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(54) **Flat water hose coiler**

Haspel für Flachwasserschläuche

Tambour enrouleur pour un tuyau d'eau plat

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a water hose coiler, more particularly to a flat water hose coiler that can be operated in both directions for releasing or coiling the water hose.

Description of the Related Art

[0002] The collection of water hose relies on the application of coilers, which enables the user to coil water hoses quicker, more convenient, and neater. Further, the coiled water hose can have a better protection to prevent the water hose from being twisted, bent, or folded improperly and keeps the original shape of the hose to maintain the life of the water hose.

[0003] More considerations have been taken into account for the circular elastic hose or the thin and flat water hose made of waterproof cloth as those in the traditional hose coilers, but none for a special shaped elastic flat water hose has been disclosed.

[0004] US 4649954 discloses a reel assembly having two axially aligned electric cord reels and two garden water hose axially aligned reels. A power source is provided and any one or all reels or any number in between can be rotated at any one time. Means are provided to connect the hose on one garden hose reel to the hose on another garden hose reel, whether one reel is turning to the other or not. Said means comprise rotatably and sealingly connected conduits inside respective axles supporting the garden hose reels, a female connection being in fluid connection with one conduit and the other conduit connecting to a male outlet.

Summary of the Invention

[0005] The primary objective of the present invention is to provide a flat water hose coiler for coiling a flat water hose more quickly and convenient, protecting the hose better and extending the life of the water hose; the coiler will accommodate the two water hoses on both sides of the water accommodating space, such that the coiling and releasing of the water hoses on both sides can be performed independently without interfering with each other; the two independent water hoses can be interconnected by means of the structures of the main shaft and the connecting shaft, such that the water passages in the water hose regardless in the coiling or releasing state can be kept smooth.

[0006] To accomplish the foregoing objective, the present invention provides a flat water hose coiler as set out in Claim 1.

Brief Description of the Drawings

[0007] The invention will now be described, by way of example, in accordance with the accompanying drawings, in which:

FIG. 1 is a diagram of the disassembled parts of the coiler of the present invention.

FIG. 2 is a perspective diagram of the main shaft of the present invention.

FIG. 3 is a perspective diagram of the connecting shaft of the present invention.

FIG. 4 is a perspective diagram of the assembled coiler of the present invention.

FIG. 5 is a cross-sectional diagram of the cross-section 5-5 and the arrow direction as indicated in FIG. 4.

FIG. 6 is a perspective diagram of the flat water hose and its connector of the present invention.

FIG. 7 is a reference diagram of an application of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0008] Please refer to FIG. 6 for the flat water hose connector structure of the present invention, which includes a coiler specially designed for a special flat shaped water hose. The water hose 10 is made of PVC materials with elastic property. A plurality of water passages 11, 12, 13 are disposed in parallel with each other inside the water hose 10, so that the cross-section of the water hose 10 is substantially in a flat shape. The middle of the outer sidewall of the water passages 11, 13 on both sides of the water hose 10 has a reinforced wing 14, 15 horizontally extended outward. The structural strength and supportability of the flat water hose 10 are stronger than those of the prior-art circular water hose, and will not be twisted, bent, or deformed easily.

[0009] The aforementioned coiler for flat water hose 10 comprises:

a middle partition 20 as shown in FIG. 1 and 5, is a hollow circular plastic plate for this embodiment, and has a central hole 21 in the center of the middle partition 20;

a main shaft 30 as shown in FIGs. 1, 2, and 5, substantially in the shape of circular axle, having one end extended externally to form a polygonal fixing plate 301, and the fixing plate 301 at its periphery has a plurality of fixing holes 302; the main shaft 30 at the central axis has a water passage 31, and the end of the water passage 31 is close-ended, and the front end is open due to the formation of the hole, therefore a sealing up stopper 32 is tightly plugged into the front end; the main shaft 30 passes through the central hole 21 of the middle partition 20, and a blocking ring 33 is protruded outward from substantially the

middle of the outer wall; a water hose connecting section 34 is protruded outward and disposed on the hose body between the blocking ring 33 and the fixing plate 301 for coupling the flat water hose 10. The water hose connecting section 34 sets the number of hollow splitters 341 depending on the number and arrangement of the water passages 11, 12, 13, and the interior of the hollow splitters 341 is connected with the water passage 31; the external open end has a protruded conical end 342; since the lengths of the hollow splitters 341 are different, the conical ends on the left and right sides are separated; the protruded conical end 342 is to increase the tightness of holding the water hose 10, and the separated conical end 342 is to prevent the protruded structure from colliding with each other and affecting the disposition of the water hose; furthermore, two outwardly protruded coupling or connecting rings 35, 36 are disposed on the hose body between the blocking ring 33 to the tail of the main shaft 30, and the wall of the shaft 30 between the two connecting rings 35, 36 has a water outlet 37; the two connecting rings 35, 36 each has a sealing up ring 351, 361;

a connecting shaft 40 as shown in FIGs. 1, 3, and 5 is disposed on the two connecting rings 35, 36 of the main shaft 30 on the side other than that of the middle partition 20; a gap exists between the inner wall of the connecting shaft 40 and the main shaft 30 with a hose body having water outlet 37, and such gap forms a water accommodating space 38; the water hose connecting section 41 is protruded from the hose body of the connecting shaft 40 for coupling the end of the flat water hose 10'; the water hose connecting section 41 sets the number of the hollow splitters 411 according to the number and arrangement of the water passages 11', 12', 13' of the water hose 10', and the interior of the hollow splitter 411 is interconnected with water accommodating space 38; the external open end has an outwardly protruded conical end 412; since the lengths of the hollow splitters 411 are different, therefore the conical ends 412 adjacent to the left and right sides are separated to prevent the protruded structure from colliding with each other and affecting the disposition of the water hose 10'; the connecting shaft 40 at its end has a polygonal fixing plate 42 extended outward, and the fixing plate 42 at its periphery has a plurality of fixing holes 421, and a blocking section 43 disposed outside the end of the main shaft 30 and tightly latched with the water blocking ring 361;

