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(54) **A DEVICE FOR WINDING UP A HOSE**

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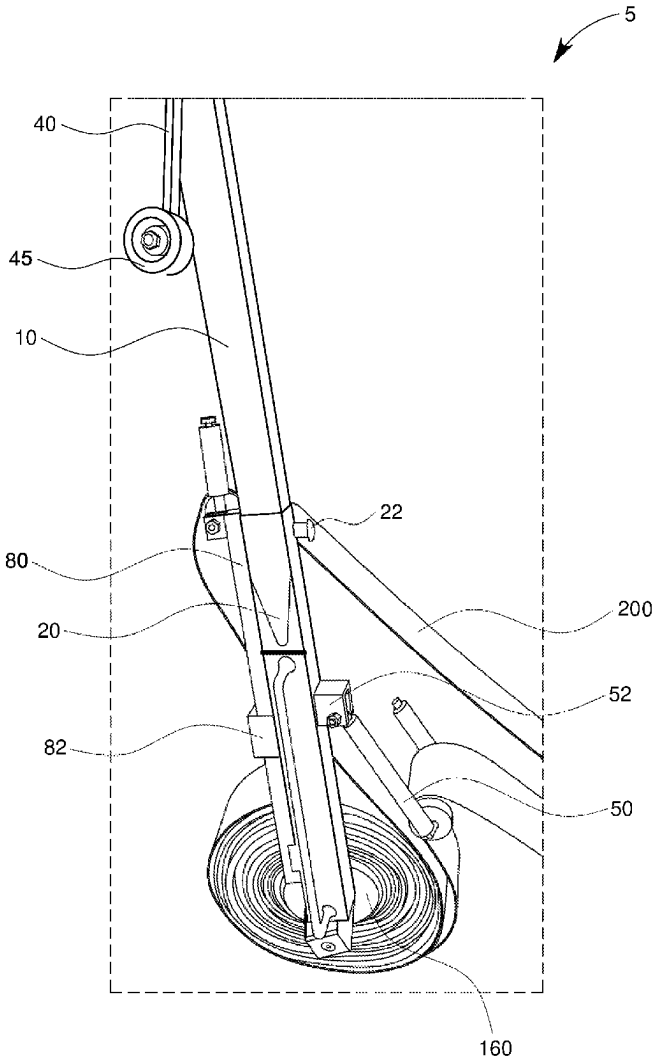
CPC ***B65H 54/585*** (2013.01); ***A62C 33/04*** (2013.01); ***B65H 54/44*** (2013.01); *B65H 2404/16* (2013.01); *B65H 2701/332* (2013.01)

(57) **ABSTRACT**

A device wherein a flat hose can be rolled up around two arms. The device consists of two U-Shaped rollers that correct the orientation of the hose as it is rolled into the two arms. As the two arms are rotated by the user rotating a crank handle, the hose travels over the two U-shaped rollers and over the drum. The hose is released by the device by laying it on the ground and stepping onto a handle, the hose is released with an orifice in the centre allowing someone to easily carry it.



