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(54) **VERTICAL PIVOT FOR A SWIVEL HOSE WAGON**

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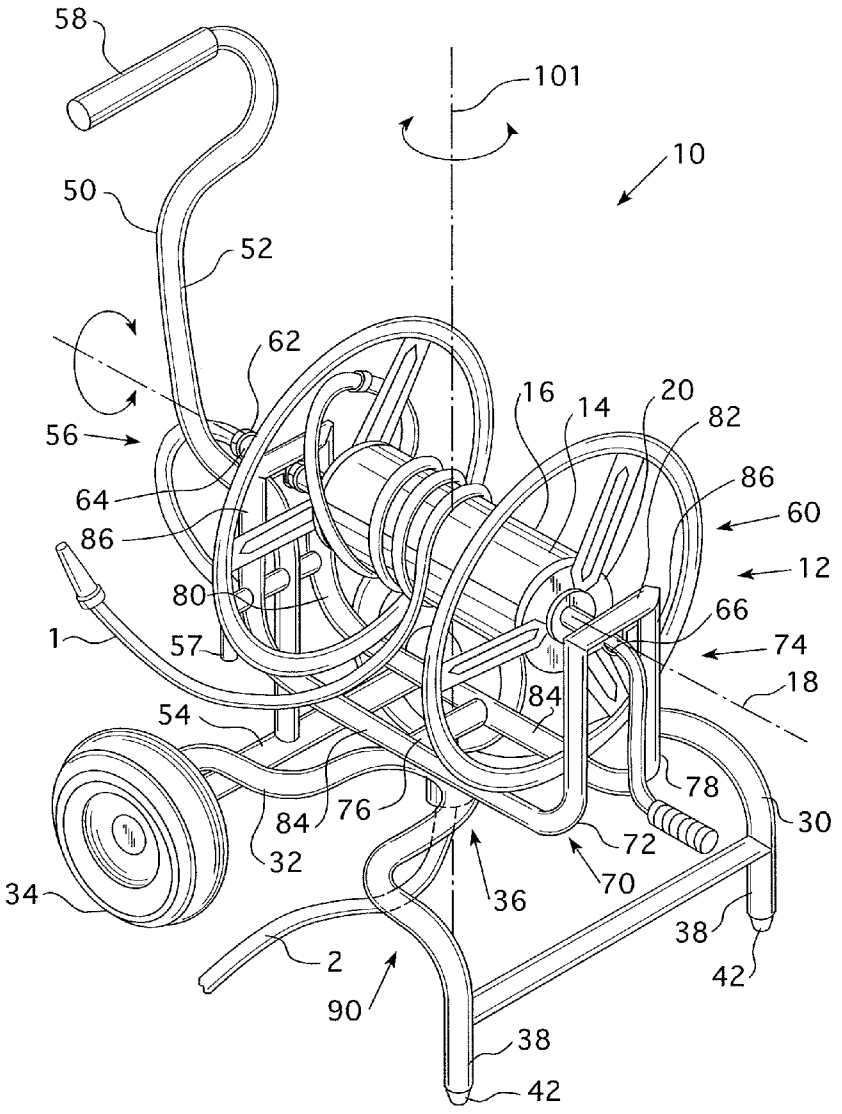
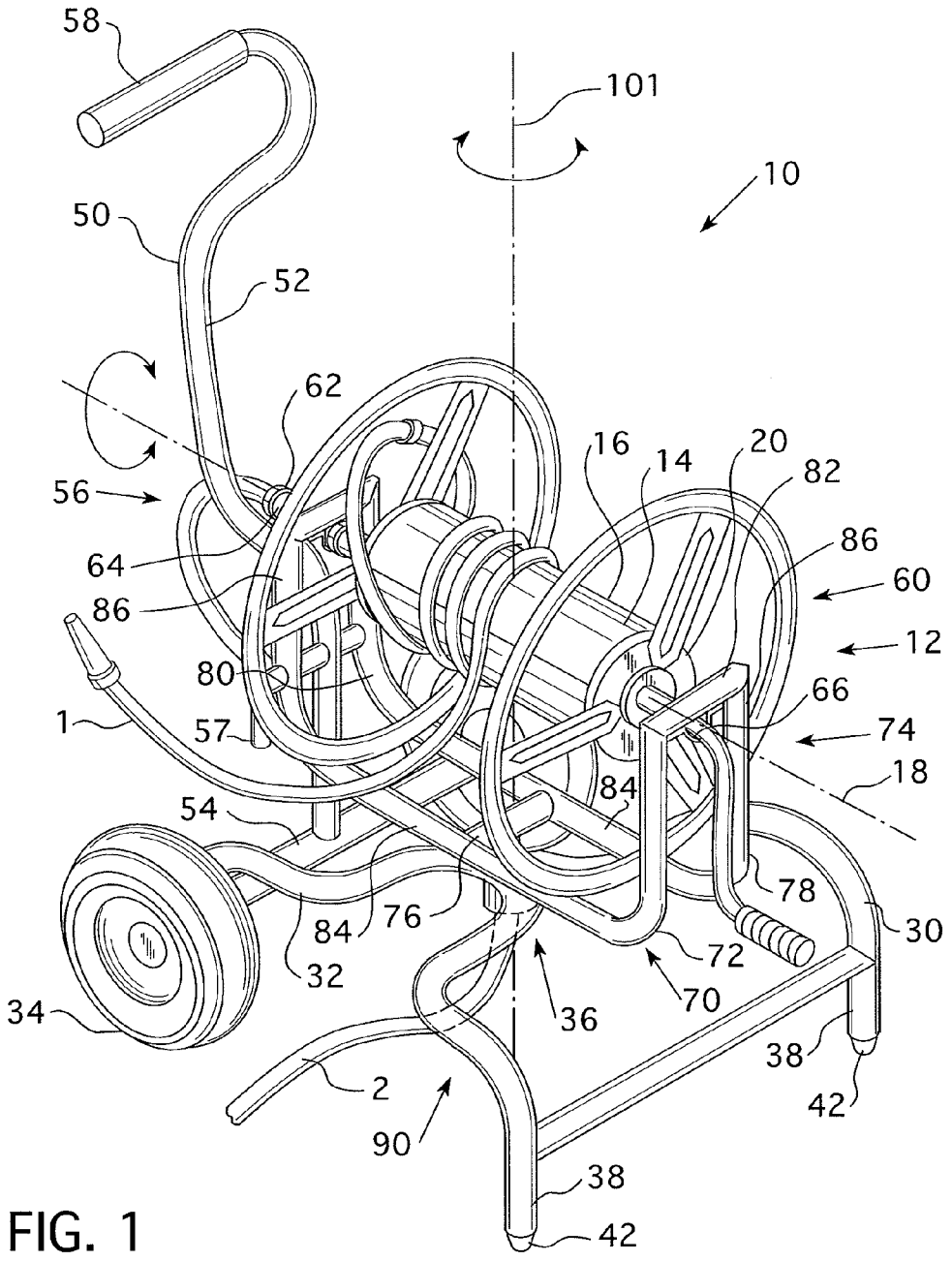
(52) **U.S. Cl.** **137/899**

(57) **ABSTRACT**

A hose wagon wherein the hose wagon frame assembly is structured to rotatably support a hose reel so that the hose reel may rotate freely about a generally vertical axis and a generally horizontal axis. The vertical axis is defined by a swivel base assembly having a cup in which a vertical support stem is rotatably disposed. The cup is coupled to a lower wagon frame assembly and the support stem is coupled to an upper hose reel frame assembly.

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101
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50
52
62
16
14
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82
56
86
64
60
86
12
80
66
1
57
74
18
84
54
78
84
76
30
72
32
70
34
36
38
2
42
90
38
42

