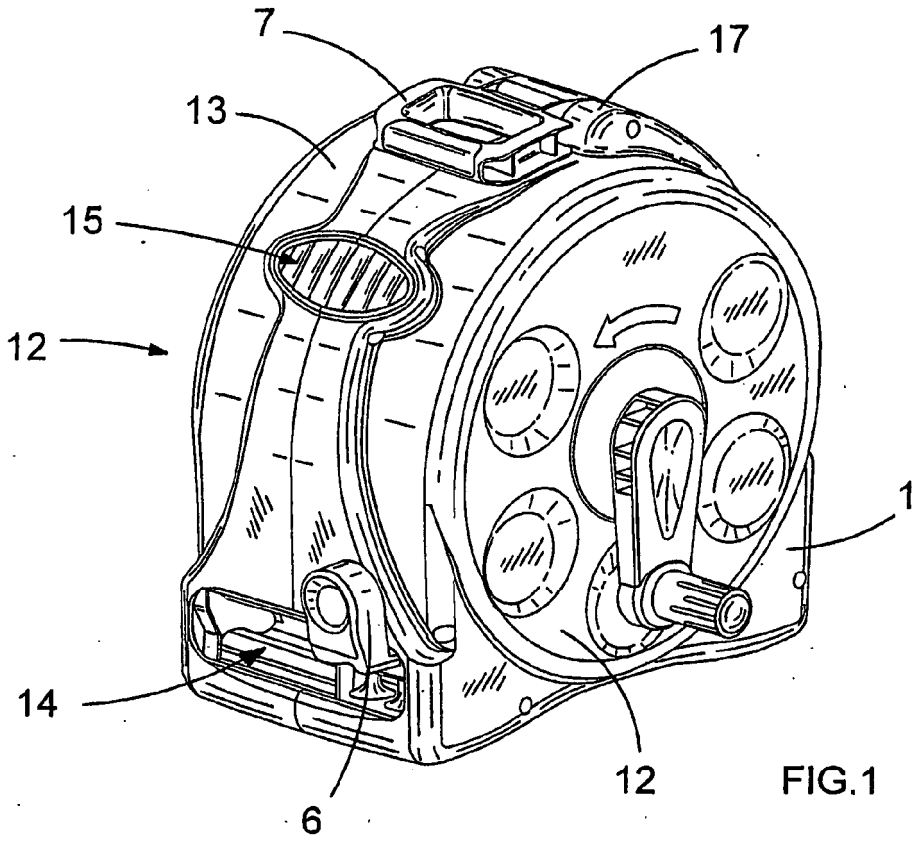


FIG.1

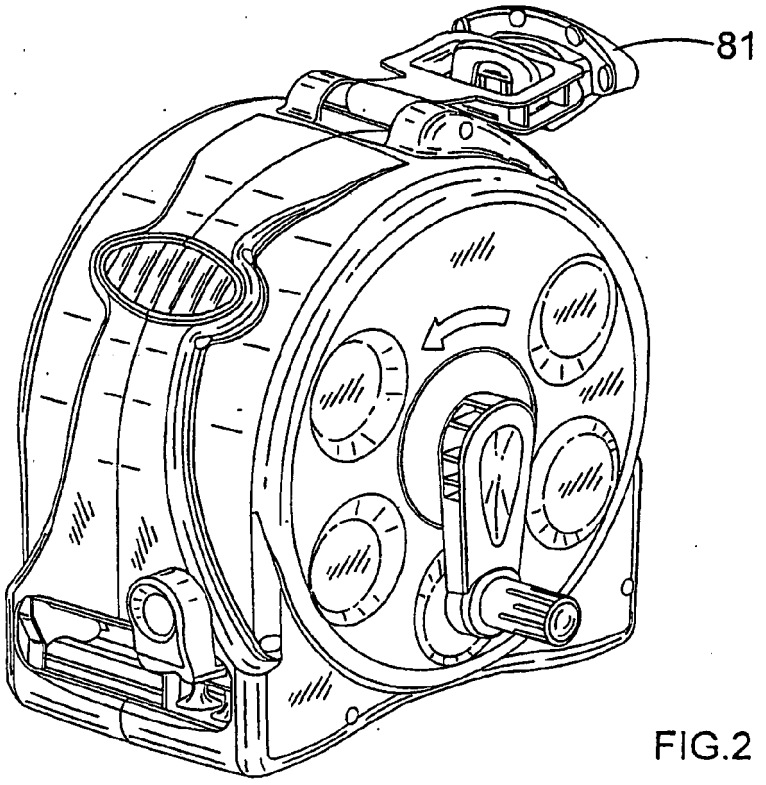


FIG.2

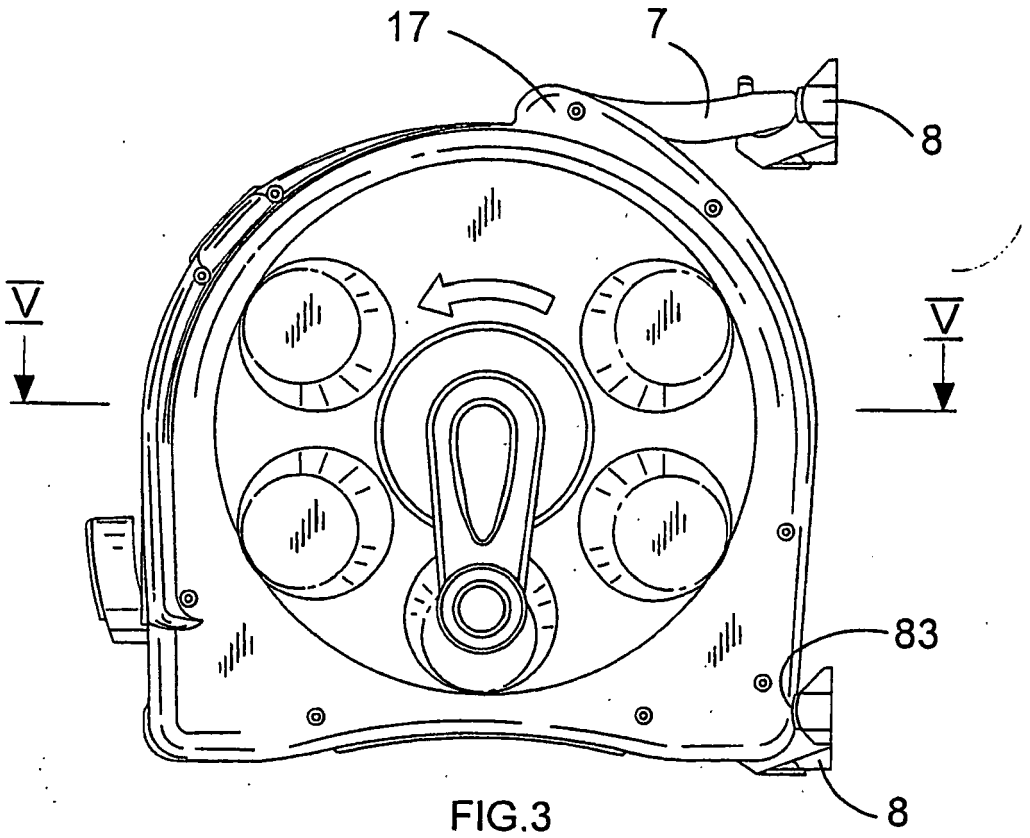