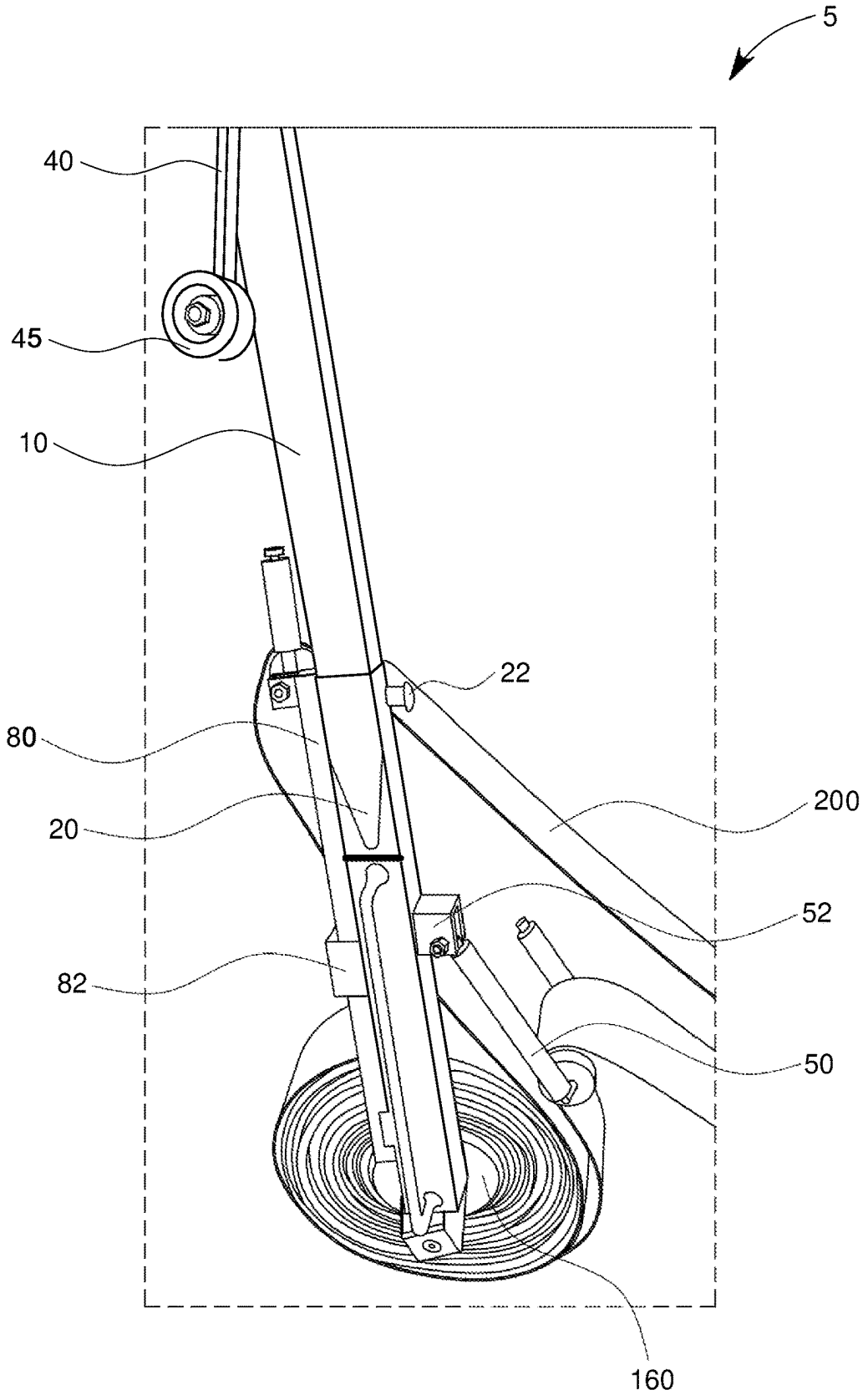


FIG. 1

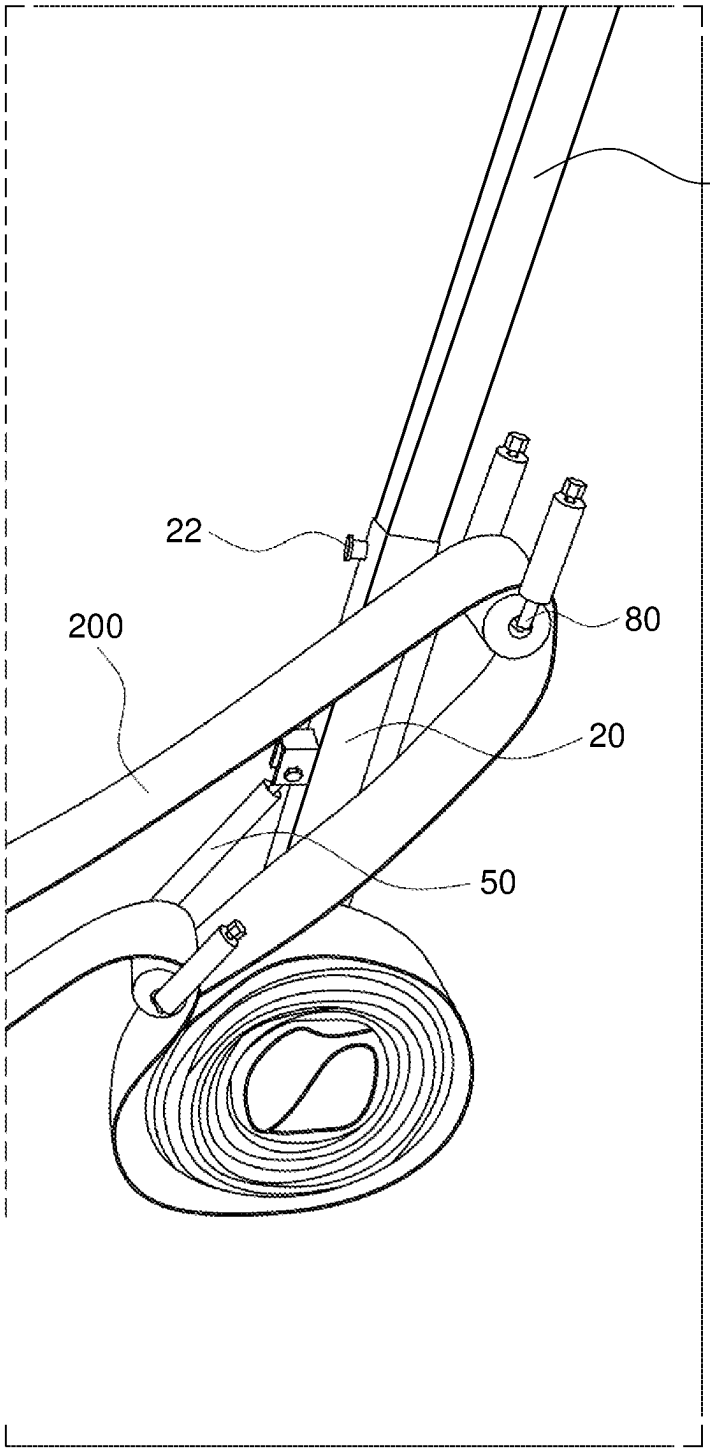


FIG. 2

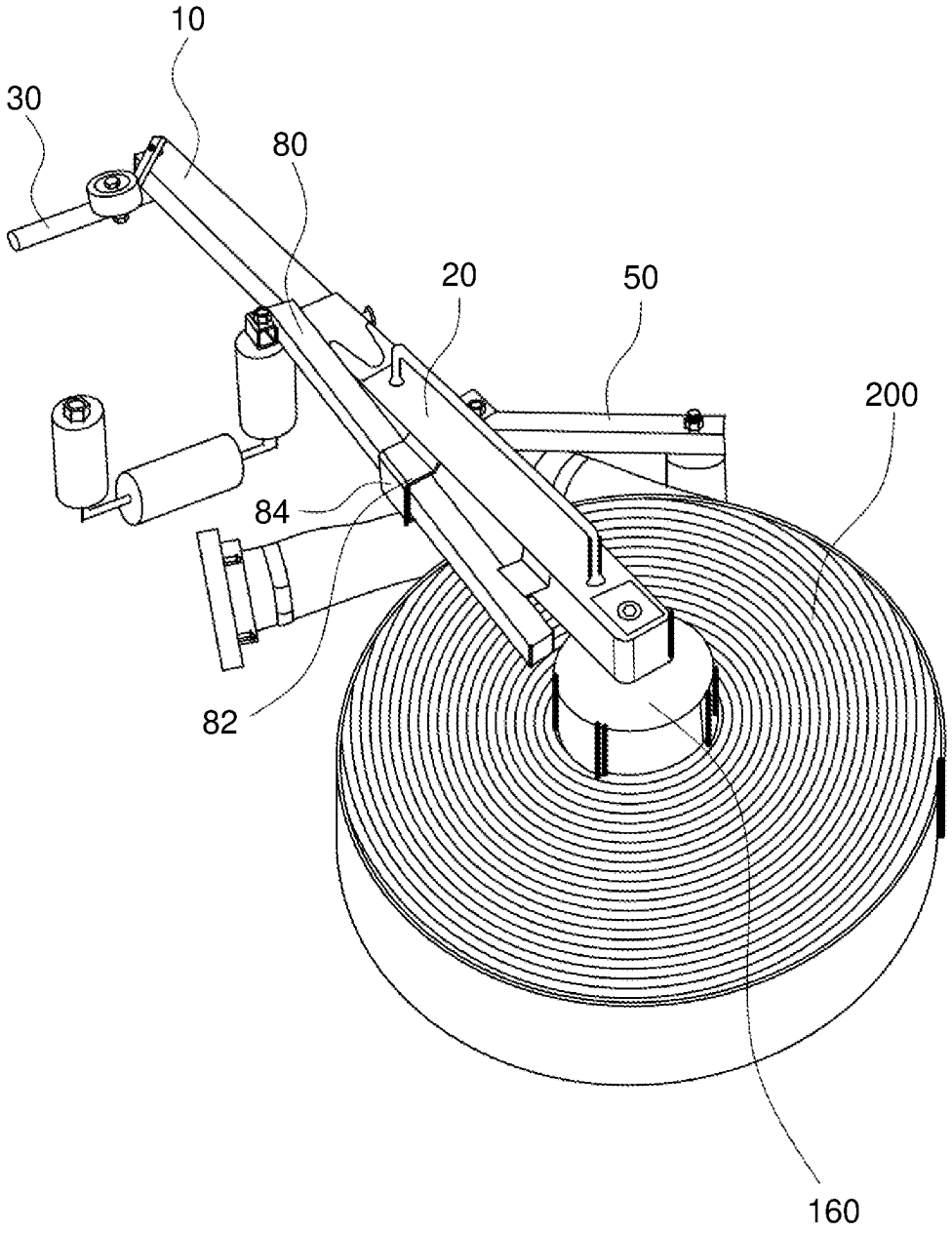