FIG. 1

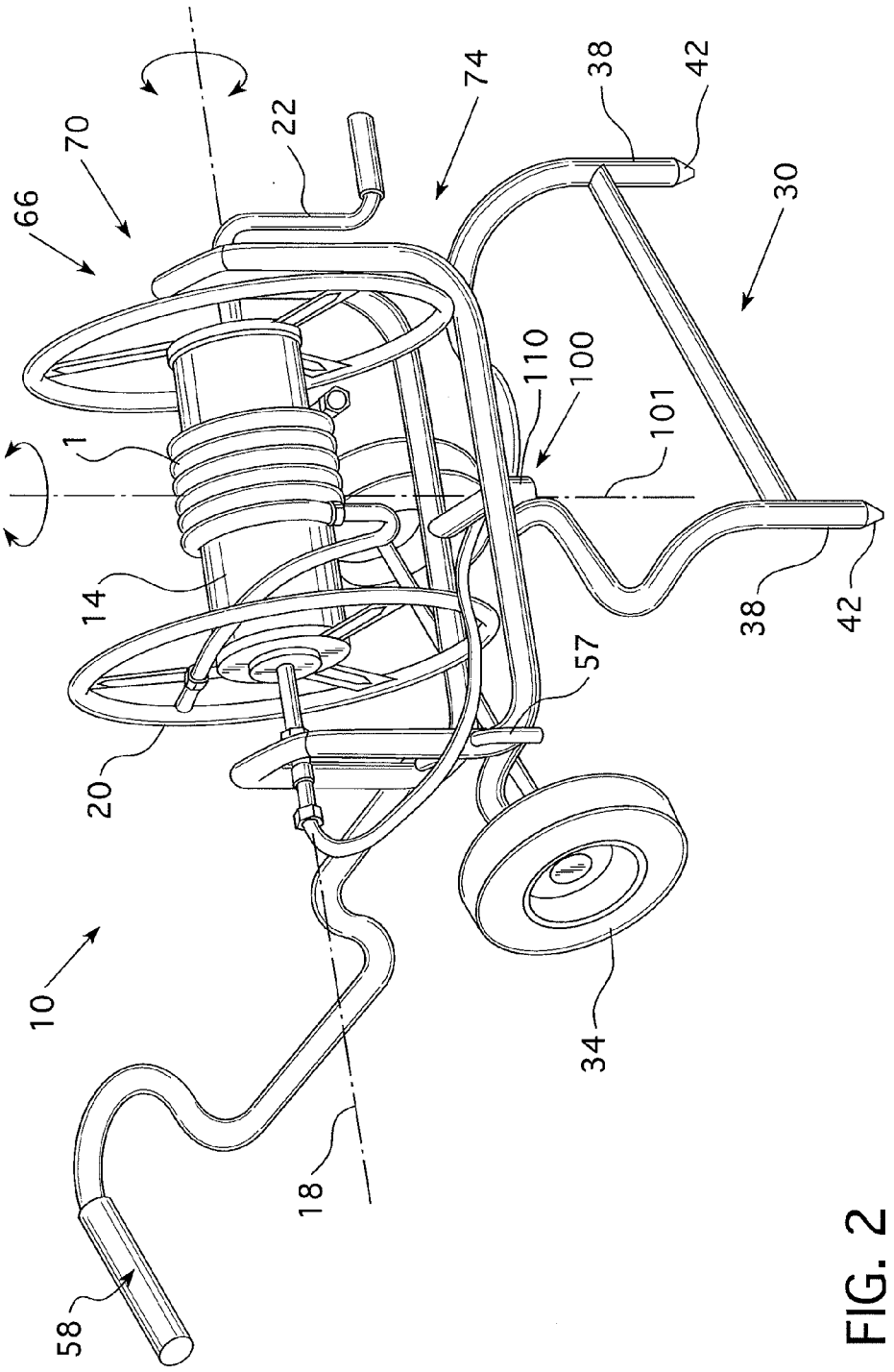
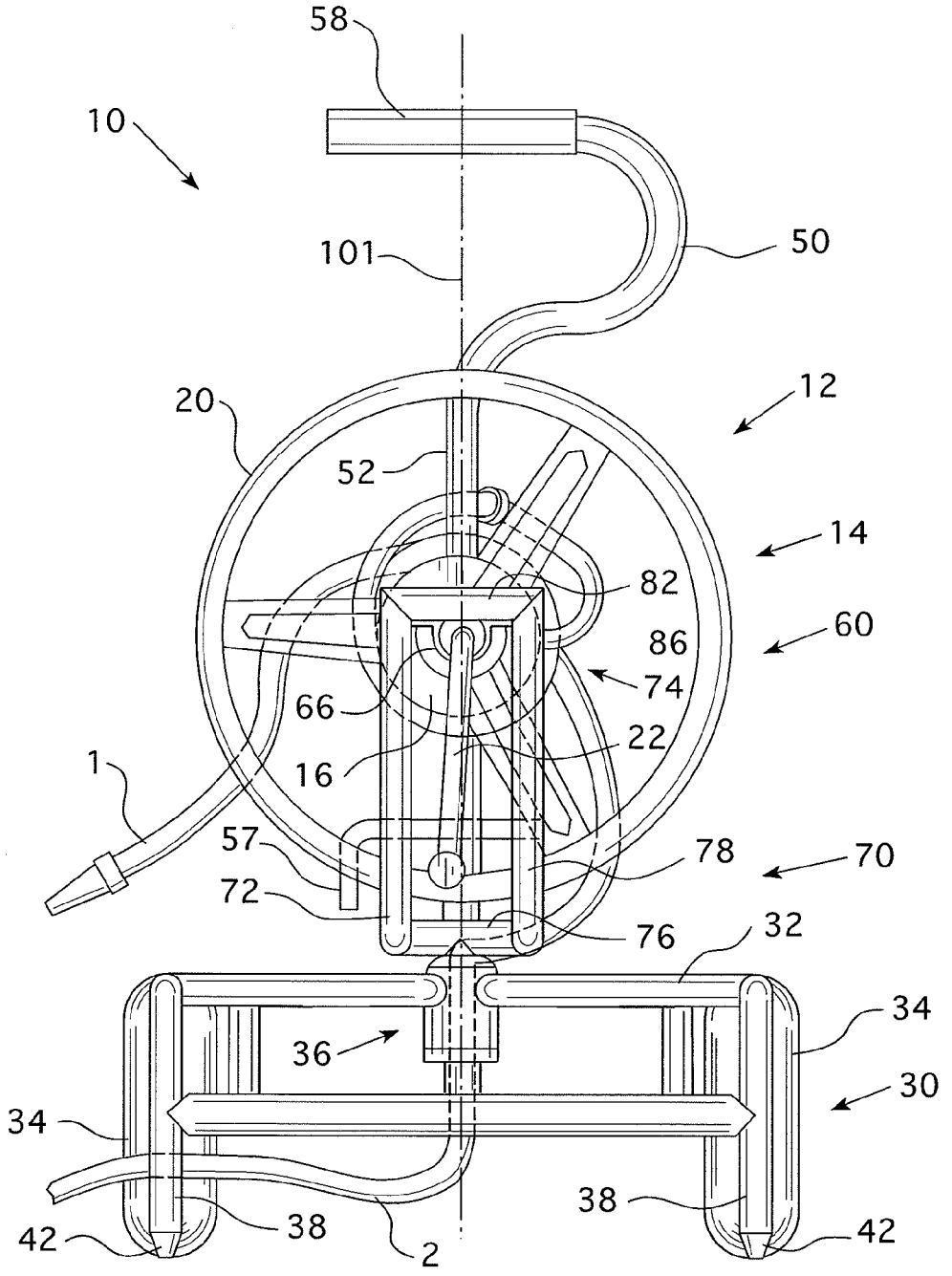


FIG. 2


58
10
101
50
12
20
52
14
82
60
86
74
66
22
16
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57
78
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72
76
32
34
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30
34
38
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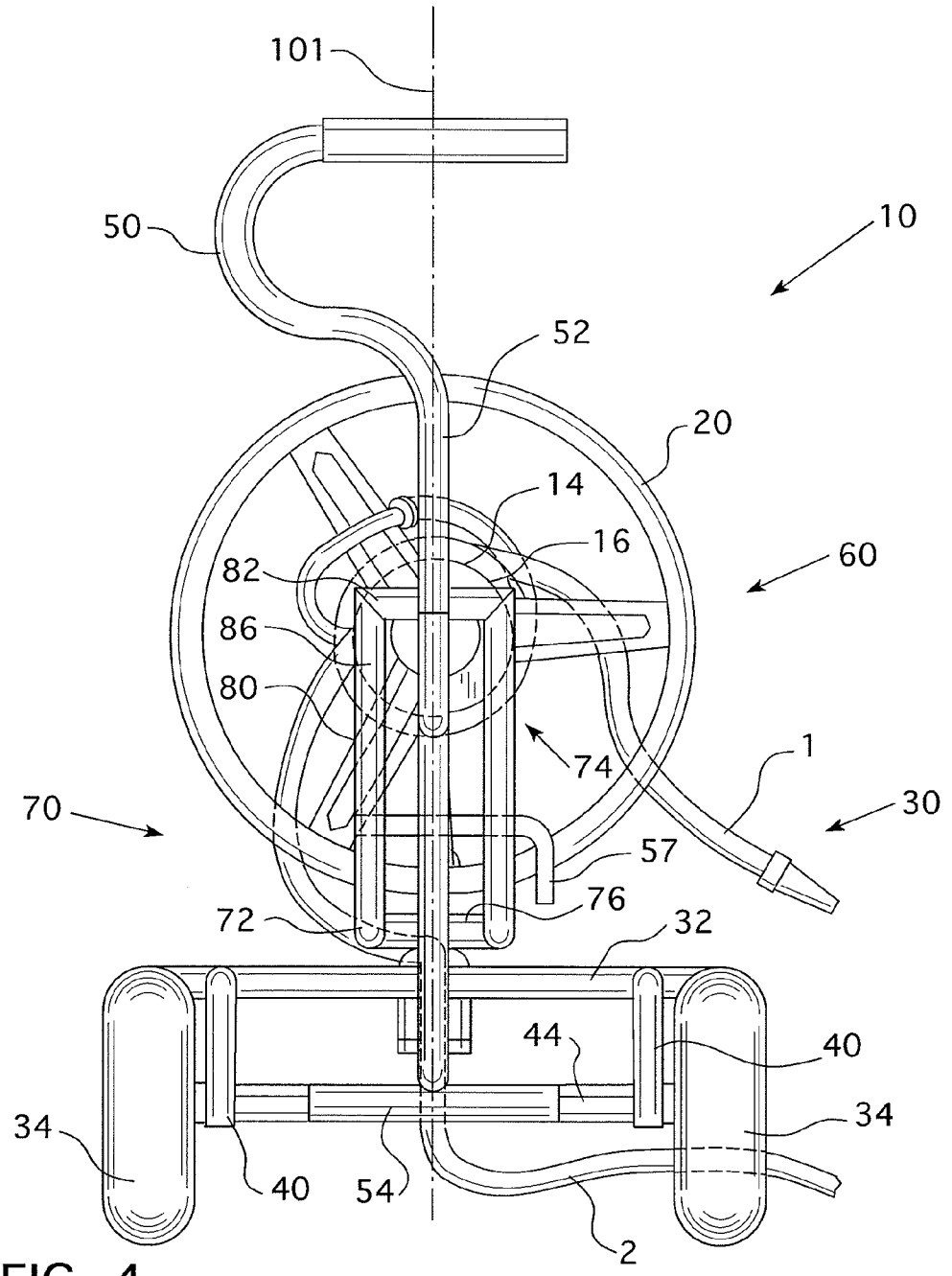
42
42
2