FIG.3

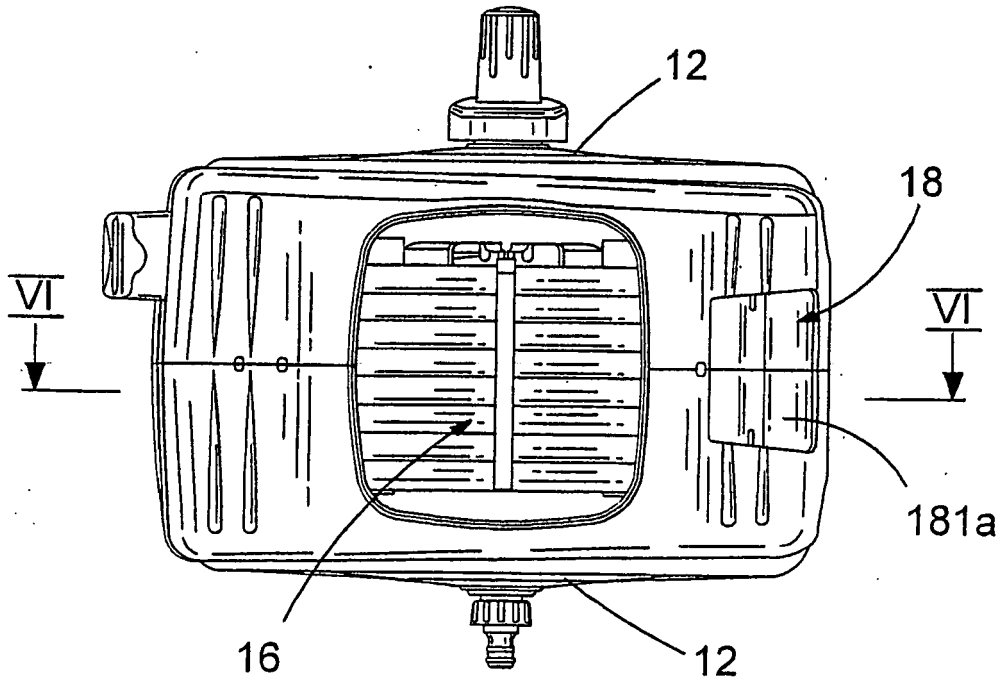


FIG.4

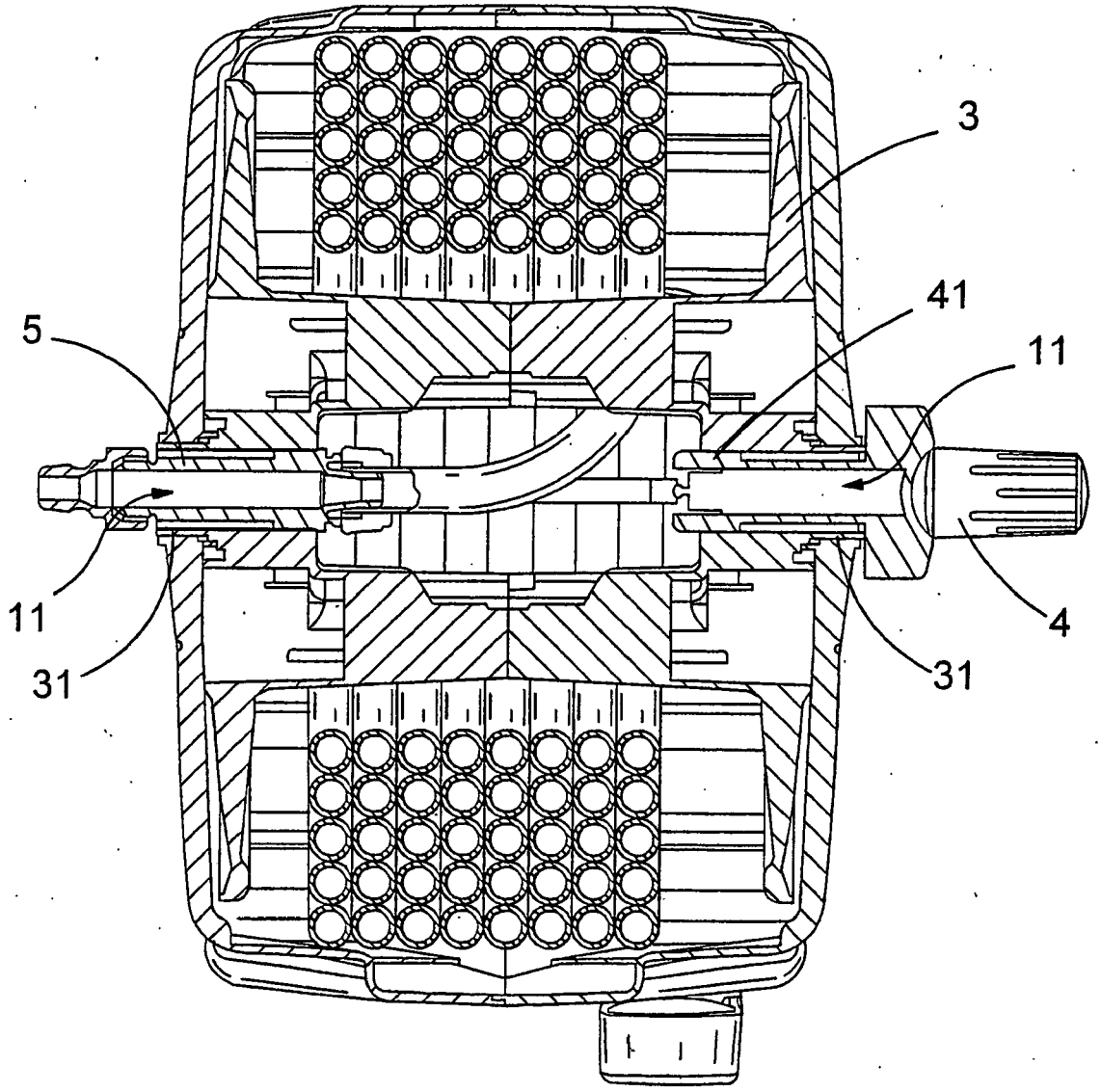


FIG.5

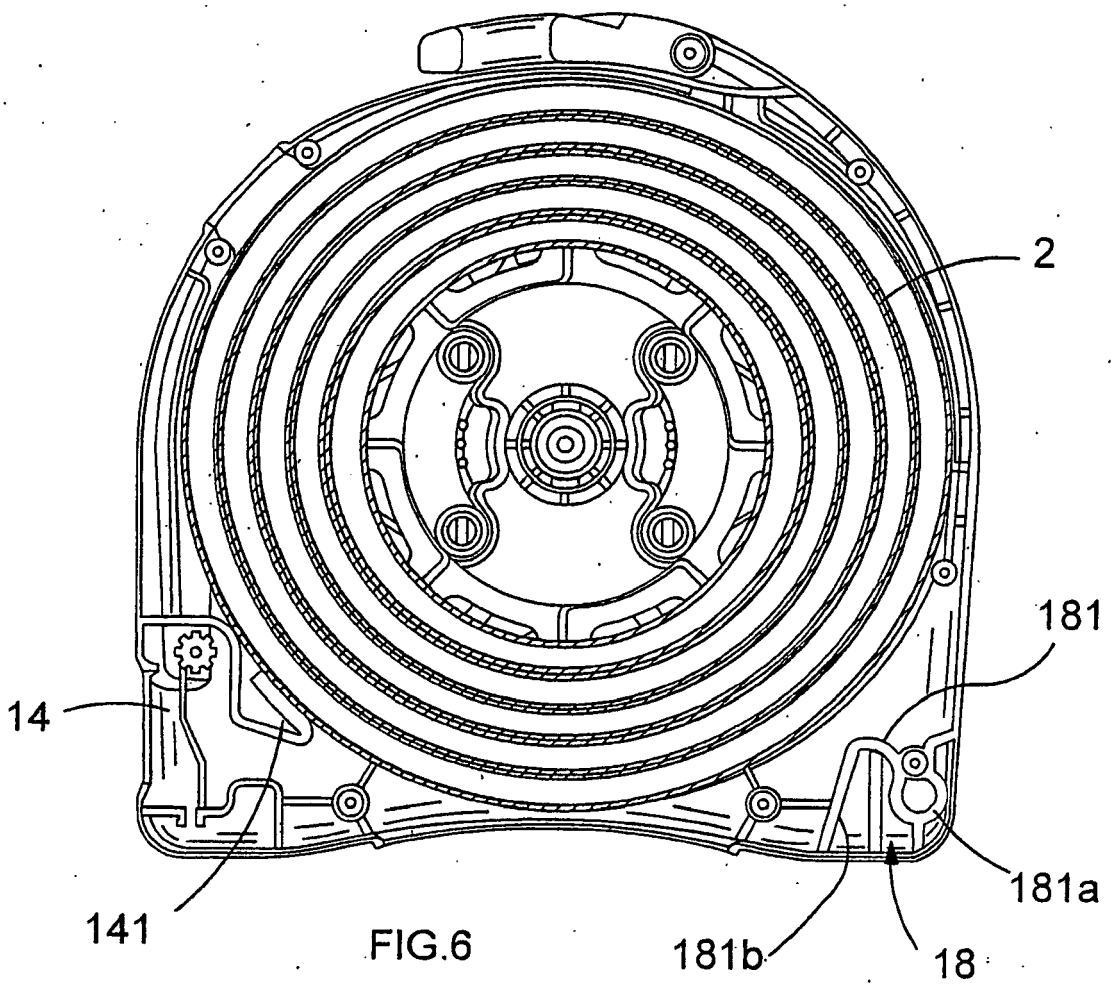