two water hose fixers 50, 50' as shown in FIGs. 1, 5 each has a water hose hole 51, 51' with a shape corresponding to the cross-section of the water hose 10, 10' for coupling the end of the water hose 10, 10'; when the water hose 10, 10' is sheathed onto the water hose connecting section 34 of the main

shaft 30 and the connecting shaft 40, the two water hose fixers 50, 50' are pressed outside the hollow splitters 341, 411 to latch the ends of the water hose 10, 10' between the hollow splitter 341, 411 and the water hose fixer 50, 50', so that the water hose 10, 10' is secured without the risk of falling apart; the bottom on each of both ends of the two water hose fixers 50, 50' has latch member 52, 52' to latch into the preset latch groove 39, 44' of the hose body of the main shaft 30 and the connecting shaft 40;

two side ring covers 65, 65' as shown in FIGs. 1 and 5 are star-shaped frame rings made of radiation decorative board, and have a polygonal groove 651, 651' in the middle for respectively latching the fixing plates 301, 42 at the ends of the main shaft and the connecting shaft and being fixed by screws 652, 652' such that the two side ring covers 65, 65' respectively link and couple to the main shaft 30 and the connecting shaft 40, and define a water accommodating space 70, 70' with the middle partition 20; a bobbin 66, 66' disposed outside the main shaft 30 and the connecting shaft 40, and the bobbin has an opening 661, 661' for passing and coupling the end of the water hose 10, 10' onto the water hose connecting section 34, 41, and a handle member 67, 67' disposed along the periphery outside the two side ring covers 65, 65' for the user to hold and turn the side ring cover 65, 65';

a main shaft balancing structure as shown in FIGs. 1, 2, and 5, has a supporting section 451 extended along an axial direction from one end of the fixing plate 301 away from the main shaft 30, and such supporting section 451 passes through the end of the connecting shaft 40 and the center of the side ring cover 65', and the other end is pivotally coupled into another side ring cover 65' such that both ends of the main shaft 30 can be supported and balanced;

two casings 60, 60' as shown in FIGs. 1 and 4 disposed on the outer side of the two side ring covers 65, 65', and its main structure is in the shape of a circular frame, and its top has a halved handle 61, 61', and its bottom has a halved footer, and the two casings are aligned and coupled to hold the middle partition 20 in between and secured by screws; the two halved handles 61, 61' constitute a handle for the user to hold, and the two halved footers 62, 62' form a stable footer; each casing 60, 60' has a water hose outlet 64, 64' for letting the open end of the two water hoses 10, 10' to pass through;

two central decorative boards 68, 68' embedded into the central exterior section of the side ring cover 65, 65' to cover and secure the screws of the main shaft 30 and the connecting shaft 40 for decoration.

[0010] By means of the aforementioned structure, when the user holds the handle member 67, 67' on either side, the side ring covers 65, 65' on the same side can be rotated, because the main shaft 30 and the connecting shaft 40 are fixed by the fixing plates 301, 42 and the side ring covers 65, 65'. Therefore the side ring covers 65, 65' respectively drive the main shaft 30 and the connecting shaft 40, and the bobbins 66, 66' also rotate accordingly to coil the water hoses 10, 10' and further store them inside the water hose accommodating space 70, 70'. The water hoses 10, 10' are neatly coiled as shown in FIG. 7, and will not be twisted, pressed, folded, or have the problem of deformation. Therefore, the water passages 11, 11', 12, 12', 13, 13' of the entire water hose are kept running smoothly. On the other hand, if the side ring covers 65, 65' are turned in the opposite direction to release the water hoses 10, 10' from the bobbins 66, 66', the user can pull the water hoses 10, 10' out to an appropriate length. Since the main shaft 30 and the connecting shaft 40 are movably coupled, therefore they can be driven by the side ring covers 65, 65' respectively and will not interfere with each other. Thus, the water hoses 10, 10' on both sides can be coiled or released independently without interfering with each other.

[0011] When the side ring cover 65 is rotated to fix the main shaft 30 into position, one end of the supporting section 451 drives two screws 454 and a washer 453 on the other side of the side ring cover 65' to turn without moving forward. Therefore, the other side ring cover 65' is not driven, but remains still.

[0012] The end of the water hose extended from the coiler can be connected to a connector 16, 17 as shown in FIGs. 6 and 7, wherein one connector can be connected to a faucet, and the other connector to a tool such as a sprinkler. The water filled from the faucet into the water passages 11, 12, 13 of the water hose 10 regardless in the extension section or the coiling section is without obstruction, therefore the water can successfully enter the water passage 31 of the main shaft 30 from the water hose connecting section 34, and fill up the water accommodating space 38 through the water outlet 37, and further into the water passages 11', 12', 13' of another water hose 10' in the water hose connecting section of the connecting shaft 40, and then is sprayed out from the sprinkler. The water in the water accommodating space 38 can be sealed by the sealing up ring 351, 361 to prevent leaking.

[0013] After disclosing the structure and application of the present invention, the inventor further describes the improvements made by the present invention below:

a. In the present invention, two water hoses are accommodated in the coiler on both sides of the water accommodating spaces 70, 70', and the coiling and releasing of water hose 10, 10' on both sides can be performed independently without interfering with each other.

b. Even the two water hoses are independent hoses, but by means of the structure arrangement of the main shaft 30 and the connecting shaft 40, their water passages 11, 11', 12, 12', 13, 13' are interconnected. The design for the coupling and movement of the main shaft 30 and the connecting shaft 40 do not affect the coiling and releasing of the two water hoses independently.

c. The water hoses 10, 10' are coiled and stored neatly into the coiler, and will not be twisted, pressed, folded, or have the problem of deformation. Therefore, the water passages 11, 11', 12, 12', 13, 13' in the entire hose regardless in the extension section or coiling section can be kept running smoothly.

d. The present invention provides a simple and easy operation by simply rotating the handle member 67, 67' to drive and rotate the side ring covers 65, 65' in order to coil or release the water hose 10, 10'. The user can also pull the water hose 10, 10' to release them for use.