FIG. 3


101
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10
52
20
14
16
60
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74
1
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30
57
76
72
32
44
40
34
34
40
54
2

FIG. 4

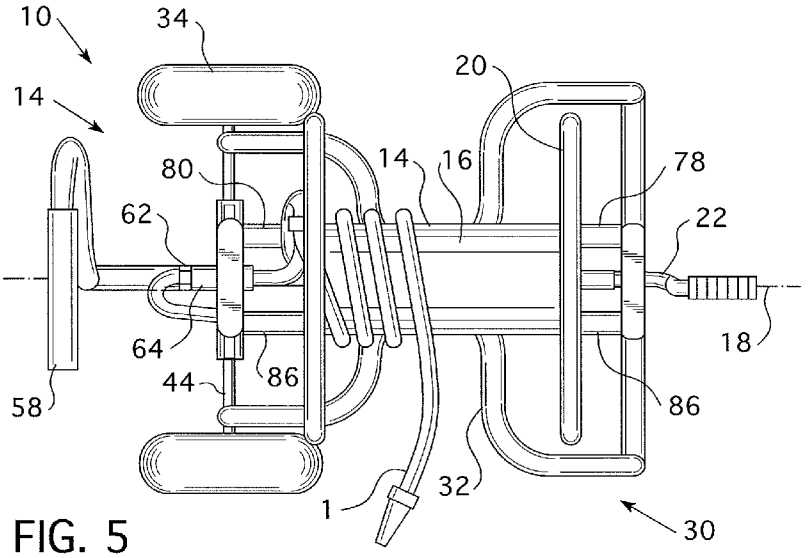
10
34
14
20
80
14
16
78
62
22
64
86
44
86
18
58
1
32
30

FIG. 5

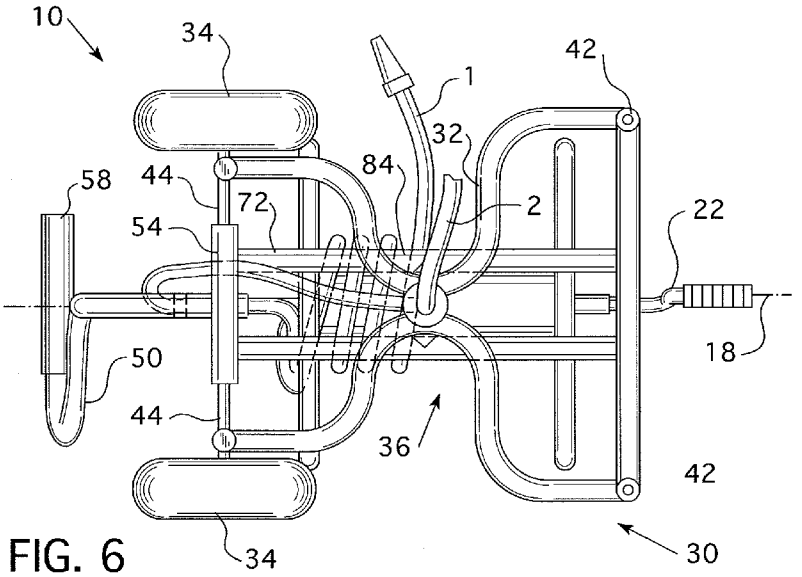
10
34
42
1
32
84
58
44
72
2
54
22
50
18
44
36
42
34
30

FIG. 6

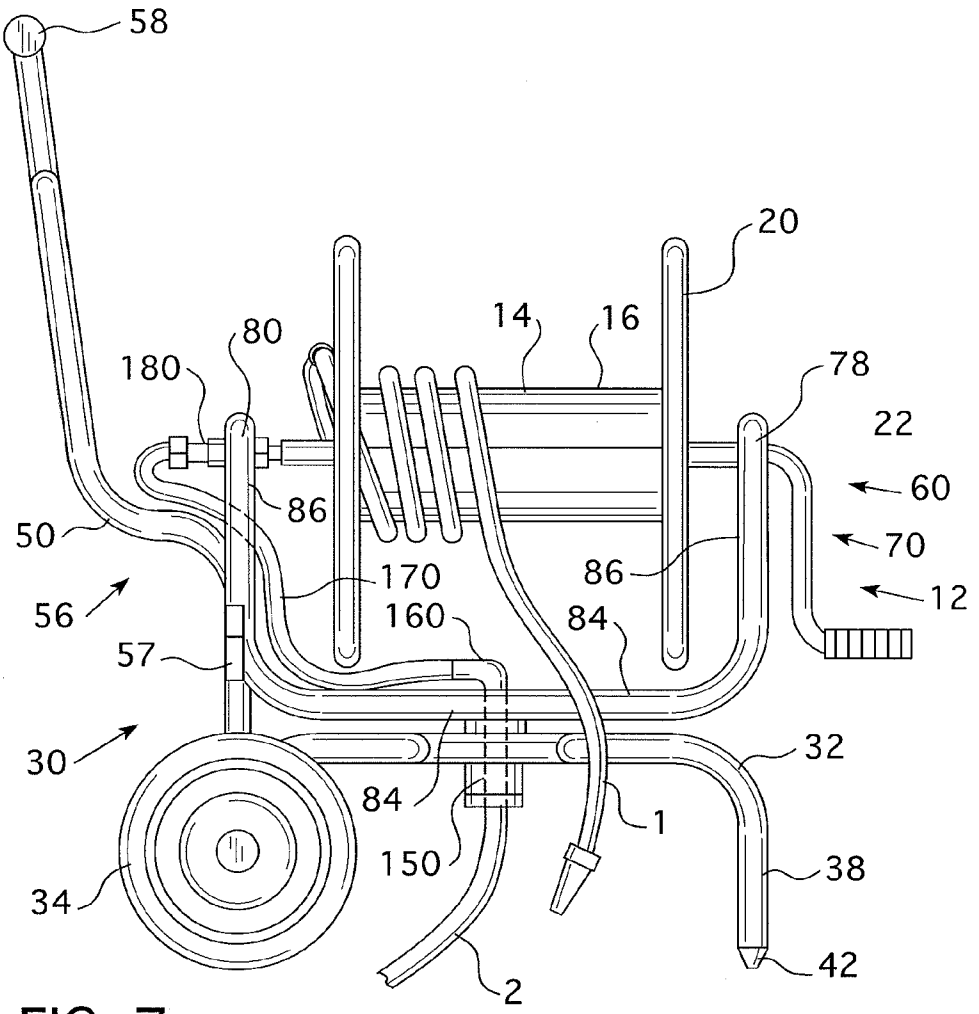
58
20
14
16
80
180
78
22
60
86
70
50
86
12
170
56
160
84
57
32
30
84
1
150
38
34
42
2