FIG.6

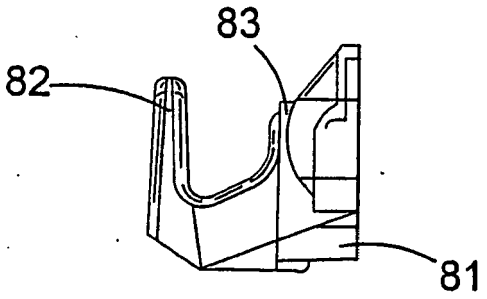


FIG.7

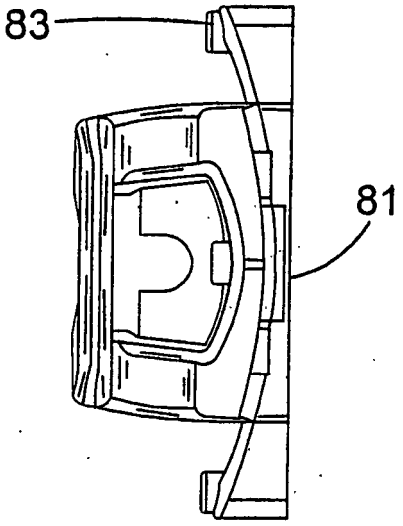


FIG.8

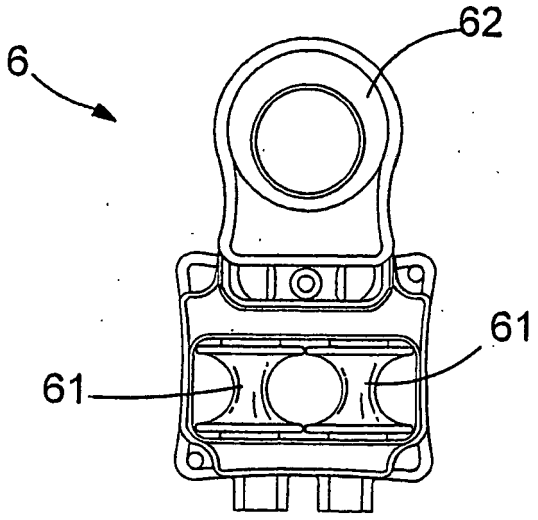


FIG.9

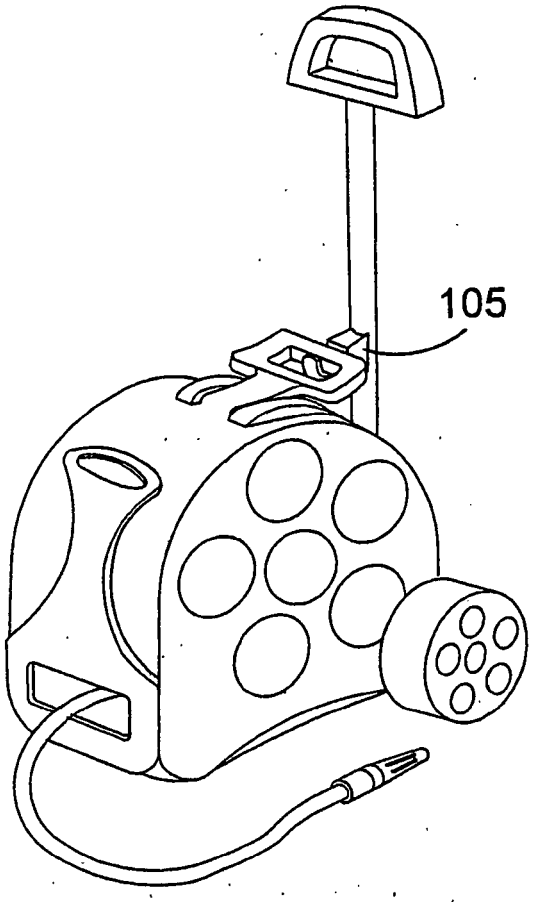


FIG.10

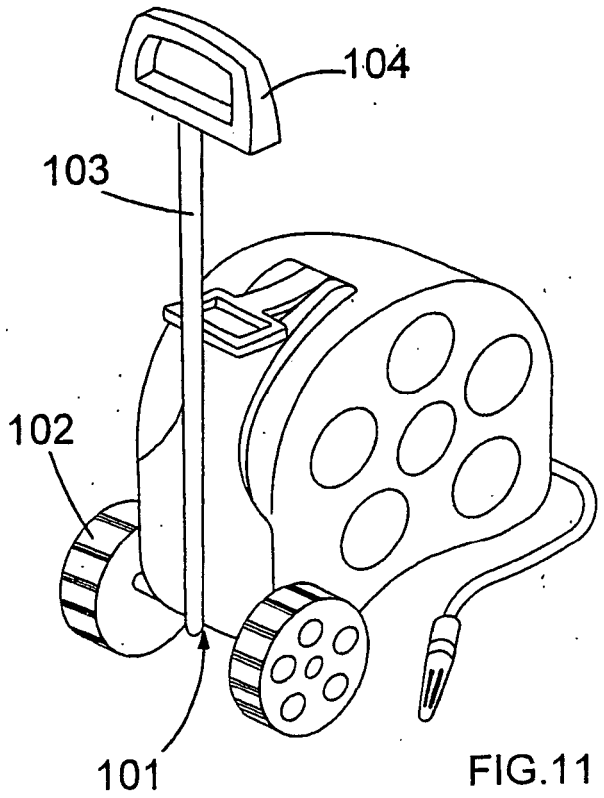