[0014] While the invention has been described by way of example and in terms of a preferred embodiment, it is to be understood that the invention is not limited thereto. To the contrary, it is intended to cover various modifications and similar arrangements and procedures, and the scope of the appended claims therefore should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements and procedures.

Claims

1. A flat water hose coiler, comprising:

a middle partition (20), at its center having a central hole (21);
a main shaft (30) with a hose body, substantially in cylindrical shape, passing through the central hole (21) of the middle partition (20), and in the direction of its central axis having water passage (31) being closed on two ends, the end proximate the hose body having a water hose connecting section (34) connected to the water passage protruded outward for coupling to a flat hose (10); another end of the hose body proximate the main shaft having two coupling rings (35, 36) protruded outward, and a water outlet (37) disposed on the hose body of the main shaft between the two coupling rings;
a connecting shaft (40), sheathing on the two coupling rings of the main shaft and disposed on another side of the middle partition; the inner wall of the connecting shaft and the main shaft having a water accommodating space (38) be-

- tween the water outlet of the hose body;
a water hose connecting section (41) connected to the water accommodating space protruded outward from the diameter of the connecting shaft for coupling an end of another flat water hose (10); two water hose fixers (50, 50') in their interior having a water hose hole (51, 51') responsive to the shape of the cross-section of the water hose for passing the end of the water hose into the water hose hole, and when the water hose being coupled to the water hose connecting section of the main shaft and the connecting shaft, the two water hose fixers pressing tightly at the water hose connecting section to fix the end of the water hose between the water hose connecting section and the water fixer;
two side ring covers (65, 65') with its center individually coupled to the outer ends of the main shaft and the connecting shaft; the two side ring covers having a bobbin (66, 66') responsive to the external axial direction of the main shaft and the connecting shaft, and the bobbin having an opening (661, 661') for passing and coupling an end of the water hoses to the water hose connecting section, and the hose body being coiled outside the bobbin.
2. The flat water hose coiler of claim 1, wherein said flat water hose (10) in its interior comprise a plurality of parallel water passages (11, 12, 13) such that the cross-section of the water hose is substantially in a flat shape; said water passage on each of both sides of the water hose has a horizontally extended outward reinforced wing (14, 15) at the external sidewall of the water passage.
3. The flat water hose coiler of claim 2, wherein said water hose connecting section (34) of the main shaft (30) has a number of hollow splitters (341) depending on the number and arrangement of the water passages, and the interior of the hollow splitter is connected to the water passage (31) inside the main shaft; said hollow splitter at its external open end has a protruded conical end (342), and the different lengths of the hollow splitters separate the conical ends proximate the left and right sides.
4. The flat water hose coiler of claim 2, wherein said water hose connecting section (41) of the connecting shaft (40) has a number of hollow splitters (411) depending on the number and arrangement of the water passages, and the interior of the hollow splitter is connected to the water accommodating space (38); said hollow splitter at its external open end has a protruded conical end (412), and the different lengths of the hollow splitters separate the conical ends proximate the left and right sides.
5. The flat water hose coiler of claim 1, further comprising two housings (60, 60') disposed outside the two side ring covers (65, 65') wherein said two housings are substantially in the shape of a circular frame, each having a halved handle (61, 61') at the top of the top surface of the housing, and a halved footer (62, 62'); two halved handles constitute a handle for holding, and two halved footers constitute a stable footer; said housing has a water hose outlet (64, 64') for receiving the open end of the two water hoses.
6. The flat water hose coiler of claim 5, wherein said flat water hose (10) has two open ends extended to the outside of the flat water hose coiler and respectively mounted with a connector (16) connectible to a faucet and a connector (17) connectible to a sprinkler.
7. The flat water hose coiler of claim 1, wherein said two side ring covers (65, 65') at their outer sides have a gripping member (67, 67').

Patentansprüche

1. Haspel für einen flachen Wasserschlauch, welcher beinhaltet:

eine mittlere Trennwand (20) welche in der Mitte ein zentrales Loch (21) besitzt;
einen Hauptschaft (30) mit einem Schlauchkörper mit einer im Wesentlichen zylindrischen Form, welcher durch das zentrale Loch (21) in der mittleren Trennwand (20) hindurch verläuft und welcher in der Richtung seiner zentralen Achse einen Wasserdurchgang (31) aufweist, welcher an seinen beiden Enden verschlossen ist, wobei das nahe am Schlauchkörper liegende Ende einen Anschlussabschnitt für den Wasserschlauch (34) besitzt, welcher an den nach außen hervorragenden, zum Zwecke des Anschlusses an einen Flachschauch (10) vorgesehenen Wasserdurchlauf angeschlossen ist; ein weiteres nahe am Hauptschaft liegendes Ende des Schlauchkörpers, welches zwei nach außen hervorragende Kupplungsringe (35, 36) besitzt, und einen Wasserausfluss (37), welcher auf dem Schlauchkörper des Hauptschaftes zwischen den beiden Kupplungsringen angebracht ist;
einen Verbindungsschaft (40), welcher die beiden Kupplungsringe des Hauptschaftes verkleidet und welcher auf einer anderen Seite der mittleren Trennwand angeordnet ist; wobei die innere Wand des Verbindungsschaftes und der Hauptschaft einen Wasseraufnahmezweischenraum (38) zwischen dem Wasserausfluss des Schlauchkörpers bilden;