FIG. 7

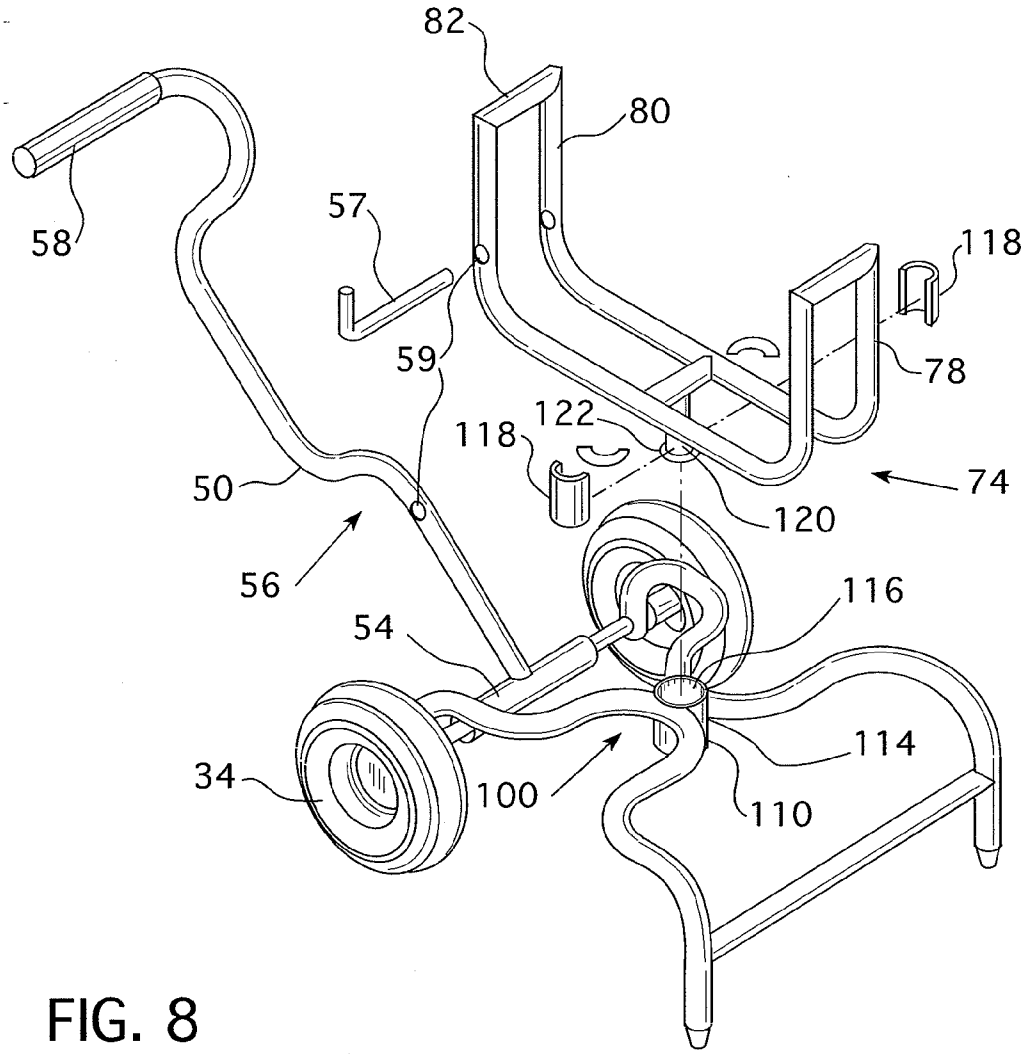

FIG. 8

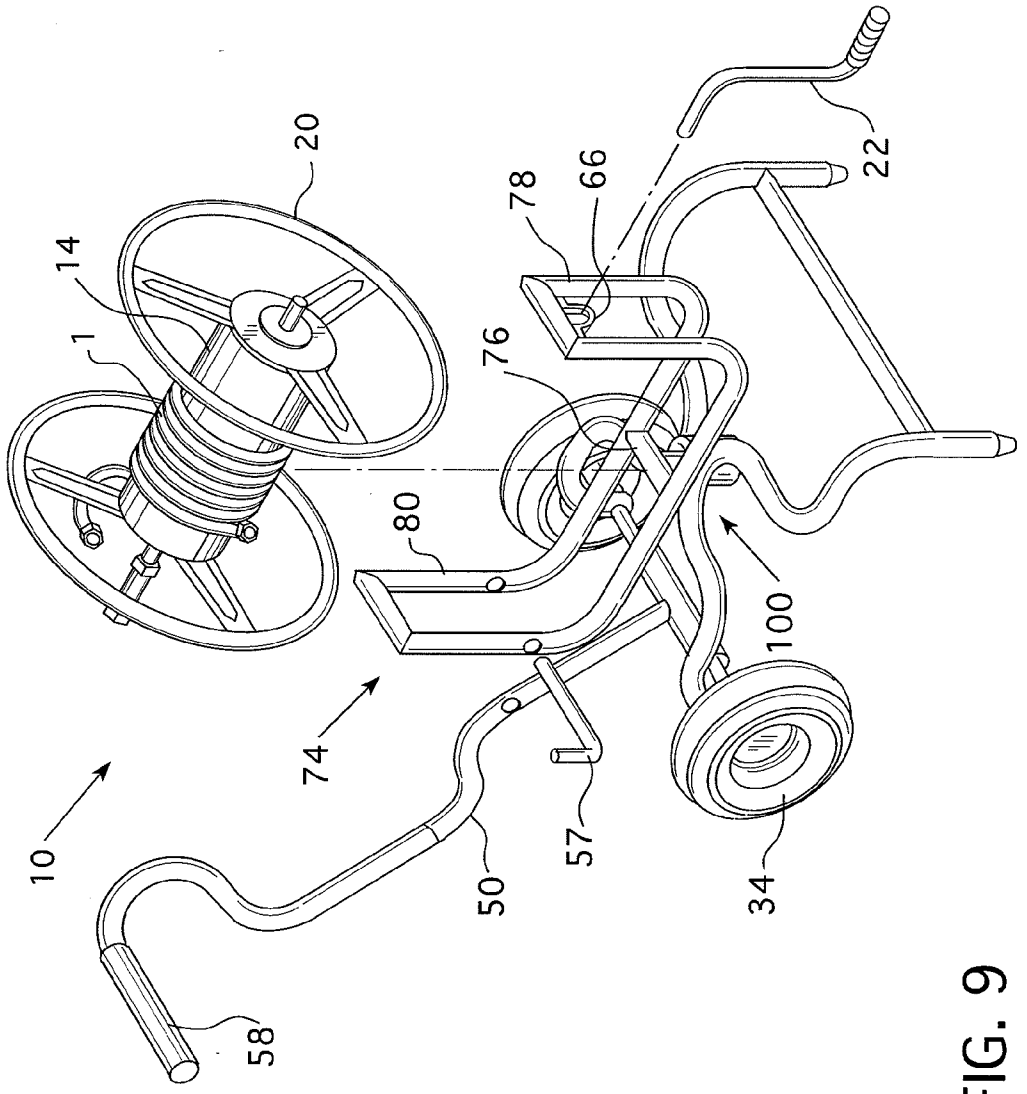

FIG. 9

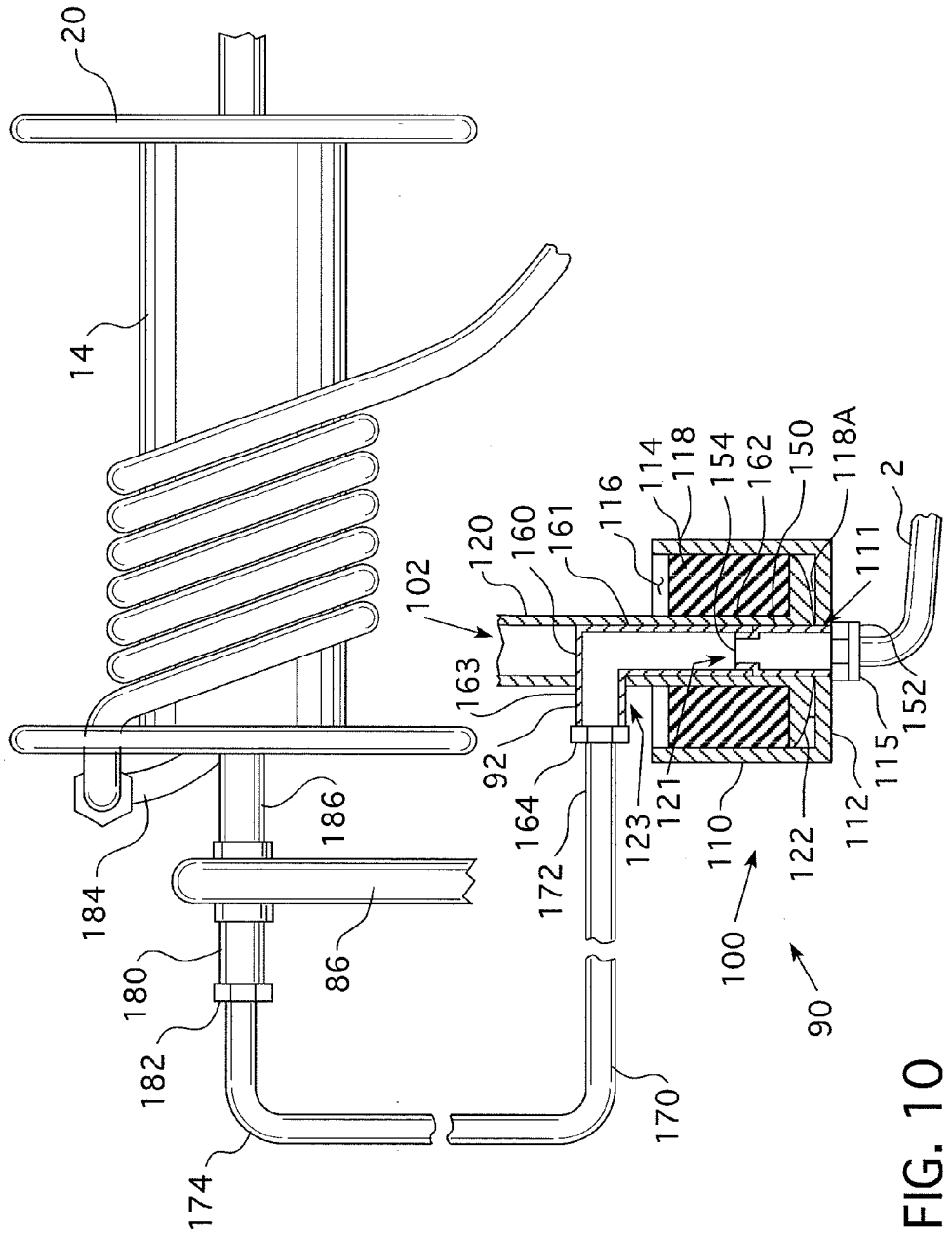
20
14
184
186
180
182
86
174
102
120
160
161
116
114
118
154
162
150
118A
111
2
163
92
164
172
123
121
110
122
112
115
152
170
100
90