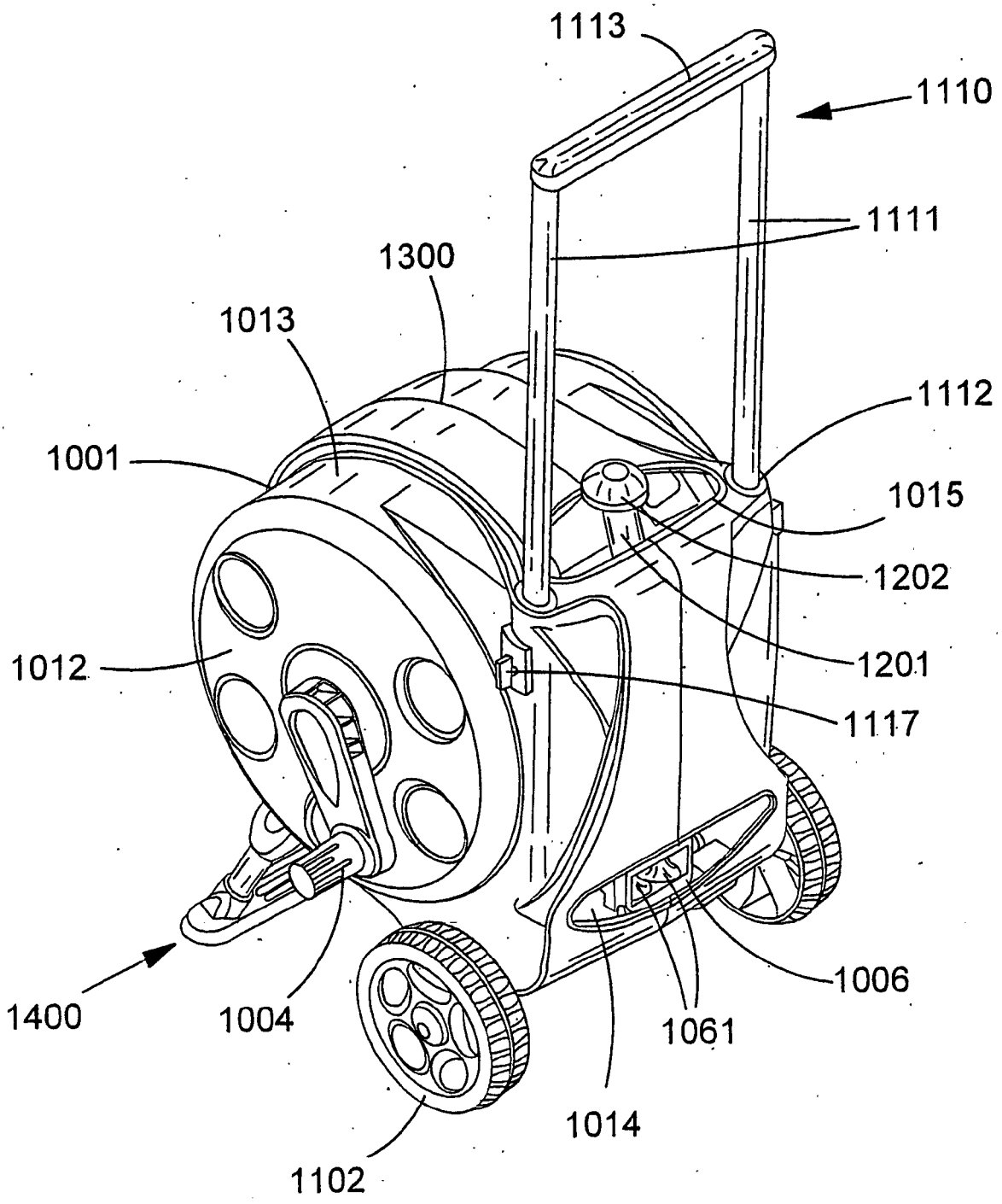


FIG.11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1012
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