- einen mit dem Wasseraufnahmezweischenraum verbundenen Anschlussabschnitt für den Wasserschlauch (41), welcher von dem Durchmesser des Verbindungsschaftes zum Zwecke des Ankuppelns eines Endes eines weiteren flachen Wasserschlauches (10) nach außen hervorragt; zwei Fixiervorrichtungen für Wasserschläuche (50, 50'), welche in ihrem Inneren ein Loch für den Wasserschlauch (51, 51') besitzen, welches der jeweiligen Querschnittsform des Wasserschlauches entspricht, um das Ende des Wasserschlauches in das Loch für den Wasserschlauch einzuführen, und, wenn der Wasserschlauch mit dem Anschlussabschnitt für den Wasserschlauch an dem Hauptschaft und an dem Verbindungsschaft verbunden ist, drücken die beiden Fixiervorrichtungen für den Wasserschlauch fest gegen den Anschlussabschnitt für den Wasserschlauch, um das Endstück des Wasserschlauches zwischen dem Anschlussabschnitt für den Wasserschlauch und der Wasserfixiervorrichtung festzuklemmen; zwei Seitenringabdeckungen (65, 65'), deren mittleres Teil individuell an den äußeren Enden des Hauptschaftes und des Verbindungsschaftes angekuppelt ist; wobei die beiden Seitenringabdeckungen eine Spule (66, 66') aufweisen, welche der externen axialen Richtung des Hauptschaftes und des Verbindungsschaftes entspricht, und wobei die Spule eine Öffnung (661, 661') aufweist zum Durchführen eines der Enden der Wasserschläuche und zum Ankuppeln desselben an den Anschlussabschnitt für den Wasserschlauch, wobei der Schlauchkörper an der Außenseite der Spule aufgewickelt wird.
2. Haspel für einen flachen Wasserschlauch gemäß Anspruch 1, bei welcher der flache Wasserschlauch (10) in seinem Innern eine Vielzahl von parallelen Wasserdurchgängen (11, 12, 13) enthält, derart dass der Querschnitt des Wasserschlauches im Wesentlichen flach geformt ist; wobei der Wasserdurchgang an einer jeden der beiden Seiten des Wasserschlauches einen verstärkten, horizontal nach außen verlängerten Flügel (14, 15) an der externen Seitenwand des Wasserdurchganges aufweist.
3. Haspel für einen flachen Wasserschlauch gemäß Anspruch 2, bei welcher der Anschlussabschnitt für den Wasserschlauch (34) des Hauptschaftes (30) eine Anzahl von hohlen Verteilern (341) besitzt, abhängig von der Anzahl und der Anordnung der Wasserdurchgänge, und bei welcher das Innere des hohlen Verteilers mit dem Wasserdurchgang (31) innerhalb des Hauptschaftes verbunden ist; während der hohle Verteiler an seinem externen offenen Ende ein herausragendes konisches Endstück (342), besitzt, und die verschiedenen Längen der hohlen Verteiler die konischen Endstücke in der Nähe der linken und der rechten Seite trennen.
4. Haspel für einen flachen Wasserschlauch gemäß Anspruch 2, bei welcher der Anschlussabschnitt für den Wasserschlauch (41) des Verbindungsschaftes (40) eine Anzahl von hohlen Verteilern (411) besitzt, abhängig von der Anzahl und der Anordnung der Wasserdurchgänge, und bei welcher das Innere des hohlen Verteilers mit dem Wasseraufnahmezweischenraum (38) verbunden ist; während der hohle Verteiler an seinem externen offenen Ende ein herausragendes konisches Endstück (412) besitzt, und die verschiedenen Längen der hohlen Verteiler die konischen Endstücke in der Nähe der linken und der rechten Seite trennen.
5. Haspel für einen flachen Wasserschlauch gemäß Anspruch 1, welche des Weiteren zwei Gehäuse (60, 60') umfasst, welche außerhalb der beiden Seitenringabdeckungen (65, 65') angeordnet sind, wobei die zwei Gehäuse im Wesentlichen die Form eines runden Rahmens aufweisen und wobei ein jedes Gehäuse eine Griffhälfte (61, 61') auf der Oberseite der oberen Gehäusefläche besitzt sowie eine Fußhälfte (62, 62') aufweist; wobei die beiden Griffhälften einen Griff zum Halten bilden und die beiden Fußhälften einen stabilen Fuß ergeben; wobei das Gehäuse einen Auslass für den Wasserschlauch (64, 64') besitzt, zur Aufnahme des offenen Endes der beiden Wasserschläuche.
6. Haspel für einen flachen Wasserschlauch gemäß Anspruch 5, bei welcher der flache Wasserschlauch (10) zwei offene Enden besitzt, welche sich nach der Außenseite der Haspel für einen flachen Wasserschlauch hin erstreckenden, und welche jeweils mit einem Verbindungsstück (16) ausgestattet sind, welches mit einem Wasserhahn verbunden werden kann, und mit einem Verbindungsglied (17), welches letzteres mit einem Sprinkler verbunden werden kann.
7. Haspel für einen flachen Wasserschlauch gemäß Anspruch 1, bei welcher die zwei Seitenringabdeckungen (65, 65') an ihren Außenseiten mit einem einspannenden Element (67, 67') ausgestattet sind.