FIG. 3

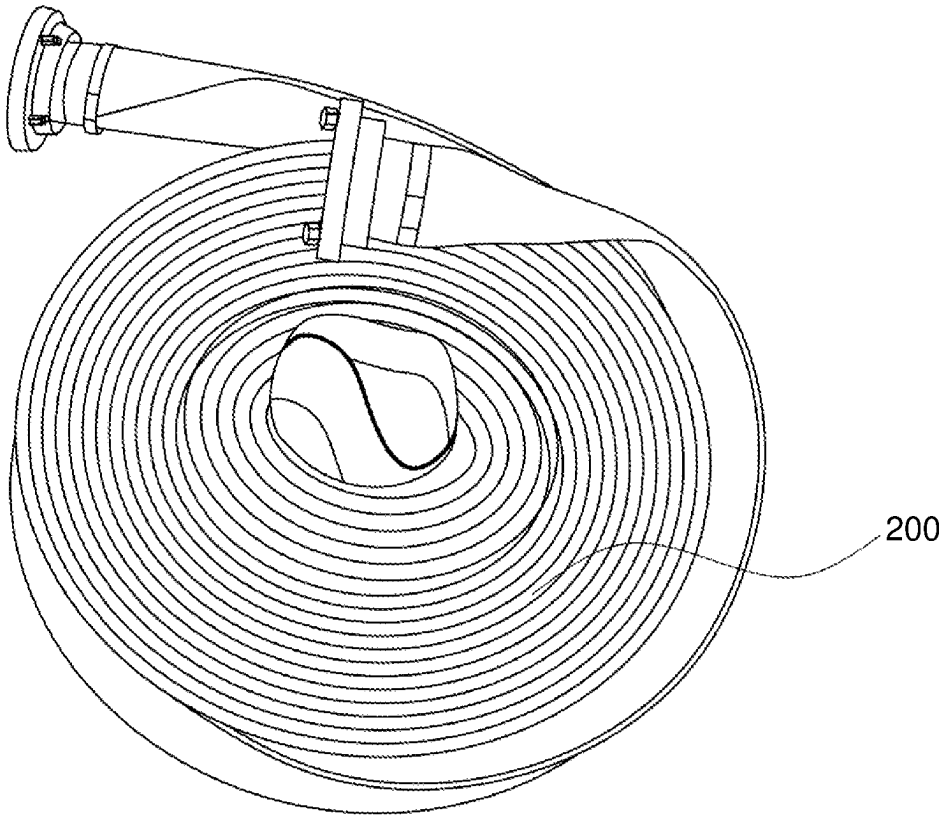


FIG. 4

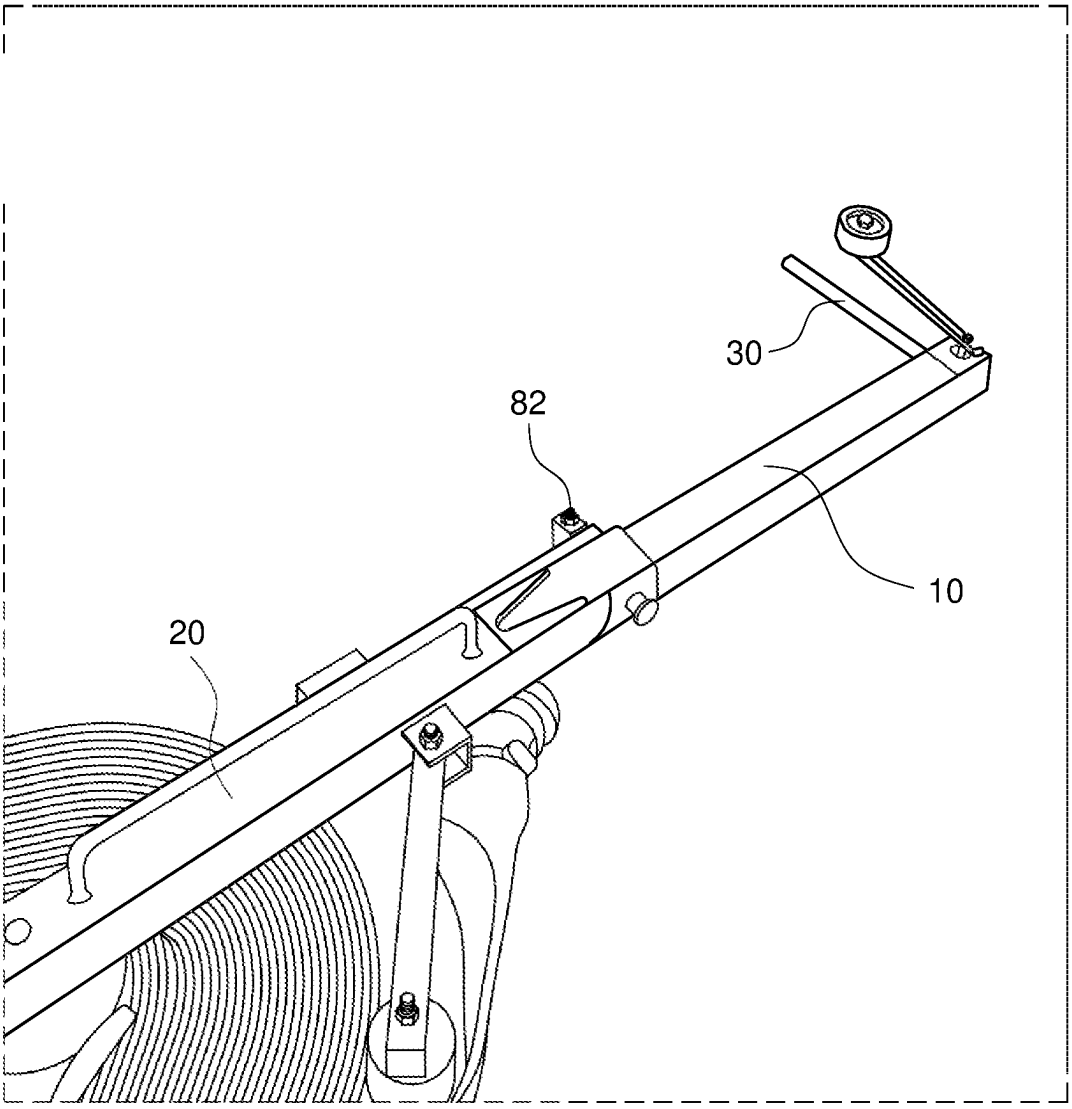


FIG. 5

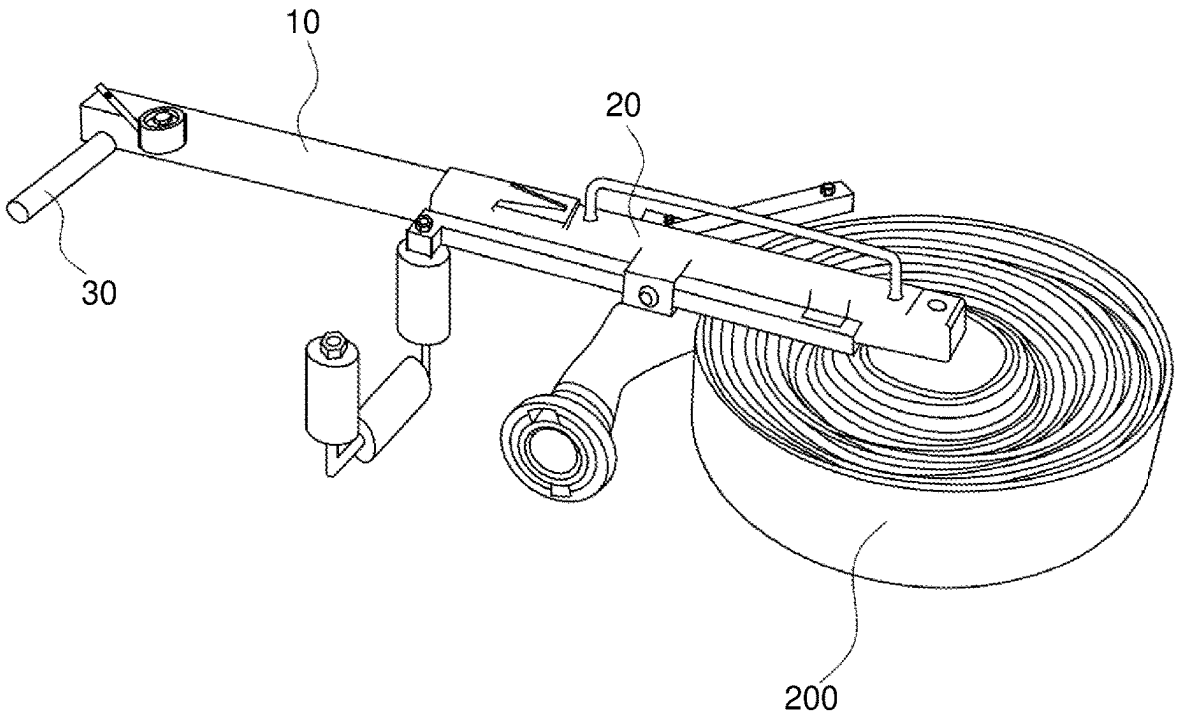