1006
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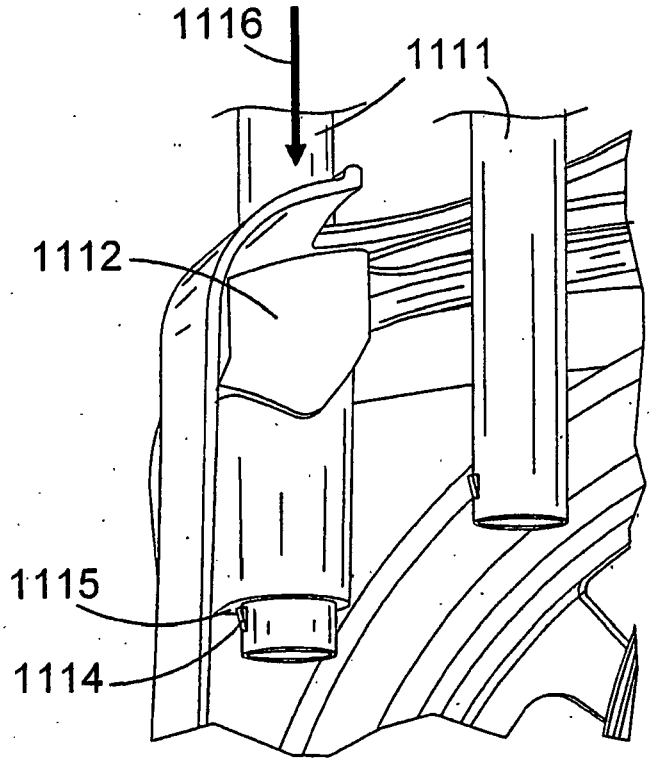
1014
1102