FIG. 10

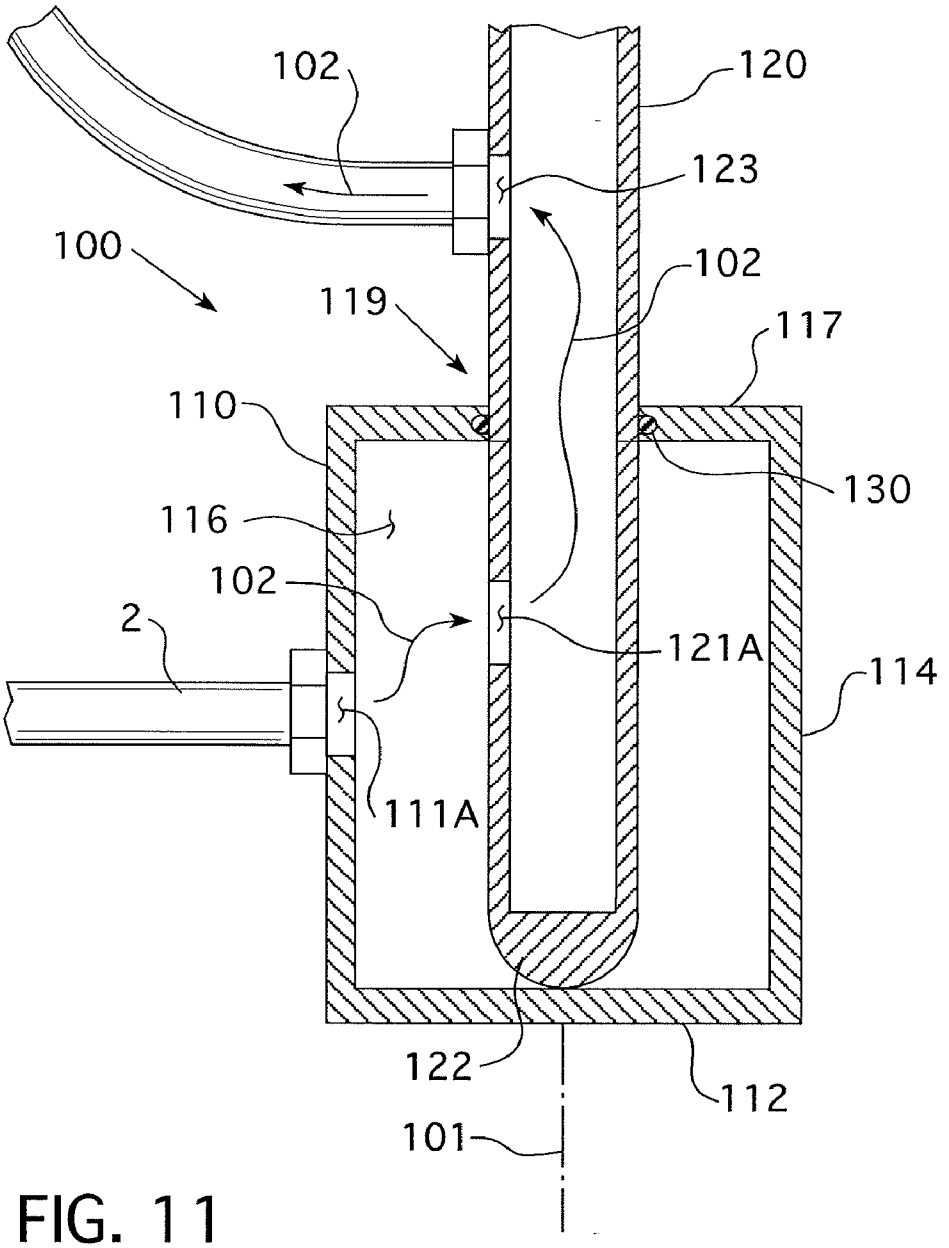
102
120
123
100
102
119
117
110
130
116
102
2
121A
114
111A
122
112
101

FIG. 11

VERTICAL PIVOT FOR A SWIVEL HOSE WAGON

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation of U.S. patent application Ser. No. 12/264,954, filed Nov. 5, 2008, entitled SWIVEL HOSE WAGON.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] This invention relates to hose wagons and, more specifically to a hose wagon wherein the hose reel, about which a use hose is coiled, is free to rotate completely about a vertical axis due to a vertical pivot assembly.

[0004] 2. Background Information

[0005] Hose wagons are structured to support and carry a length of hose, hereinafter the "use hose," which is typically coiled about a hose reel. The hose wagon includes a frame assembly that rotatably supports the hose reel. The hose reel is, typically, structured to rotate about a horizontal axis, but may be structured to rotate about a vertical axis. A horizontal axis is preferred as winding the hose is more easily accomplished. The hose wagon is further coupled to a supply hose structured to supply water from a water supply. A hose wagon water supply assembly couples the supply hose and the use hose. The water supply assembly includes a rotatable interface disposed between the supply side and the use side. Typically, at least a portion of the water supply assembly, including the rotatable interface, is disposed along the rotational axis of the hose reel. In this configuration, the user may coil the use hose about the hose reel for transport, and then uncoil the use hose for use.

[0006] However, when a user is using the use hose, the use hose may be moved about the hose wagon into a location that causes the use hose to bind or become crimped. That is, typically, the use hose is uncoiled, or fed, from the front side of the hose wagon. When a user moves the use hose to a lateral side, or to the back side, of the hose wagon, the hose will bind or become crimped on the hose wagon. Accordingly, attempts have been made to provide a hose reel with two axes of rotation; a horizontal axis, for coiling/uncoiling the hose about the reel, and a vertical axis, that allows the use hose to be freely moved about the hose wagon. See e.g., U.S. Design Pat. No. D547,021.

[0007] These attempts while functional in the abstract, were not functional in operation. That is, such designs failed to account for effect of the either, or both, of the supply hose and use hose. For example, a hose wagon such as, but not limited to, the hose wagon disclosed in U.S. Design Pat. No. D547,021 has a vertically extending handle that extends above the bottom of the hose reel. Thus, if a user were to uncoil a length of use hose out of the lateral side of the hose wagon and then attempt to move behind the hose wagon to the other lateral side of the hose wagon, the use hose would bind against the handle. Thus, a hose wagon in this configuration actually has a limited range of vertical rotation.

[0008] Further, the range of vertical rotation of such hose wagons is also limited by the supply hose. When the supply hose is simply coupled to the use hose using a water supply assembly having a single rotational interface, e.g. as shown in U.S. Design Pat. No. D547,021 an interface disposed along the hose reel axis of rotation, the hose reel may not rotate freely about the vertical axis. That is, without a water supply assembly having a vertical rotation interface, the supply hose will simply wrap around the hose reel and prevent the free rotation thereof.