FIG. 6

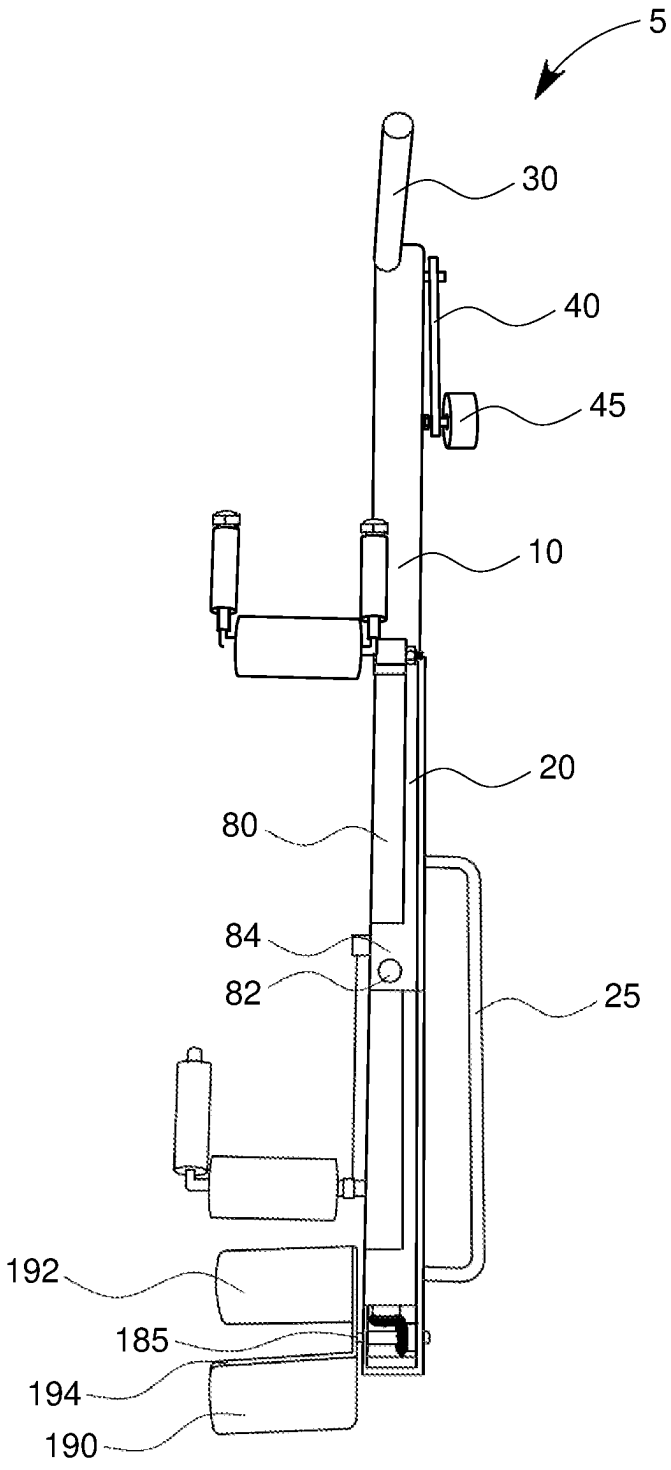


FIG. 7

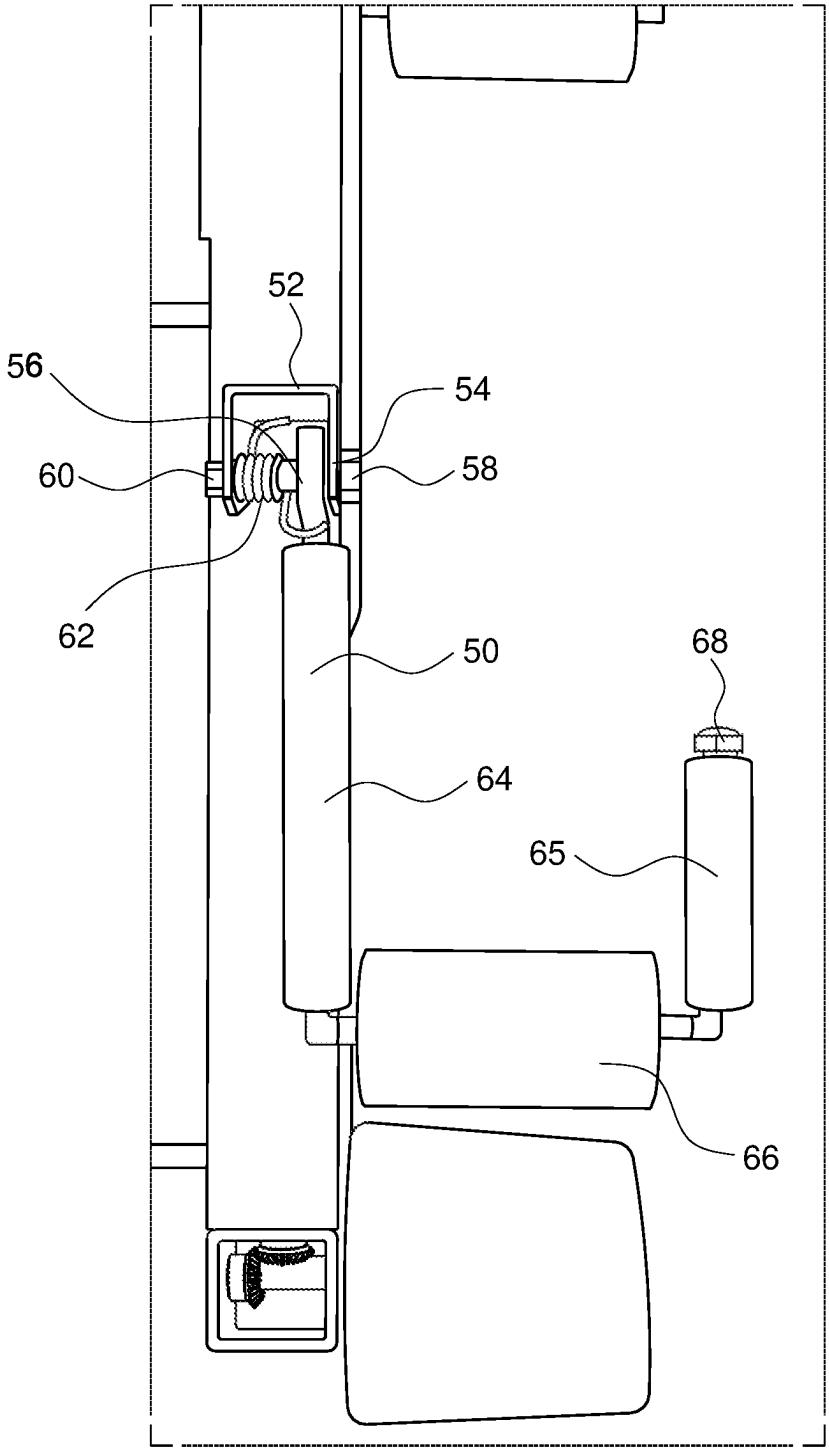


FIG. 8