Revendications

1. Tambour enrouleur pour tuyau d'eau plat, comprenant:
- une séparation de milieu (20), ayant à son centre un trou central (21);
- un arbre principal (30) avec un corps de tuyau,

pratiquement sous forme cylindrique, passant à travers le trou central (21) de la séparation de milieu (20), et possédant dans la direction de son axe central un passage d'eau (31) qui est fermé aux deux extrémités, l'extrémité à proximité du corps de tuyau possédant une section de liaison de tuyau d'eau (34) reliée au passage d'eau débordant vers l'extérieur pour un couplage avec un tuyau plat (10); l'autre extrémité du corps de tuyau à proximité de l'arbre principal possédant deux anneaux de couplage (35, 36) débordant vers l'extérieur, et un orifice de sortie d'eau (37) disposé sur le corps de tuyau de l'arbre principal entre les deux anneaux de couplage;

un arbre de liaison (40), formant une gaine sur les deux anneaux de couplage de l'arbre principal et disposé de l'autre côté de la séparation de milieu; la paroi interne de l'arbre de liaison et de l'arbre principal présentant un espace recevant l'eau (38) entre l'orifice de sortie d'eau du corps de tuyau;

une section de liaison de tuyau d'eau (41) reliée à l'espace recevant l'eau débordant vers l'extérieur à partir du diamètre de l'arbre de liaison pour un couplage avec une extrémité d'un autre tuyau d'eau plat (10);

deux fixateurs de tuyau d'eau (50, 50') ayant à l'intérieur un trou de tuyau d'eau (51, 51') correspondant à la forme de la section transversale du tuyau d'eau pour passer l'extrémité du tuyau d'eau dans le trou de tuyau d'eau et, lorsque le tuyau d'eau est couplé à la section de liaison de tuyau d'eau de l'arbre principal et de l'arbre de liaison, les deux fixateurs de tuyau d'eau pressant fermement au niveau de la section de liaison de tuyau d'eau pour fixer l'extrémité du tuyau d'eau entre la section de liaison de tuyau d'eau et le fixateur de tuyau d'eau;

deux couvercles en anneau latéraux (65, 65') avec leur centre couplé individuellement avec les extrémités externes de l'arbre principal et de l'arbre de liaison; les deux couvercles en anneau latéraux ayant une bobine (66, 66') correspondant à la direction axiale externe de l'arbre principal et de l'arbre de liaison et la bobine possédant une ouverture (661, 661') pour passer et coupler une extrémité des tuyaux d'eau avec la section de liaison de tuyau d'eau et le corps de tuyau étant enroulé à l'extérieur de la bobine.

2. Tambour enrouleur pour tuyau d'eau plat suivant la revendication 1, dans lequel ledit tuyau d'eau plat (10) comprend à l'intérieur une pluralité de passages d'eau parallèles (11, 12, 13) de sorte que la section transversale du tuyau d'eau est pratiquement sous une forme plate; ledit passage d'eau sur chacun des deux côtés du tuyau d'eau présente une aile renfor-

cée vers l'extérieur s'étendant horizontalement (14, 15) au niveau de la paroi latérale externe du passage d'eau.

3. Tambour enrouleur pour tuyau d'eau plat suivant la revendication 2, dans lequel ladite section de liaison de tuyau d'eau (34) de l'arbre principal (30) possède un certain nombre de diviseurs creux (341) dépendant du nombre et de l'arrangement des passages d'eau et l'intérieur du diviseur creux est relié au passage d'eau (31) à l'intérieur de l'arbre principal; ledit diviseur creux au niveau de son extrémité ouverte externe possède une extrémité conique qui déborde (342) et les longueurs différentes des diviseurs creux séparent les extrémités coniques à proximité des côtés gauche et droit.
4. Tambour enrouleur pour tuyau d'eau plat suivant la revendication 2, dans lequel ladite section de liaison de tuyau d'eau (41) de l'arbre de liaison (40) possède un certain nombre de diviseurs creux (411) dépendant du nombre et de l'arrangement des passages d'eau et l'intérieur du diviseur creux est relié à l'espace recevant l'eau (38); ledit diviseur creux au niveau de son extrémité ouverte externe possède une extrémité conique qui déborde (412) et les longueurs différentes des diviseurs creux séparent les extrémités coniques à proximité des côtés gauche et droit.
5. Tambour enrouleur pour tuyau d'eau plat suivant la revendication 1, comprenant en outre deux boîtiers (60, 60') disposés à l'extérieur des deux couvercles en anneau latéraux (65, 65') où lesdits deux boîtiers sont pratiquement sous la forme d'un cadre circulaire, chacun ayant une poignée coupée en deux (61, 61') en haut de la surface supérieure du boîtier et un pied coupé en deux (62, 62'); deux poignées coupées en deux constituent une poignée pour tenir et deux pieds coupés en deux constituent un pied stable; ledit boîtier possède un orifice de sortie de tuyau d'eau (64, 64') pour recevoir l'extrémité ouverte des deux tuyaux d'eau.
6. Tambour enrouleur pour tuyau d'eau plat suivant la revendication 5, dans lequel ledit tuyau d'eau plat (10) possède deux extrémités ouvertes s'étendant vers l'extérieur du tambour enrouleur pour tuyau d'eau plat et montées respectivement avec un élément de liaison (16) pouvant être relié à un robinet et un élément de liaison (17) pouvant être relié à un arroseur.
7. Tambour enrouleur pour tuyau d'eau plat suivant la revendication 1, dans lequel lesdites deux couvercles en anneau latéraux (65, 65') possèdent au niveau de leurs côtés externes un élément de serrage (67, 67').