SUMMARY OF THE INVENTION

[0009] The disclosed and claimed concept is for a hose wagon wherein the hose wagon frame assembly is structured to rotatably support a hose reel so that the hose reel may rotate freely about a generally vertical axis and a generally horizontal axis. This is accomplished by providing a water supply assembly having two rotational interfaces; one allowing rotation about a vertical axis, the other allowing rotation about a horizontal axis. Further, the hose wagon is free of frame members that extend vertically into the possible path of travel of a use hose. This further includes a handle member that is structured to move between an upper, first position, wherein the handle is disposed on the upper side of the hose wagon, and a second position, wherein the handle is disposed at a location lower than the path of travel of the hose coming off the hose reel.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] A full understanding of the invention can be gained from the following description of the preferred embodiments when read in conjunction with the accompanying drawings in which:

[0011] FIG. **1** is an isometric view of a hose wagon with the handle in the first position.

[0012] FIG. **2** is an isometric view of a hose wagon with the handle in the second position and the hose reel frame assembly rotated about a vertical axis.

[0013] FIG. **3** is a front end view of a hose wagon.

[0014] FIG. **4** is a back end view of a hose wagon.

[0015] FIG. **5** is a top view of a hose wagon.

[0016] FIG. **6** is a bottom view of a hose wagon.

[0017] FIG. **7** is a side view of a hose wagon.

[0018] FIG. **8** is an exploded partial isometric view of a hose wagon with selected elements removed for clarity.

[0019] FIG. **9** is an exploded partial isometric view of a hose wagon with selected elements removed for clarity.

[0020] FIG. **10** is a schematic view of the water supply assembly.

[0021] FIG. **11** is a schematic view of an alternate swivel base.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] As used herein, "structured to rotate freely about" means that one element (or assembly) is rotatably coupled to another element (or assembly) and may move through 360 degrees without the elements, or any other elements structured to be coupled to/supported by either rotatably coupled elements, coming into contact with each other or without flexible elements twisting/binding. That is, an element "structured to rotate freely about" another element may be rotated, essentially, continuously in one direction about the axis of rotation without the need to reverse the direction of rotation due to interference or binding components.

[0023] As used herein, directional phrases are relative to the orientation of the hose wagon as shown in the figures and are not limiting in the claims.

[0024] As used herein, "coupled" means a link between two or more elements, whether direct or indirect, so long as a link occurs.

[0025] As used herein, "directly coupled" means that two elements are directly in contact with each other.

[0026] As used herein, "fixedly coupled" or "fixed" means that two components are coupled so as to move as one while maintaining a constant orientation relative to each other.

[0027] As used herein, the word "unitary" means a component is created as a single piece or unit. That is, a component that includes pieces that are created separately and then coupled together as a unit is not a "unitary" component or body.

[0028] As shown in FIGS. **1-7**, a hose wagon **10** includes a frame assembly **12** structured to rotatably support a hose reel **14**. The hose reel **14** is an elongated, generally cylindrical body **16** having a longitudinal axis **18**. The hose reel **14** preferably includes hubs **20**, which have a greater diameter than the hose reel **14**, disposed at each end of the hose reel body **16**. The frame assembly **12** is structured to rotatably support the hose reel **14** with the hose reel longitudinal axis **18** extending in a generally horizontal plane. A handle **22** is coupled to the hose reel **14** and structured to allow a user to rotate the hose reel **14** about the horizontal axis **18**. The hose reel **14** is structured to support a use hose **1**. That is, the use hose **1** is coiled about the hose reel **14** for storage, transport, etc., and may be uncoiled for use. Thus, the frame assembly **12** is structured to allow the hose reel **14** to rotate freely about the generally horizontal axis. Further, as detailed below, the frame assembly **12** is structured to allow the hose reel **14** to rotate freely about a vertical axis as well. Also, as detailed below, the hose wagon **10** is structured to receive water from a supply hose **2**. The supply hose **2** is coupled to, and in fluid communication with, the use hose **1**, via the water supply assembly **90** discussed below.

[0029] The frame assembly **12** includes a wagon frame assembly **30** and a hose reel frame assembly **70**. The wagon frame assembly **30**, preferably, includes a plurality of tubular frame members **32**, but may include members of other shapes including, but not limited to, planar members (not shown). The wagon frame assembly **30** further includes at least one, and preferably two, wheels **34**. The wagon frame assembly frame members **32** preferably define an "X" shape wherein there is a medial location **36**. As discussed below, a swivel base assembly **100** created by elements on the wagon frame assembly **30** and the hose reel frame assembly **70**, is disposed at the medial location **36**. The frame members **32** defining the "X" shape are mostly disposed in a generally horizontal plane, however, the forward ends **38** and the rearward ends **40** of the wagon frame assembly frame members **32** extend downwardly. The frame member forward ends **38** are, preferably, caped by rounded spikes **42**. The frame member rearward ends **40**, preferably, define, or include, a bracket for an axle **44**. The axle **44** is coupled to the frame member rearward ends **40** and extends laterally relative to the hose wagon **10** in a generally horizontal plane. The wheels **34** are disposed on each end of the axle **44**. As is known, the axle **44** may be rotatably coupled to the wagon frame assembly **30** and/or the wheels **34** may be rotatably coupled to the axle **44**.

[0030] The wagon frame assembly **30** further includes a movable handle **50**. The handle **50** includes a vertical portion **52** and a lower horizontal portion **54**. The handle horizontal portion **54** is structured to be disposed between the frame member rearward ends **40** and, preferably, is structured to be disposed about the axle **44**. That is, the axle **44** is rotatably disposed and extends through the handle horizontal portion **54**. Alternately, it may be said that the handle **50** is pivotally coupled to the axle **44**. The handle vertical portion **52** includes an offset **56** which is a medial bend. The offset **56** allows for the handle **50** to be coupled to the hose reel frame assembly yoke **74**, as discussed below. The upper end of the handle vertical portion **52** may include a grip **58** which, preferably, extends generally horizontally. As the handle **50** is pivotally coupled to the axle **44**, the handle **50** is structured to be moved between an upper, first position (FIG. **1**), wherein the handle **50** is disposed on the upper side of the hose wagon **10**, and a second position (FIG. **2**), wherein the handle **50** is disposed at a location lower than the cup **110**, as discussed below.

[0031] Generally, the handle **50** is placed in the upper position when the hose wagon **10** is being moved or stored, and placed in the lower position when the use hose **1** is being used. In this configuration, the handle **50** is not disposed in the path of travel of the use hose **1** when the use hose **1** is in use. As shown in FIGS. **8** and **9**, the frame assembly **12** may include a pin **57** structured to extend through openings **59** in the yoke **74** (described below) and the handle **50**. When the pin **57** is positioned through the yoke **74** and the handle **50**, the yoke **74** and the handle **50** are coupled. In this configuration, the yoke **74** cannot rotate about the vertical axis **101** and the handle **50** cannot move to the second position.

[0032] The hose wagon **10** also includes a hose reel assembly **60** that includes a water supply assembly **90** (shown schematically in FIG. **10**) as well as the previously identified hose reel **14** and hose reel frame assembly **70**. The hose reel **14** preferably includes an axle **62** that extends along the hose reel longitudinal axis **18**. The hose reel axle **62** is a tubular member **64** that extends from both sides of the hose reel body **16**. Preferably, one end of the hose reel axle **62** is at least partially hollow and is structured to allow a water conduit member **92**, discussed below, to pass therethrough.

[0033] Preferably, the hose reel frame assembly **70** also includes a plurality of tubular members **72**. The hose reel frame assembly tubular members **72** define a yoke **74** structured to rotatably support the hose reel **14**. That is, the hose reel frame assembly tubular members **72** that form the yoke **74** include a medial base member **76**, a first arm **78** and a second arm **80**. Preferably, the first arm **78** and the second arm **80** are defined by spaced hose reel frame assembly tubular members **72** coupled by a cross-member **82** at the distal tips, however, as the yoke **74** may be formed from a singular hose reel frame assembly tubular member **72** extending in opposite directions, the following description shall refer to the first arm **78** and the second arm **80** as singular elements.

[0034] The first arm **78** and the second arm **80** each have a base end **84** and a hose reel end **86**. Both of the first arm and said second arm base ends **84** are coupled to the yoke base member **76**. It is noted that in the embodiment shown, i.e. having spaced hose reel frame assembly tubular members **72**, the yoke base member **76** extends, generally perpendicularly, between the spaced hose reel frame assembly tubular members **72**. In an embodiment having single hose reel frame assembly tubular members **72** forming the yoke **74**, the first arm and said second arm base ends **84** may be contiguous, generally horizontal portions (not shown). The first arm and second arm hose reel ends **86** are structured to be rotatably coupled to the hose reel axle **62**. In the embodiment shown, the coupling is a U-shaped bracket **66** disposed on the yoke cross-member **82**. In an embodiment having single hose reel

frame assembly tubular members **72** forming the yoke **74**, the first arm and said second aim hose reel ends **86** may include a circular opening or similar coupling (not shown) to support the hose reel axle **62**. Thus, in this configuration, the first arm and said second arm base ends **84** are adjacent to each other and the first arm and said second arm hose reel ends **86** are spaced from each other, thus the first arm **78** and the second arm **80** define the yoke **74**.