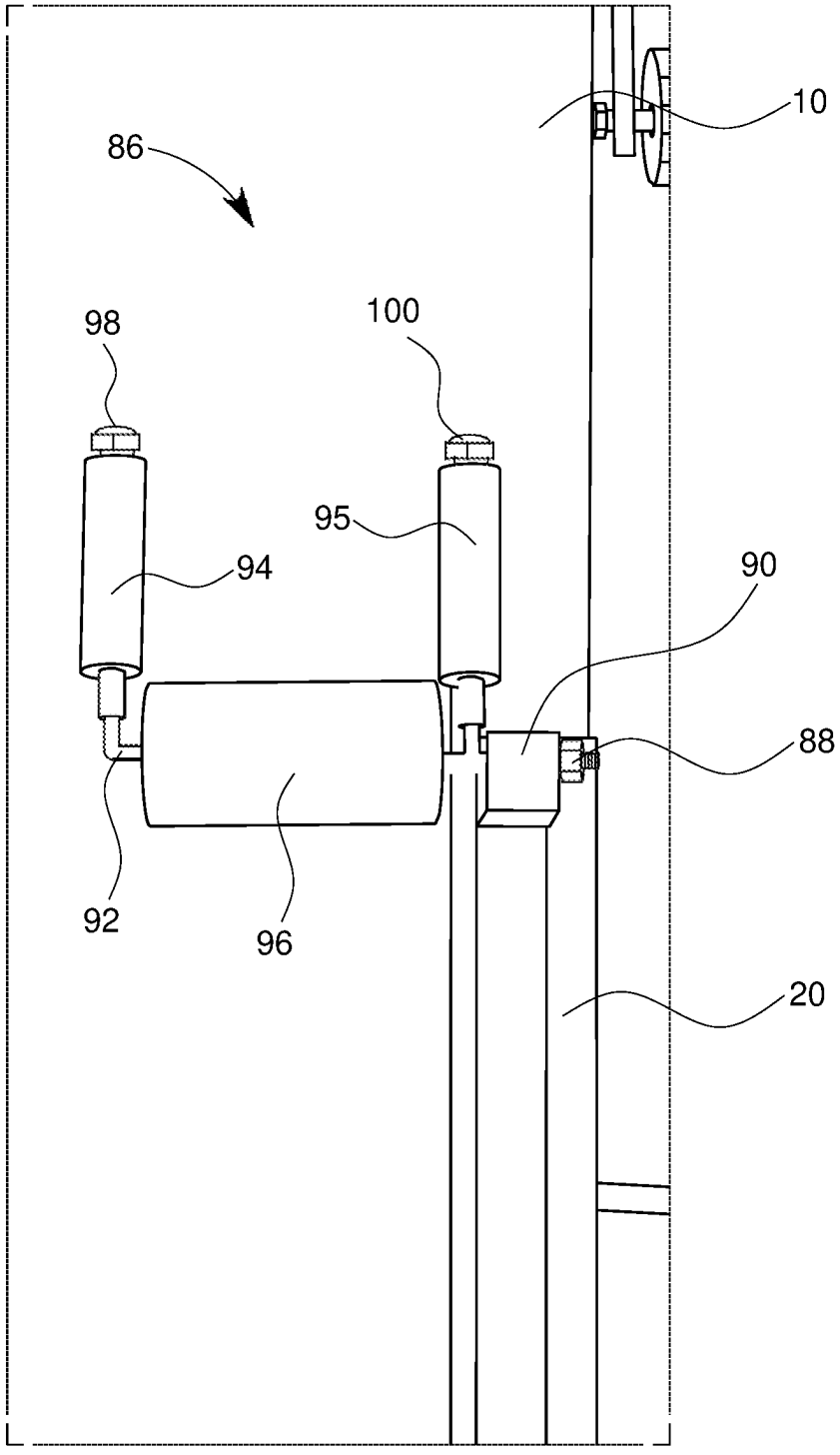


FIG. 9

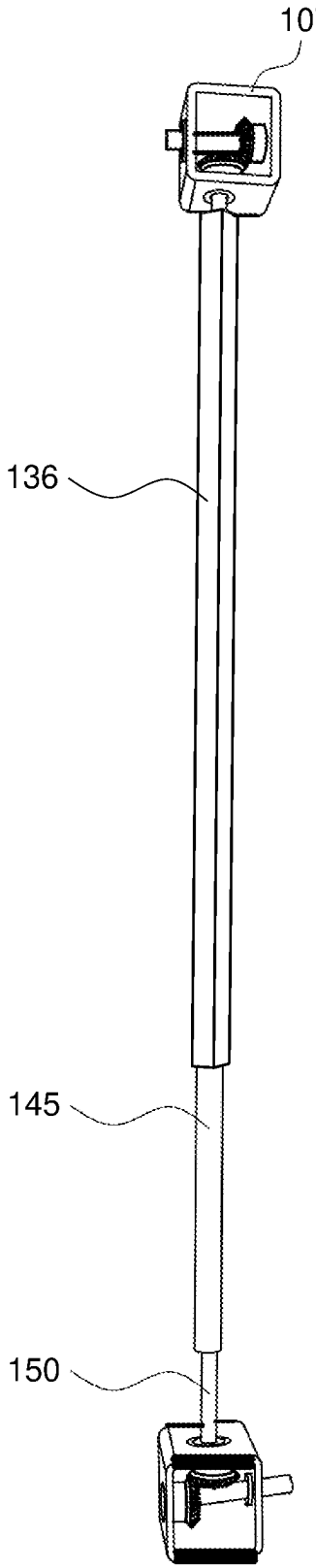


FIG. 10

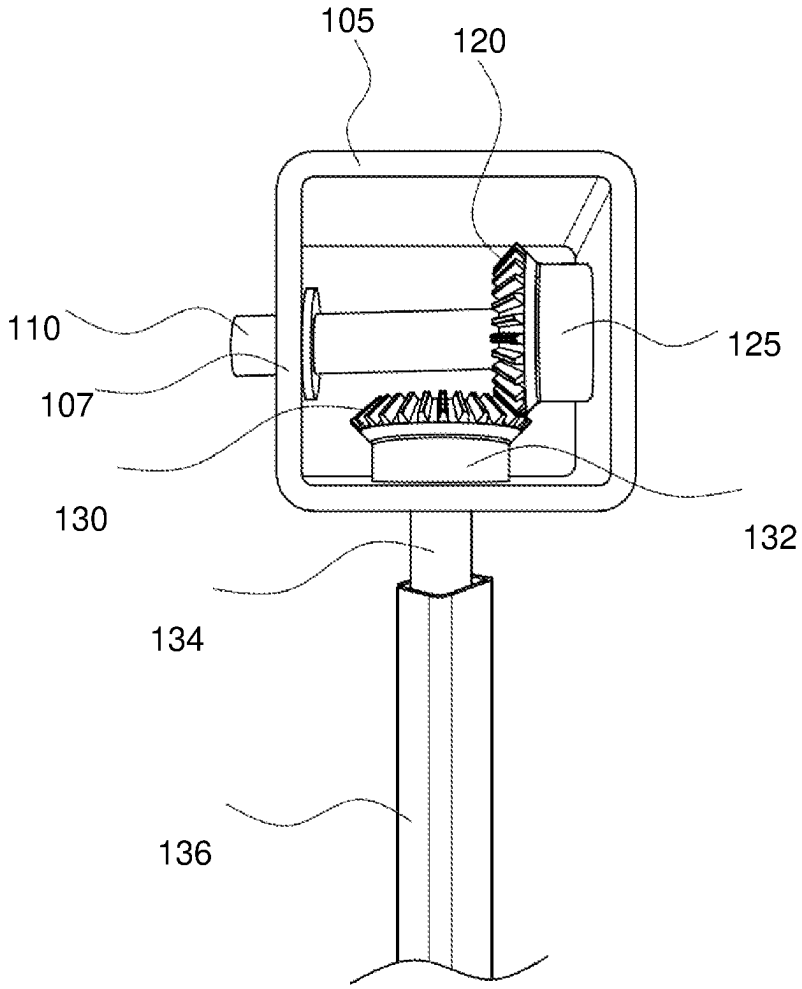


FIG. 11