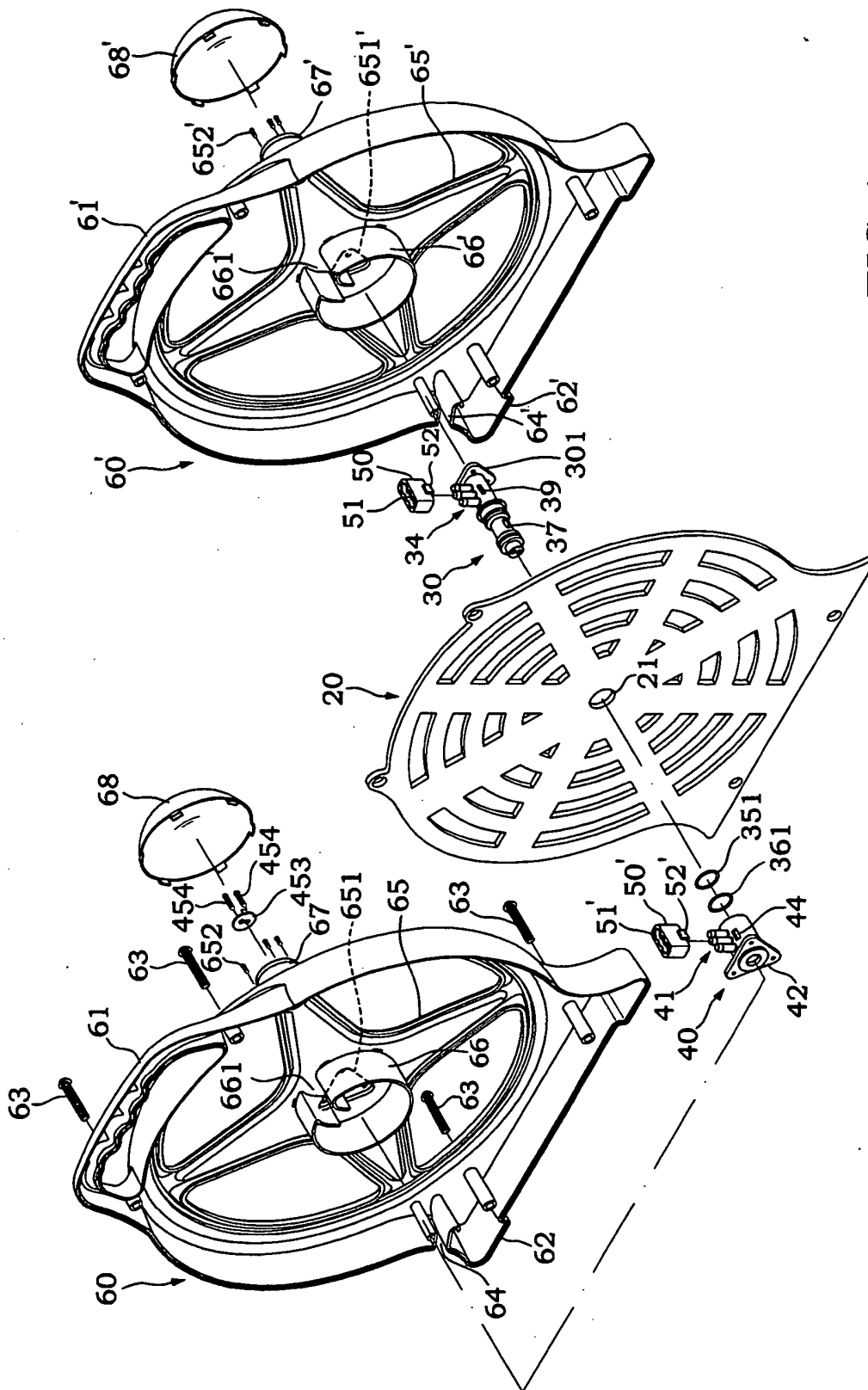


FIG.1

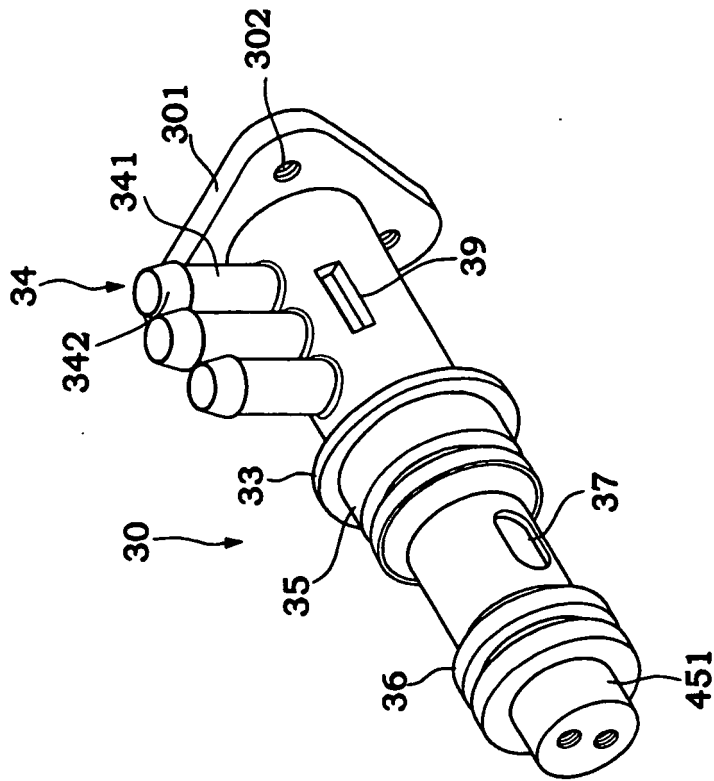


FIG. 2