FIG.12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1115
1114

FIG.13

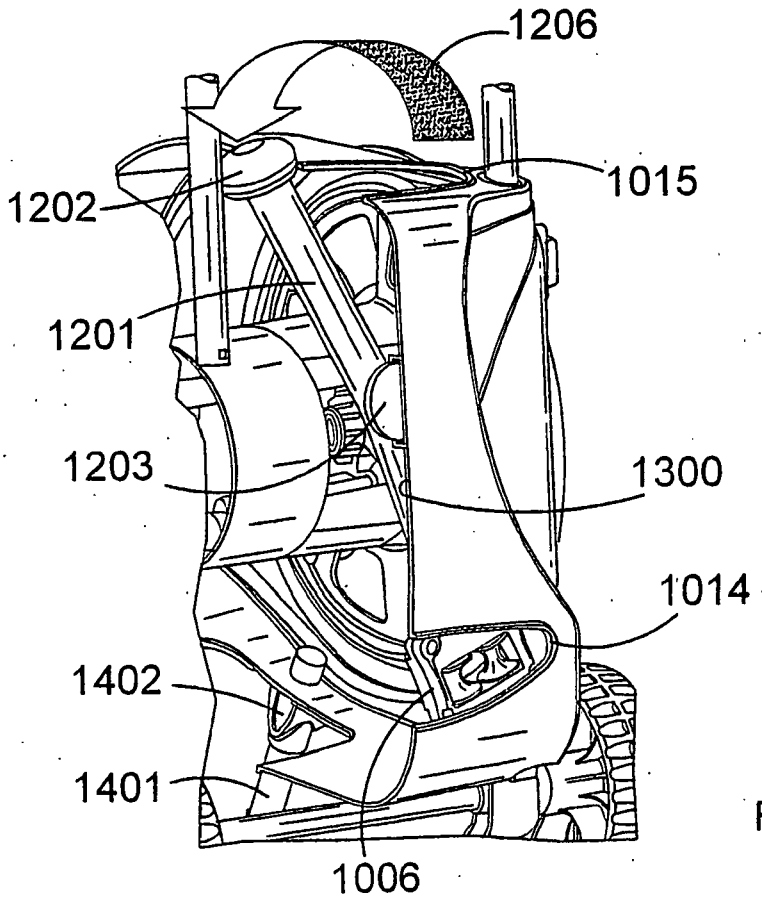
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FIG.14