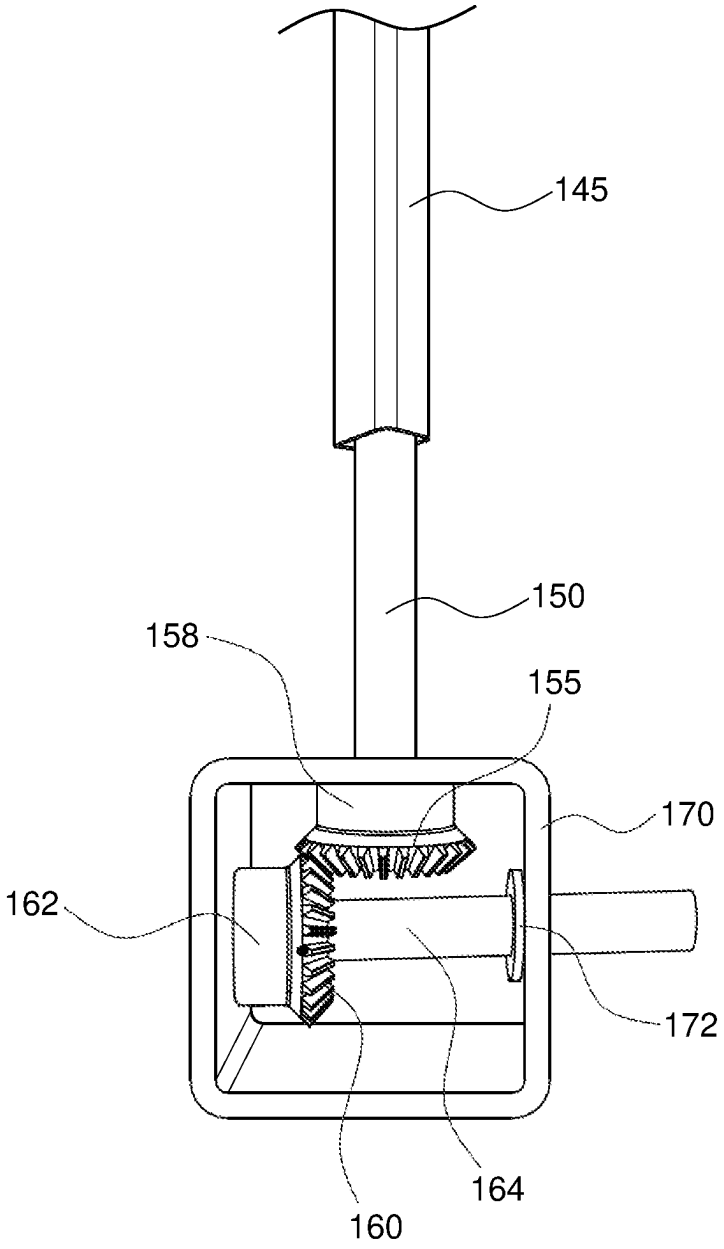


FIG. 12

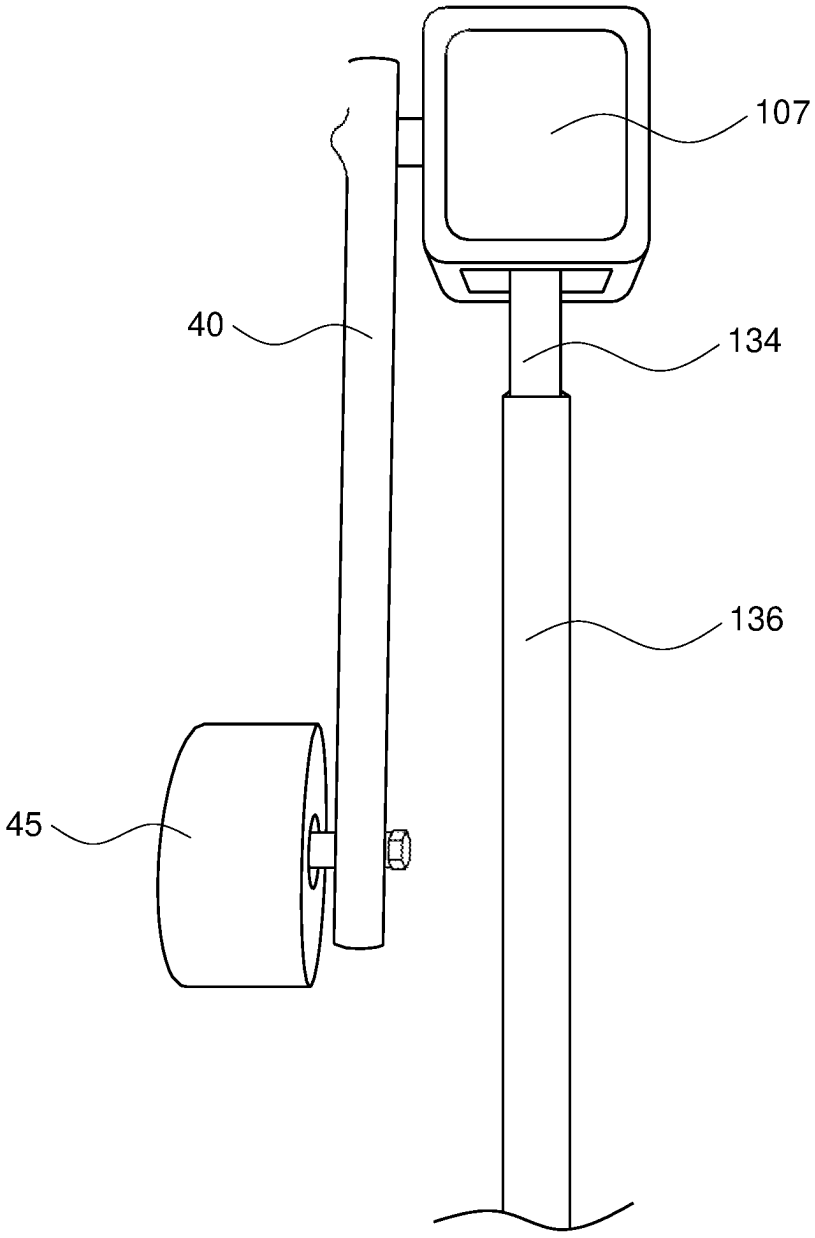


FIG. 13

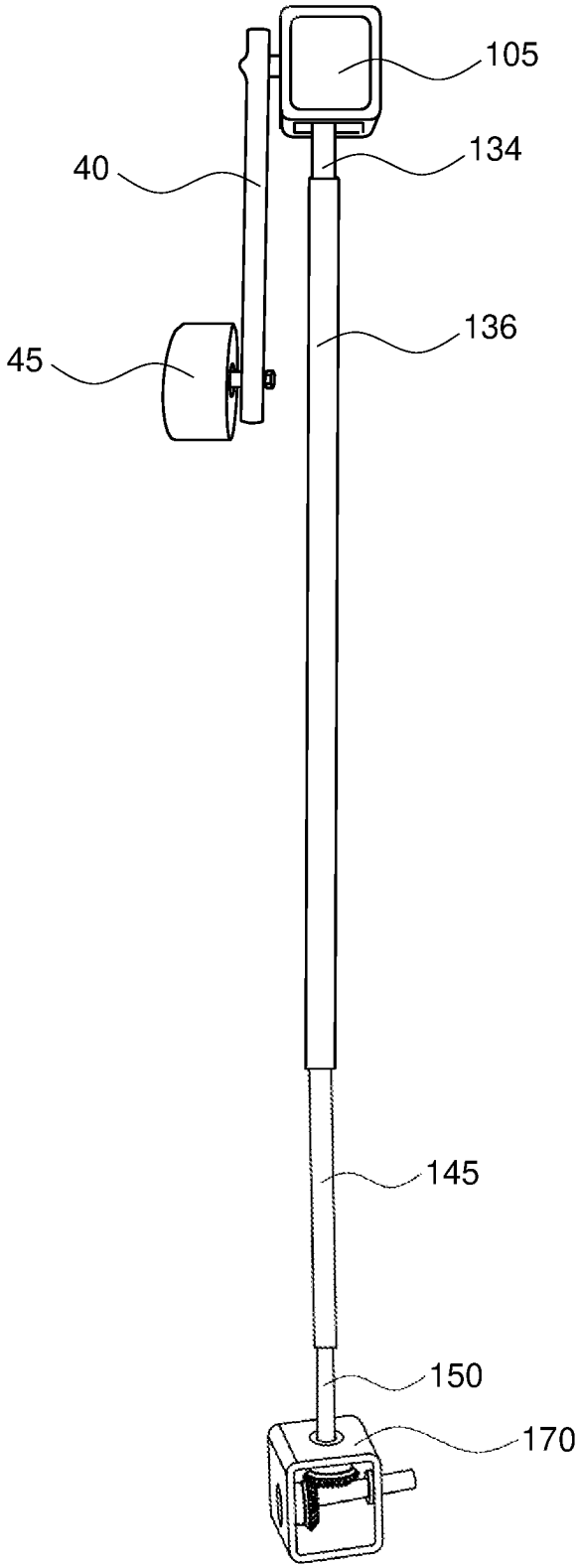