[0035] In this configuration, the hose reel **14** may be rotatably coupled to the hose reel frame assembly **70** and, more specifically, to the yoke **74**. That is, the hose reel axle **62** extends, generally horizontally, between the yoke's first arm and second arm hose reel ends **86**. Thus, the hose reel **14** is structured to rotate about a generally horizontal axis.

[0036] As noted above, and as shown in FIGS. **7-9**, a swivel base assembly **100** is created by elements on the wagon frame assembly **30** and the hose reel frame assembly **70**. More specifically, the swivel base assembly **100** includes a cup **110**, which is part of the wagon frame assembly **30**, and a generally vertical support stem **120**, which is part of the hose reel frame assembly **70**. The cup **110** is preferably a generally cylindrical body. The cup **110** includes a bottom member **112**, which is preferably planar, and an ascending sidewall **114**. Thus, the cup **110** defines a generally enclosed space **116**. The vertical support stem **120** extends downwardly from the yoke base member **76**. The vertical support stem **120** is sized to fit within the cup enclosed space **116**. The vertical support stem **120** preferably has a convex lower surface **122**. Generally, the vertical support stem **120** is disposed in the cup **110** with the convex lower surface **122** engaging the cup bottom member **112**. The cup **110** may further include friction reducing elements such as a bearing **118** disposed between the cup sidewall **114** and the vertical support stem **120** as well as a lubricant **118**A disposed between the convex lower surface **122** and the cup bottom member **112**. Thus, the swivel base assembly **100** defines a generally vertical axis **101** about which the hose reel frame assembly **70**, and therefore the hose reel **14** may rotate.

[0037] As detailed below, the cup **110** and the vertical support stem **120** may define a passage **102** for the water supply assembly **90**. That is, in one embodiment the cup **110** includes a central opening **111** on the cup bottom member **112**. The vertical support stem **120** is hollow and also has a central, lower opening **121** on the lower surface **122** and a radial opening **123**, preferably at a location above the top of the cup **110**. As described below, water supply assembly conduit members **92** may pass through the cup **110** and the vertical support stem **120**, entering and exiting the swivel base assembly **100** via the openings set forth above.

[0038] Alternatively, as shown in FIG. **11**, and as described below, swivel base assembly **100** may act as the passage **102** for the water supply assembly **90**. In this embodiment, the cup **110** includes a lower opening **111**A on either the cup bottom member **112** (not shown) or the cup sidewall **114** (shown) and a top member **117** having a central opening **119**. The cup lower opening **111**A preferably includes a coupling **115**, such as, but not limited to, a standard threaded hose coupling, structured to be coupled to, and in fluid communication with, the supply hose **2**. The cup **110** elements, i.e. the bottom member **112**, sidewall **114**, and top member **117** form a sealed, enclosed space **116**. This embodiment of the cup **110** may be formed as a unitary body, or may have one or more elements coupled together. If the cup **110** elements are coupled together, seals (not shown), such as, but not limited to, rubber O-rings may be disposed between the element interfaces so as to create the sealed, enclosed space **116**. The cup top member opening **119** is sized to allow the vertical support stem **120** to pass therethrough. A seal **130** is disposed between the vertical support stem **120** and the cup top member opening **119**. The vertical support stem **120** is hollow and includes a lower opening **121**A located on the portion of the vertical support stem **120** disposed inside the sealed, enclosed space **116**, and, a radial opening **123**, located above the cup top member **117**. The vertical support stem radial opening **123** preferably includes a coupling **115**, such as, but not limited to, a standard threaded hose coupling, structured to be coupled to, and in fluid communication with, a water supply assembly conduit member **92**.

[0039] It is noted that, when the handle **50** is in the lower, second position, there are no elements of the wagon frame assembly **30** that extend above the cup **110**. As such, there are no structural elements of the hose wagon **10** that impede the free rotation of the hose reel **14** about either the vertical axis or the horizontal axis identified above. However, to provide for free rotation, as defined above, the elements coupled to/supported by the hose wagon **10** must also not prevent the rotation of the hose reel **14**. That is, the use hose **1** and the supply hose **2** cannot impede the free rotation of the hose reel **14** about either the vertical axis or the horizontal axis either by being disposed in the path of travel of the hose wagon **10** or by binding/twisting when the hose reel **14** is rotated.

[0040] Thus, the free rotation of the hose reel **14** also relies upon the structure of the water supply assembly **90**. The water supply assembly **90**, preferably, includes a plurality of conduit members **92**. Generally, each conduit member **92** has an upstream end and a downstream end. When directly coupled conduit members **92** are not required to rotate relative to each other, the conduit members **92** may included threaded ends, or other known coupling devices, that fix the conduit members **92** together and provide for fluid communication between the conduit members **92**. When the conduit members **92** are required to rotate relative to each other, the conduit members **92** are, preferably, rigid and have the downstream end of the upstream conduit disposed within the upstream end of the downstream conduit. Further, as is known, one or more seals may be disposed between the directly coupled conduits to resist leakage. Hereinafter, the seals will not be specifically identified, but it is understood that such seals exist at each rotational coupling, and may exist at non-rotating couplings.

[0041] In the preferred embodiment, the conduit members **92** include an inlet conduit **150** and an outlet conduit **160**. The water supply assembly inlet conduit **150** has an inlet end **152** and an outlet end **154**. The water supply assembly outlet conduit **160** has an inlet end **162** and an outlet end **164**. The water supply assembly inlet conduit inlet end **152** is structured to be coupled to, and in fluid communication with, the supply hose **2**. The water supply assembly inlet conduit outlet end **154** is structured to be rotatably coupled to, and in fluid communication with, the water supply assembly outlet conduit inlet end **162**. Further, the water supply assembly outlet conduit inlet end **162** is structured to be coupled to, and in fluid communication with, the water supply assembly inlet conduit outlet end **154**. The water supply assembly outlet conduit outlet end **164** is structured to be coupled to, and in fluid communication with, the use hose **1**. It is noted that a single outlet conduit **160** may extend from the swivel base assembly **100** and pass through the hose reel axle **62**, typically following a path adjacent to a yoke arm, e.g. first arm **78** (not

shown). However, for ease of assembly and manufacture, it is preferable that the conduit members **92** include the following additional conduit members **92**: a flexible intermediate conduit **170** and a hose reel conduit **180**. Each of the flexible intermediate conduit **170** and the hose reel conduit **180** have an inlet end **172**, **182** and an outlet end **174**, **184**, respectively. The hose reel conduit **180** has a straight portion **186** that extends through, or may form a part of, the hose reel axle **62**. Thus, the hose reel conduit **180** extends along the axis of the hose reel **14**.

[0042] The preferred embodiment of the water supply assembly **90** is assembled as follows. The inlet conduit **150** is disposed along the swivel base assembly **100** vertical axis, extending through the cup bottom member central opening **111** and into the hollow vertical support stem **120** via the vertical support stem lower opening **121**. The inlet conduit inlet end **152** is disposed below, and outside, of the cup **110**. The inlet conduit outlet end **154** is disposed within the vertical support stem **120**. The outlet conduit **160** includes a generally perpendicular bend and therefore has a vertical portion **161** at the outlet conduit inlet end **162**, and a horizontal portion **163** at the outlet conduit outlet end **164**. The outlet conduit inlet end **162**, that is the outlet conduit vertical portion **161** is disposed within the hollow vertical support stem **120**. The outlet conduit inlet end **162** is rotatably coupled to, and in fluid communication with, the inlet conduit outlet end **154**. The outlet conduit outlet end **164** is disposed above the top of the cup **110**.

[0043] The intermediate conduit inlet end **172** is coupled to, and in fluid communication with, the outlet conduit outlet end **164**. The hose reel conduit **180** extends through, or may form a part of, the hose reel axle **62**. The intermediate conduit outlet end **174** and the hose reel conduit inlet end **182** are rotatably coupled and in fluid communication. The hose reel conduit outlet end **184** is disposed adjacent to the hose reel **14** and may be coupled to, and in fluid communication with, the use hose **1**.