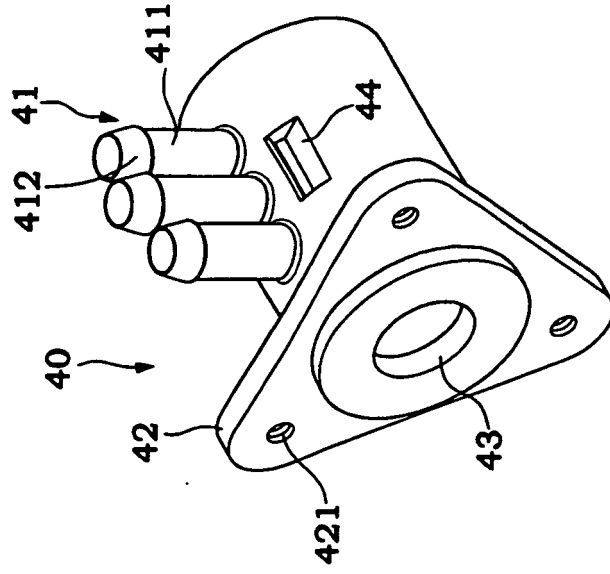


FIG. 3

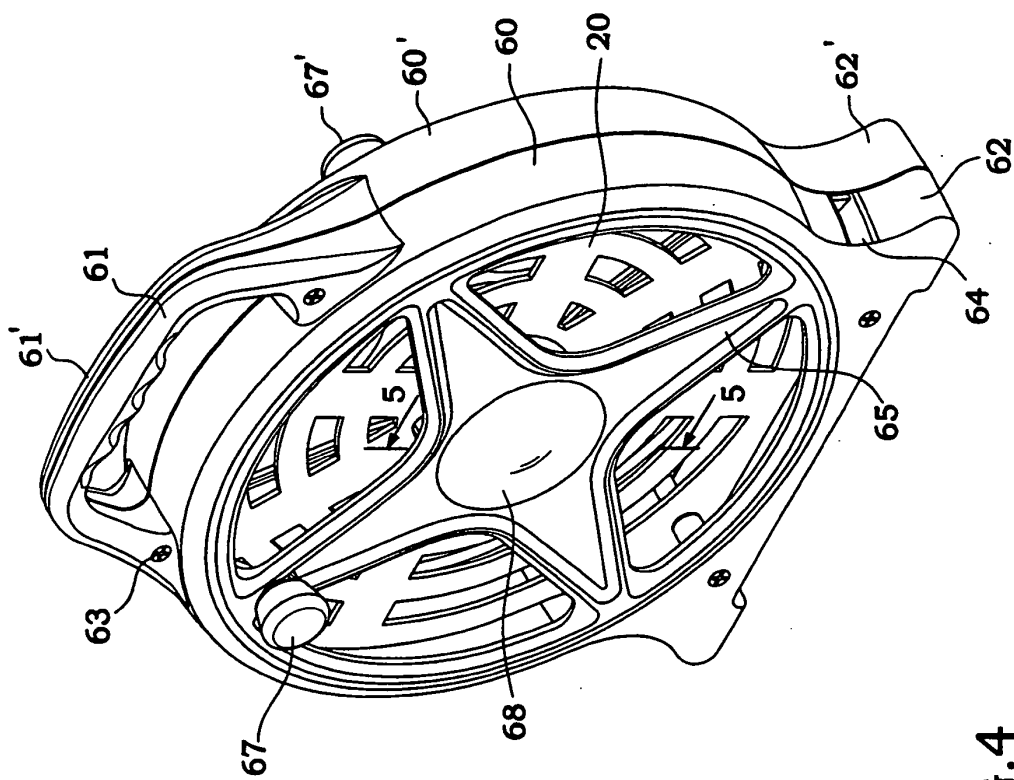


FIG.4

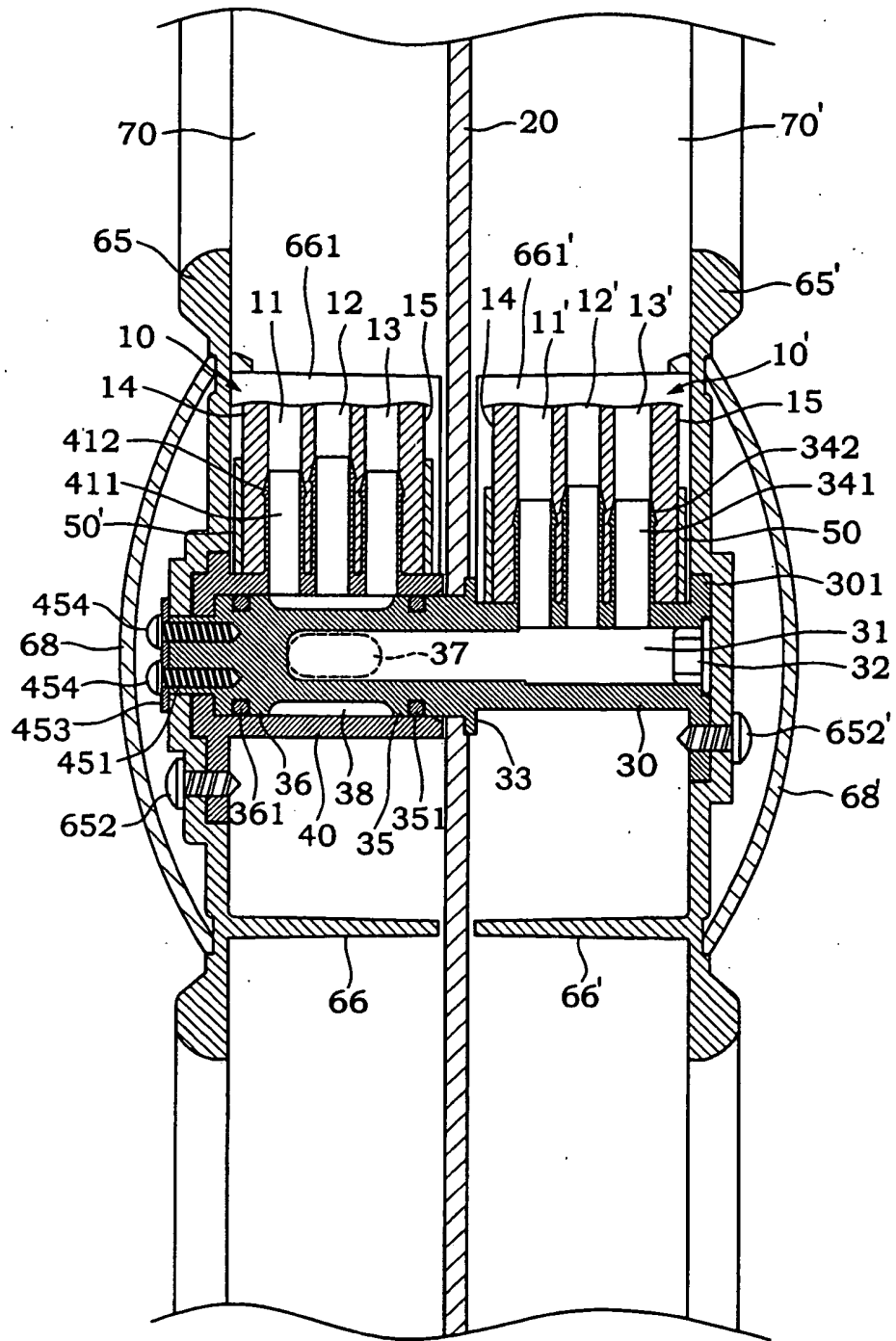