FIG. 14

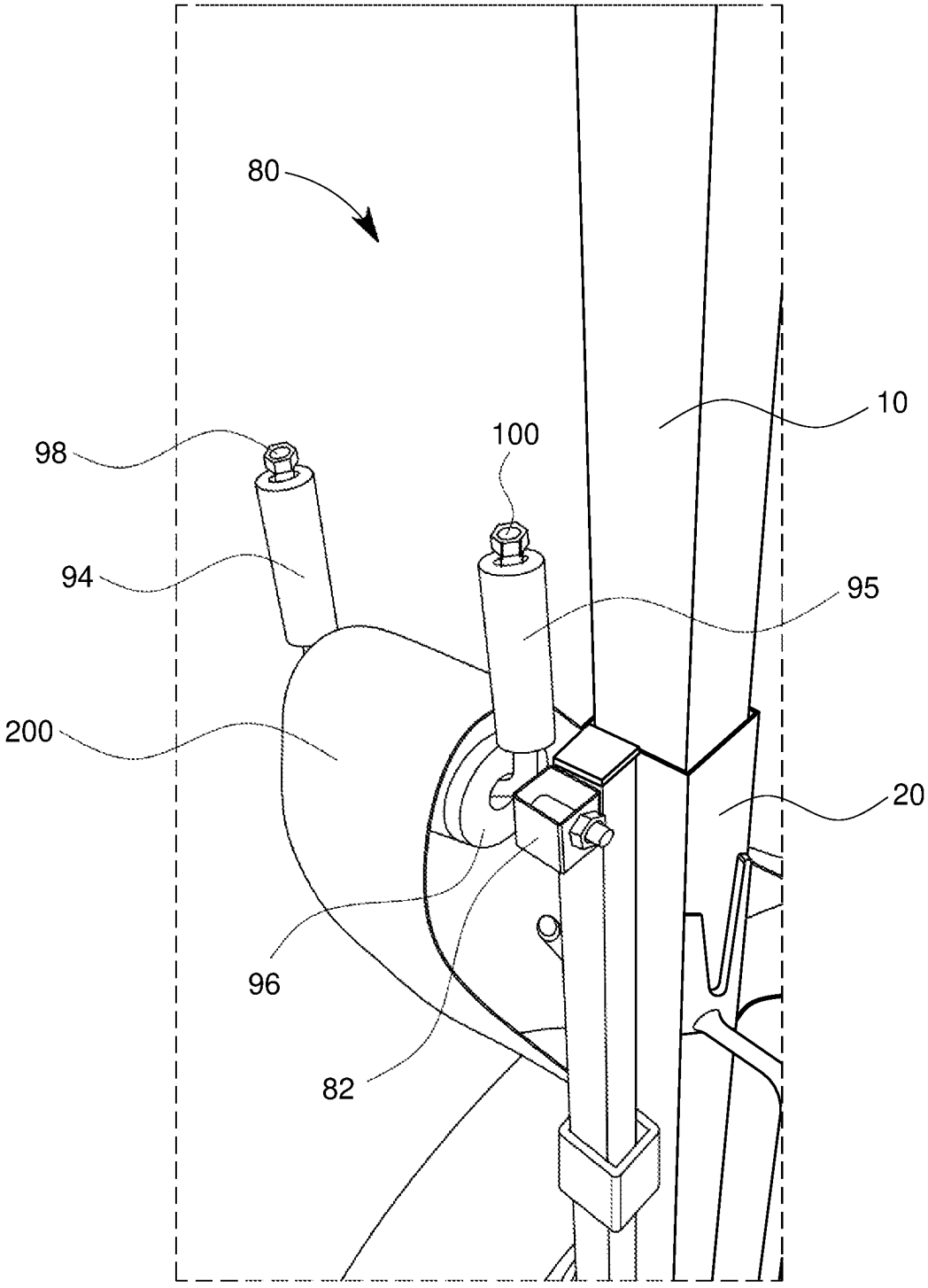


FIG. 15

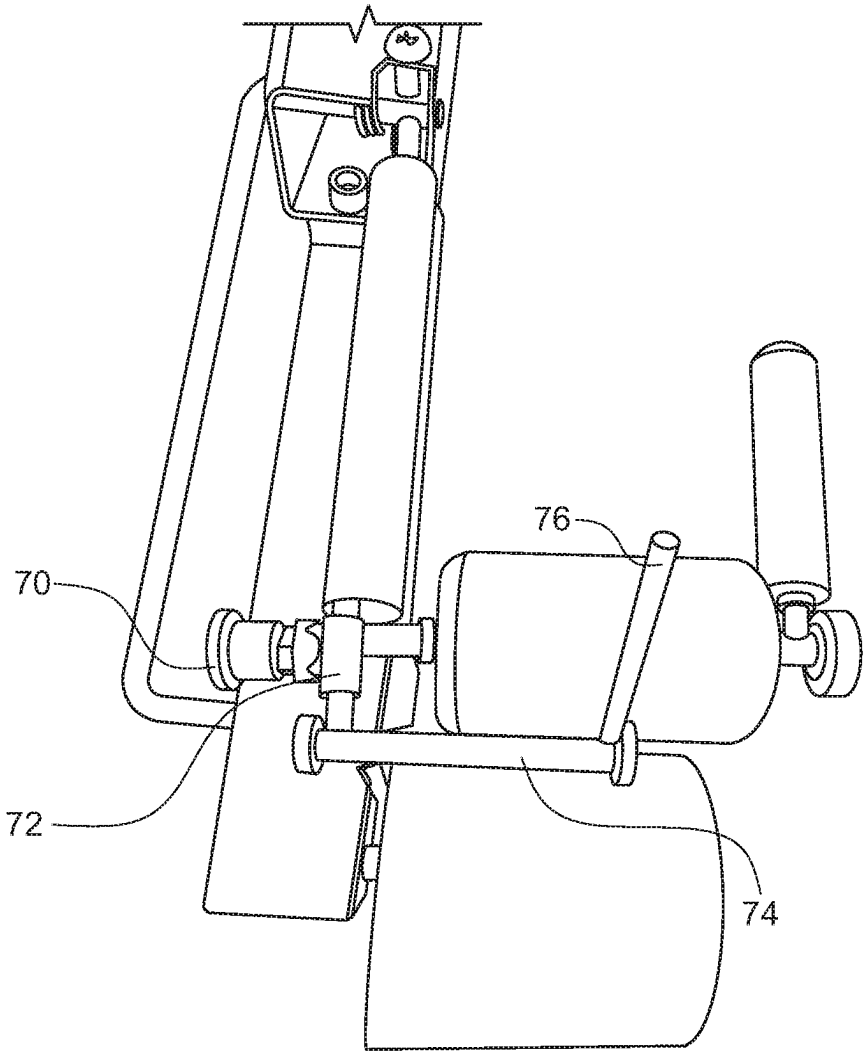


FIG. 16