[0044] Thus, the water supply assembly **90** includes two rotatable couplings, i.e. the outlet conduit inlet end **162**/inlet conduit outlet end **154** and the intermediate conduit outlet end **174**/hose reel conduit inlet end **182**, disposed, respectively, upon the vertical axis of rotation and the horizontal axis of rotation for the frame assembly **12**. By having the water supply assembly **90** rotatable couplings at these locations, the elements of the water supply assembly **90** will not become twisted or otherwise bound as the hose reel **14** rotates about either the vertical axis of rotation and/or the horizontal axis of rotation of the frame assembly **12**. Further, because the use hose **1** is uncoiled in a generally horizontal direction and because there are no elements of the wagon frame assembly **30** that extend above the cup **110** when the handle **50** is in the lower, second position, there are no elements of the wagon frame assembly **30** that will interfere with the use hose **1** as the hose reel frame assembly **70** rotates about the vertical axis **101** of the swivel base assembly **100**. Thus, in this configuration, the hose reel **14** is rotatably coupled to the frame assembly **12** and structured to rotate freely about a generally vertical axis **101** and a generally horizontal longitudinal axis **18**.

[0045] As noted above, in an alternate embodiment (FIG. **11**), the swivel base assembly **100** may act as the passage **102** for the water supply assembly **90**. In this embodiment, the supply hose **2** is coupled to, and in fluid communication with, the coupling **115** at the cup lower opening **111**A. Thus, the supply hose **2** is structured to fill the sealed, enclosed space **116**. Further, water in the sealed, enclosed space **116** passes through the vertical support stem lower opening **121**A, through the hollow vertical support stem **120** and exits via the a radial opening **123**. As discussed above, an intermediate conduit **170** and a hose reel conduit **180** are used to extend the water supply assembly **90** to a location adjacent the hose reel **14**. That is, an intermediate conduit **170** may be coupled to, and in fluid communication with, the coupling **115** at the vertical support stem radial opening **123** and be further coupled to, and in fluid communication with, the hose reel conduit **180**. Thus, the swivel base assembly **100** defines a passage **102** for the water supply assembly **90**.

[0046] It is further noted that, just as the structure of the swivel base assembly **100** may be used as part of the water supply assembly **90**, the elements of the hose reel frame assembly **70** may also define the water supply assembly **90**. That is, in an embodiment not shown, instead of having a vertical support stem radial opening **123** and an intermediate conduit **170**, all, or selected, hose reel frame assembly tubular members **72** as well as the hose reel axle **62** may be hollow and define a passage from the vertical support stem **120** to a location adjacent the hose reel **14**. It is noted that at least one rotatable coupling would be disposed at the interface of the hose reel axle **62** and the hose reel frame assembly **70**. Such a rotatable coupling would include seals to resist water leakage. Further, the hose reel **14** may define a hollow tubular member having a radial hose coupling. Thus, water could be introduced by the supply hose **2** into the swivel base assembly **100**. The water could then travel through the hose reel frame assembly tubular members **72** and hose reel axle **62** into the hollow hose reel **14**. The use hose **1** could then be coupled directly to the hollow tubular hose reel **14**.

[0047] While specific embodiments of the invention have been described in detail, it will be appreciated by those skilled in the art that various modifications and alternatives to those details could be developed in light of the overall teachings of the disclosure. Accordingly, the particular arrangements disclosed are meant to be illustrative only and not limiting as to the scope of invention which is to be given the full breadth of the claims appended and any and all equivalents thereof.

What is claimed is:

1. A swivel base assembly for a hose wagon, said hose wagon including a frame assembly, said frame assembly having a wagon frame assembly and a hose reel frame assembly, said wagon frame assembly having a plurality of frame members disposed in a generally horizontal plane, said hose reel frame assembly having a plurality of tubular members defining a yoke, said swivel base assembly comprising:

a cup having a bottom member and an ascending sidewall thereby defining an enclosed space, said cup coupled to said wagon frame assembly; and

a vertical support stem, said vertical support stem rotatably disposed in said cup enclosed space, said vertical support stem coupled to said hose reel frame assembly.

2. The swivel base assembly of claim **1** wherein said cup includes a bearing, said bearing disposed between said cup sidewall and said vertical support stem.

3. The swivel base assembly of claim **1** wherein said cup bottom member is planar.

4. The swivel base assembly of claim **3** wherein:

said vertical support stem has a lower end, said vertical support stem lower end structured to engage said cup bottom member; and

a lubricant disposed between said cup bottom member and said vertical support stem.

5. The swivel base assembly of claim **3** wherein said vertical support stem has a lower end, said vertical support stem lower end being convex lower surface.

6. The swivel base assembly of claim **5** wherein said hose wagon includes a water supply assembly including an inlet conduit and an outlet conduit, said outlet conduit having a generally perpendicular bend whereby said outlet conduit has a vertical portion and a horizontal portion, and wherein:

said vertical support stem is hollow, has a central opening on said lower surface and a radial opening;

said cup bottom member having an opening;

said inlet conduit extending through said cup bottom member central opening and said vertical support stem central opening, and being generally disposed in said hollow vertical support stem; and

said outlet conduit vertical portion disposed in said hollow vertical support stem and said outlet conduit horizontal portion extending through said vertical support stem radial opening.

7. The swivel base assembly of claim **5** wherein

said vertical support stem being at least partially hollow and having a top end, a bottom end, and a lower opening extending to said hollow vertical support stem, the top of said vertical support stem defining a coupling that is in fluid communication with said hollow vertical support stem;

said cup further having a top member whereby said cup defines a sealed, enclosed space;

said vertical support stem passing through said cup top member and rotatably disposed in said cup, the top end of vertical support stem extending upwardly from said cup;

a seal disposed between said vertical support stem and said cup top member, whereby said cup is substantially watertight;

said cup side wall having an opening structured to be coupled to said supply hose; and

whereby water supplied via said supply hose fills said cup and thereafter passes through said vertical support stem lower opening into said hollow vertical support stem and wherein the water may exit said hollow vertical support stem via said vertical support stem top coupling.

8. The swivel base assembly of claim **1** wherein said vertical support stem has a lower end, said vertical support stem lower end being convex.

9. The swivel base assembly of claim **1** wherein said vertical support stem has a lower end, said vertical support stem lower end having a greater diameter than said vertical support stem.

10. The swivel base assembly of claim **1** wherein said vertical support stem is structured to rotate about a generally vertical axis of rotation.

11. A hose wagon comprising:

a frame assembly with a wagon frame assembly and a hose reel frame assembly;

said wagon frame assembly having a plurality of frame members disposed in a generally horizontal plane;

said hose reel frame assembly having a plurality of tubular members defining a yoke;

a swivel base assembly structured to define a vertical axis of rotation and to rotatably couple said wagon frame assembly and said hose reel frame assembly, said swivel base assembly including a cup and a vertical support stem;

said cup having a bottom member and an ascending sidewall thereby defining an enclosed space, said cup coupled to said wagon frame assembly; and

said vertical support stem, said vertical support stem rotatably disposed in said cup enclosed space, said vertical support stem coupled to said hose reel frame assembly.

12. The hose wagon of claim **11** wherein said cup includes a bearing, said bearing disposed between said cup sidewall and said vertical support stem.

13. The hose wagon of claim **11** wherein said cup bottom member is planar.

14. The hose wagon of claim **13** wherein:

said vertical support stem has a lower end, said vertical support stem lower end structured to engage said cup bottom member; and

a lubricant disposed between said cup bottom member and said vertical support stem.

15. The hose wagon of claim **13** wherein said vertical support stem has a lower end, said vertical support stem lower end being convex lower surface.

16. The hose wagon of claim **15** wherein said hose wagon includes a water supply assembly including an inlet conduit and an outlet conduit, said outlet conduit having a generally perpendicular bend whereby said outlet conduit has a vertical portion and a horizontal portion, and wherein:

said vertical support stem is hollow, has a central opening on said lower surface and a radial opening;

said cup bottom member having an opening;

said inlet conduit extending through said cup bottom member opening and said vertical support stem central opening, and being generally disposed in said hollow vertical support stem; and

said outlet conduit vertical portion disposed in said hollow vertical support stem and said outlet conduit horizontal portion extending through said vertical support stem radial opening.

17. The hose wagon of claim **15** wherein

said vertical support stem being at least partially hollow and having a top end, a bottom end, and a lateral opening extending to said hollow vertical support stem, the top of said vertical support stem defining a coupling that is in fluid communication with said hollow vertical support stem;

said cup further having a top member whereby said cup defines a sealed, enclosed space;

said vertical support stem passing through said cup top member and rotatably disposed in said cup, the top end of vertical support stem extending upwardly from said cup;

a seal disposed between said vertical support stem and said cup top member, whereby said cup is substantially watertight;

said cup side wall having an opening structured to be coupled to said supply hose; and

whereby water supplied via said supply hose fills said cup and thereafter passes through said vertical support stem lower opening into said hollow vertical support stem and wherein the water may exit said hollow vertical support stem via said vertical support stem top coupling.

18. The hose wagon of claim **11** wherein said vertical support stem has a lower end, said vertical support stem lower end being convex.

19. The hose wagon of claim **11** wherein said vertical support stem has a lower end, said vertical support stem lower end having a greater diameter than said vertical support stem.

20. The hose wagon of claim **11** wherein said vertical support stem is structured to rotate about a generally vertical axis of rotation.

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