FIG.5

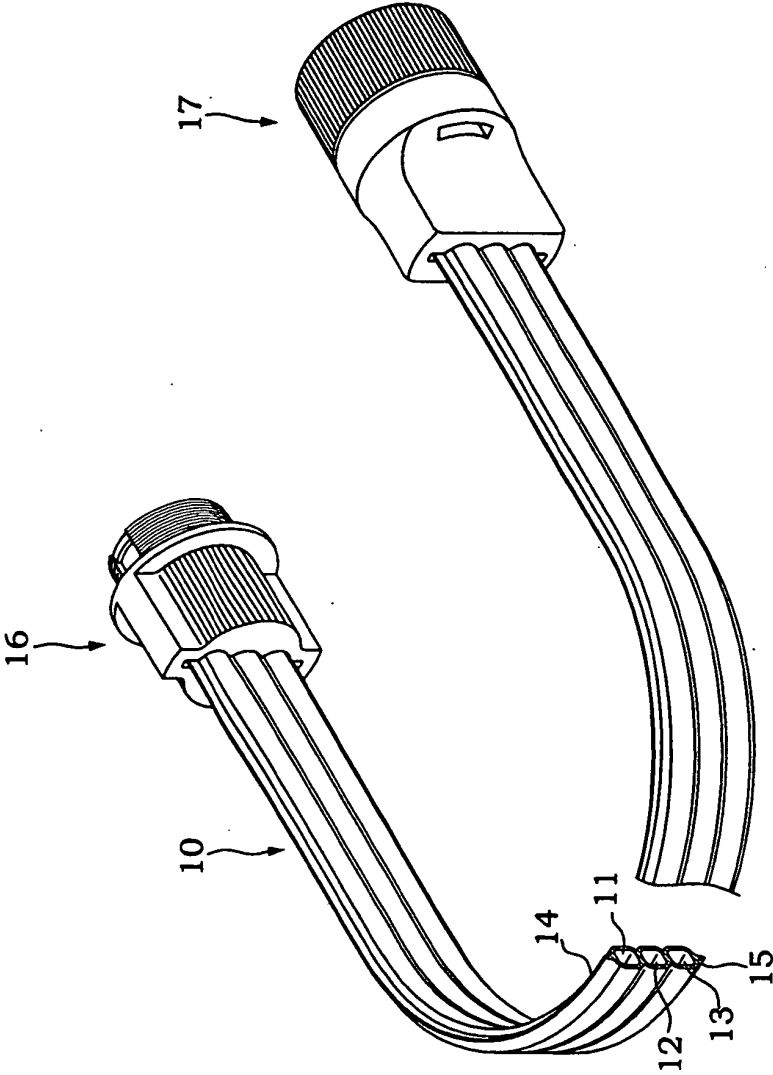


FIG. 6

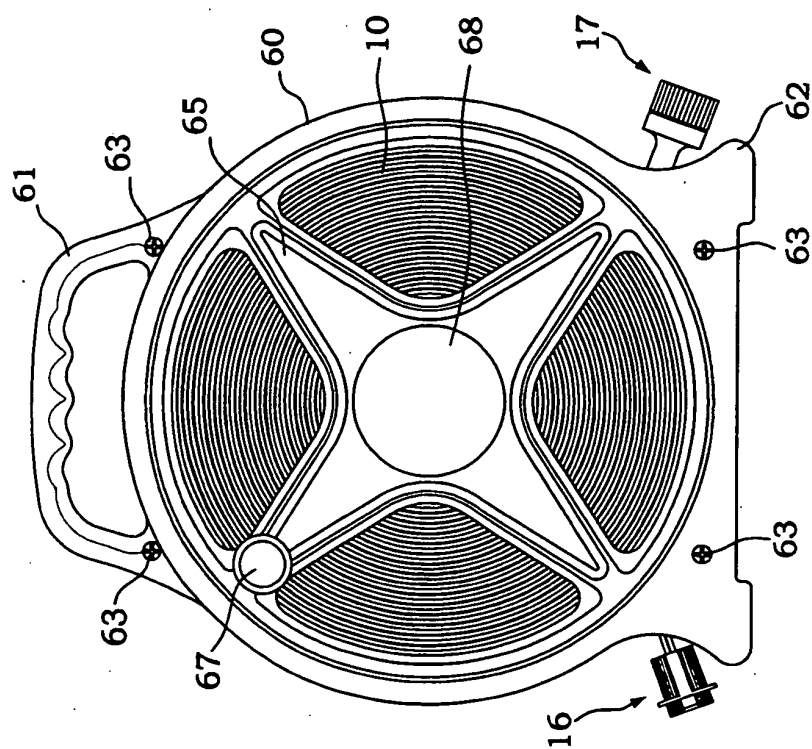


FIG. 7