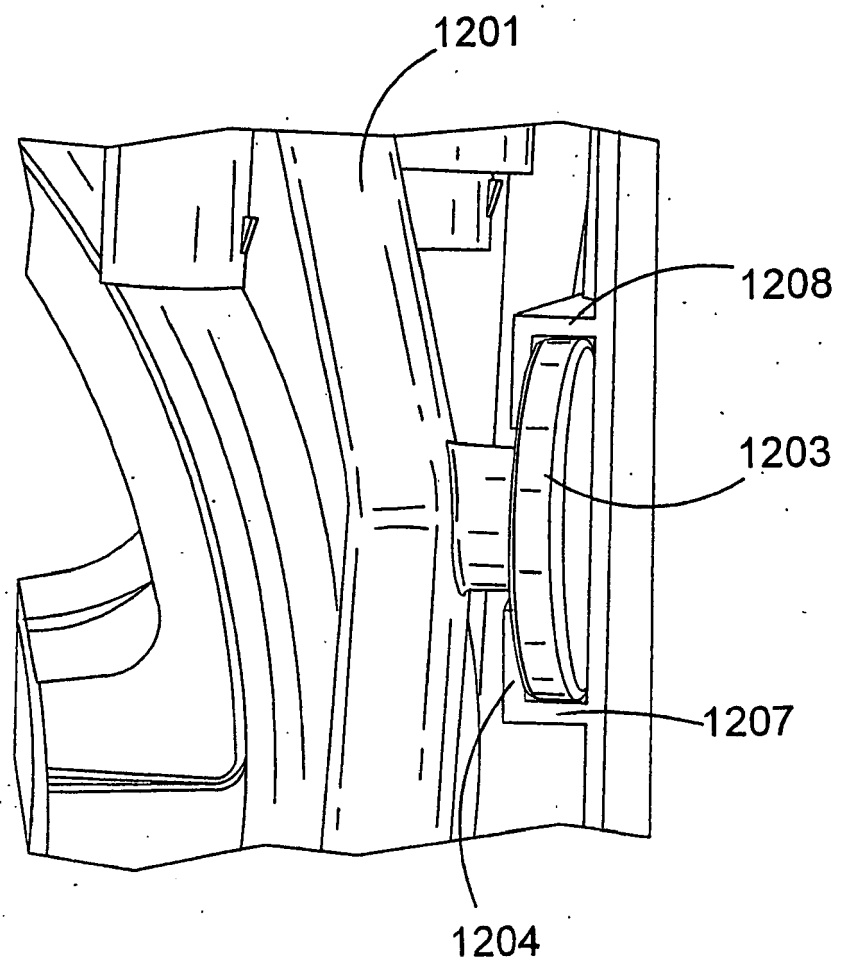

FIG.15

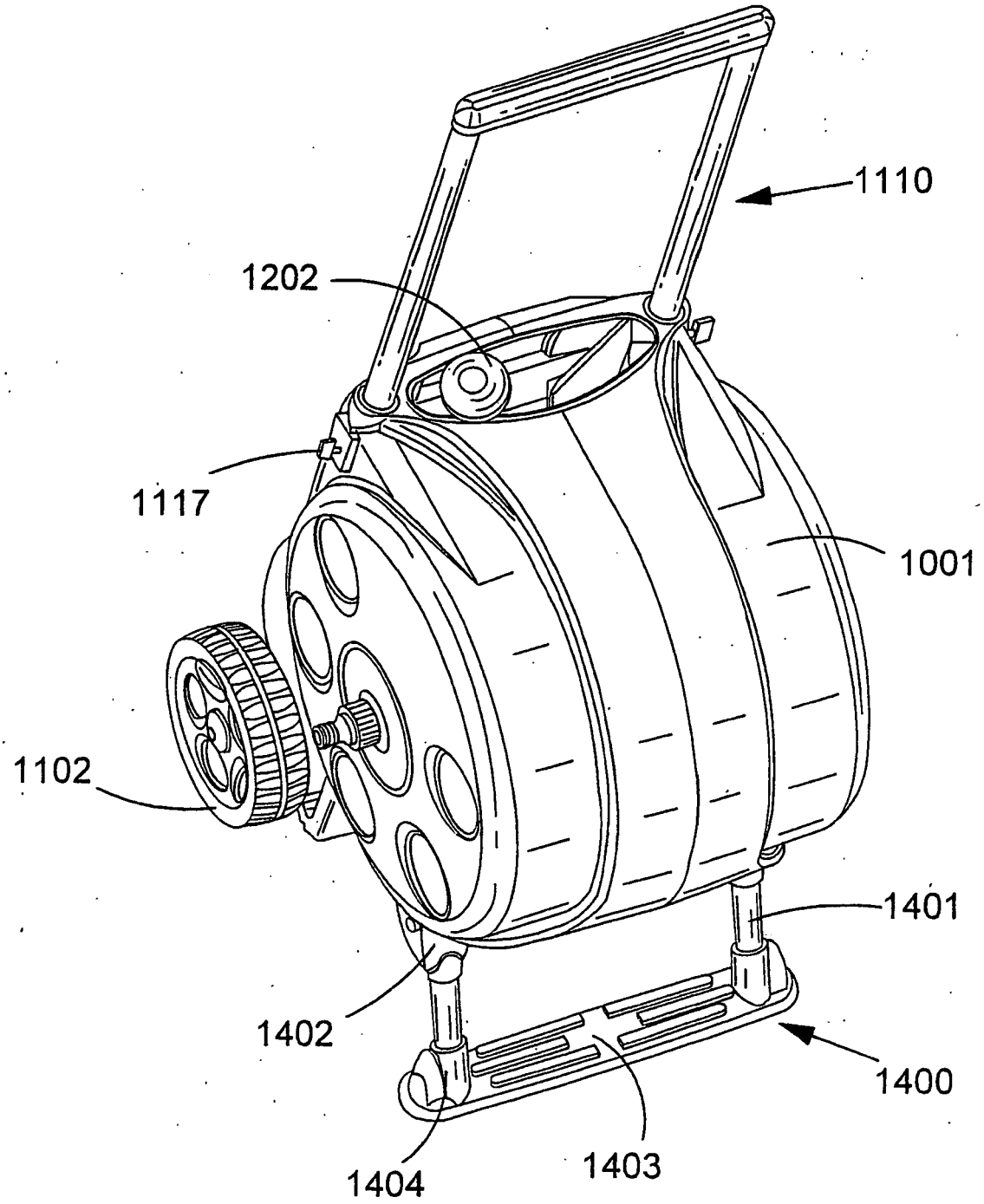

FIG.16

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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
The Hague	21 April 2010	Lemmen, René

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Place of search	Date of completion of the search	Examiner
The Hague	21 April 2010	Lemmen, René

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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons
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