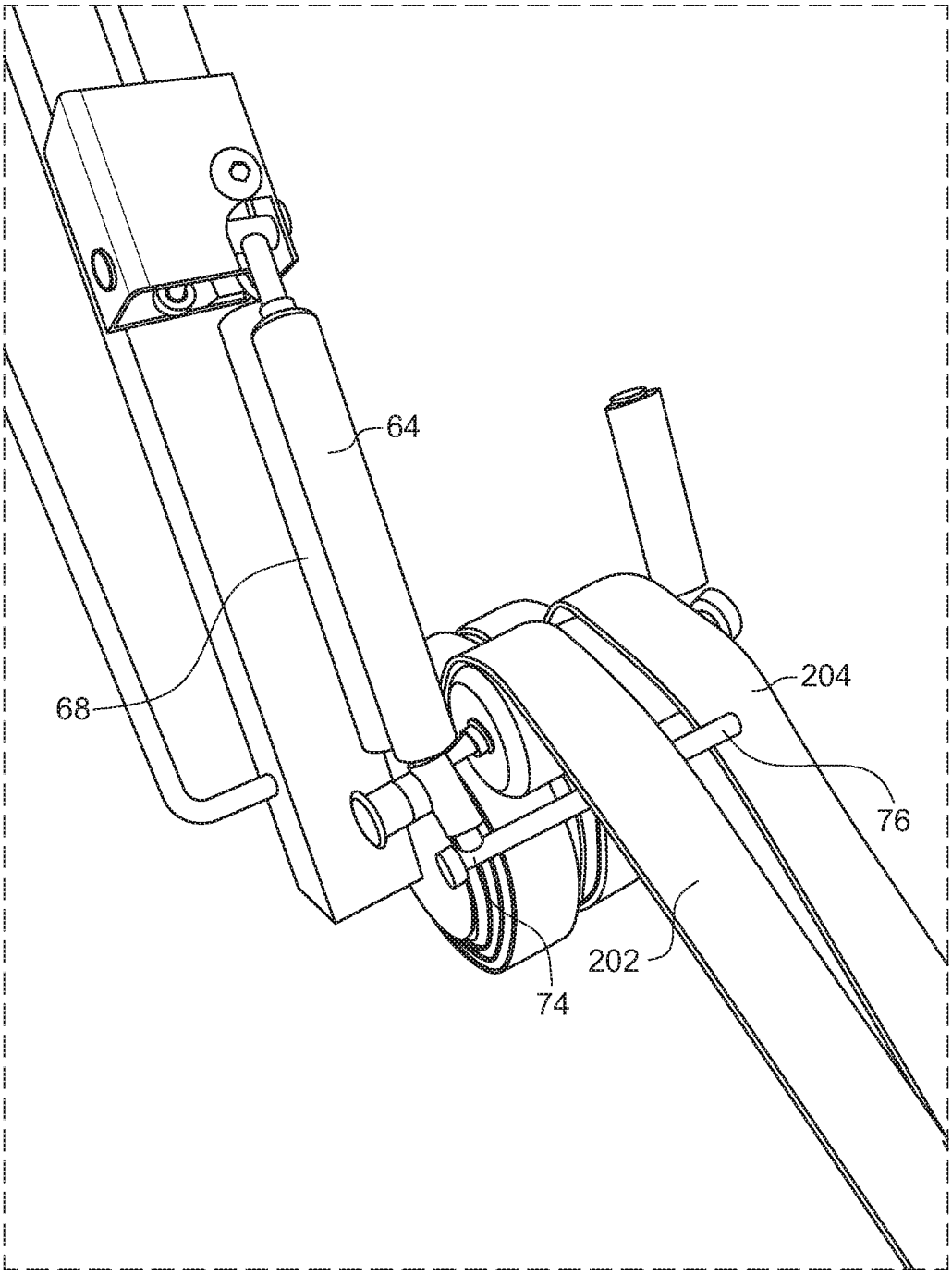


FIG. 17

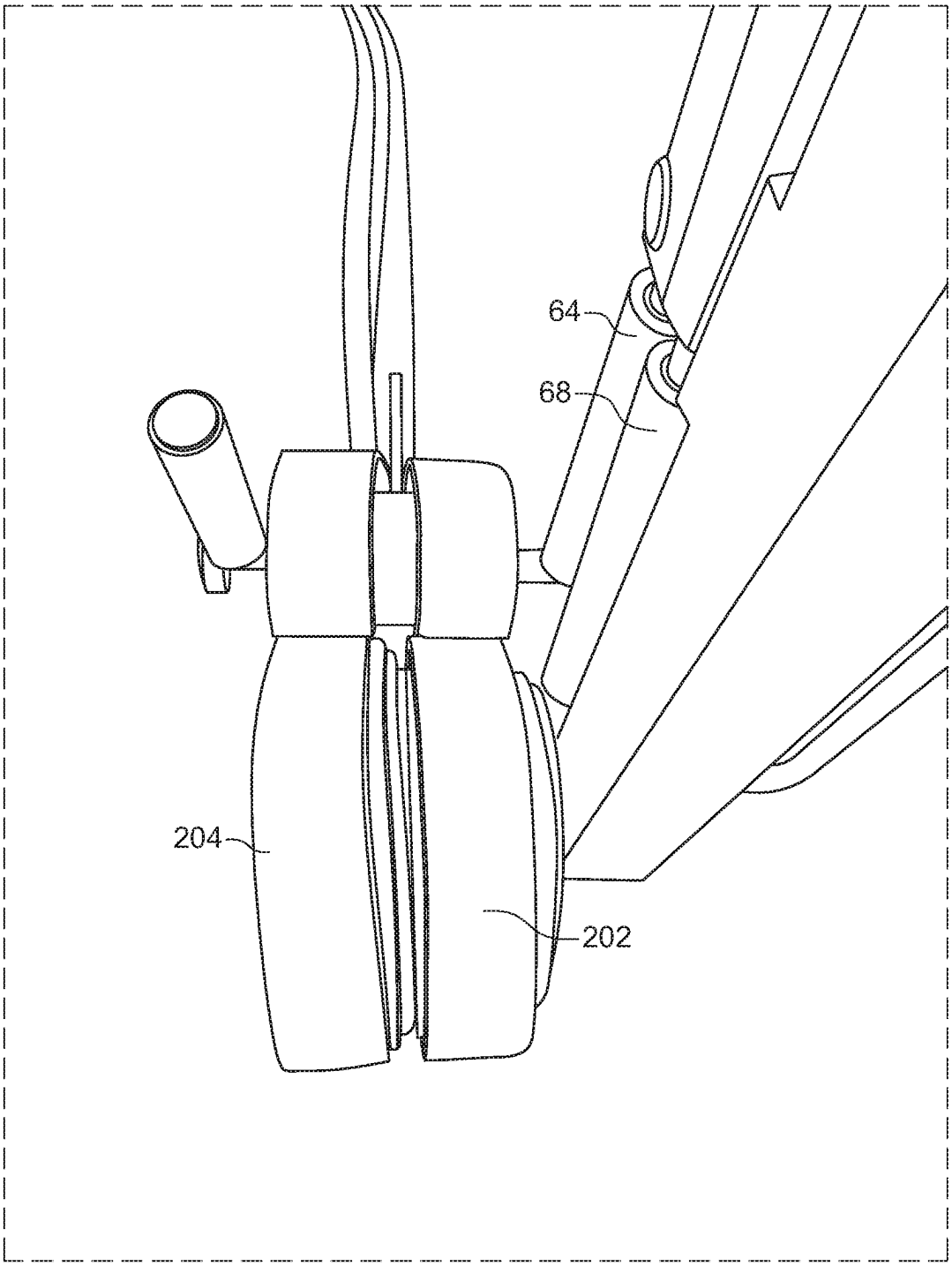


FIG. 18

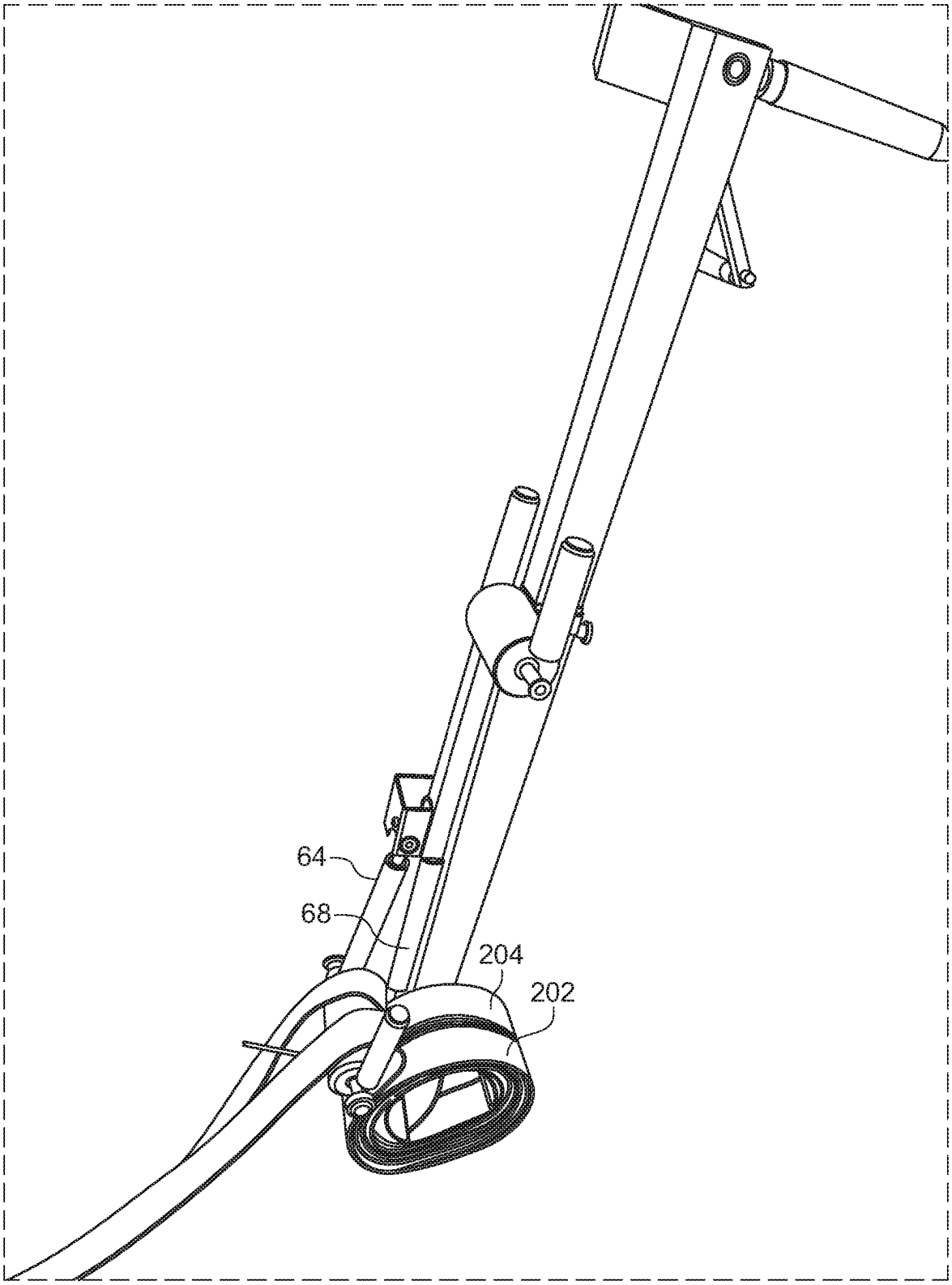


FIG. 19

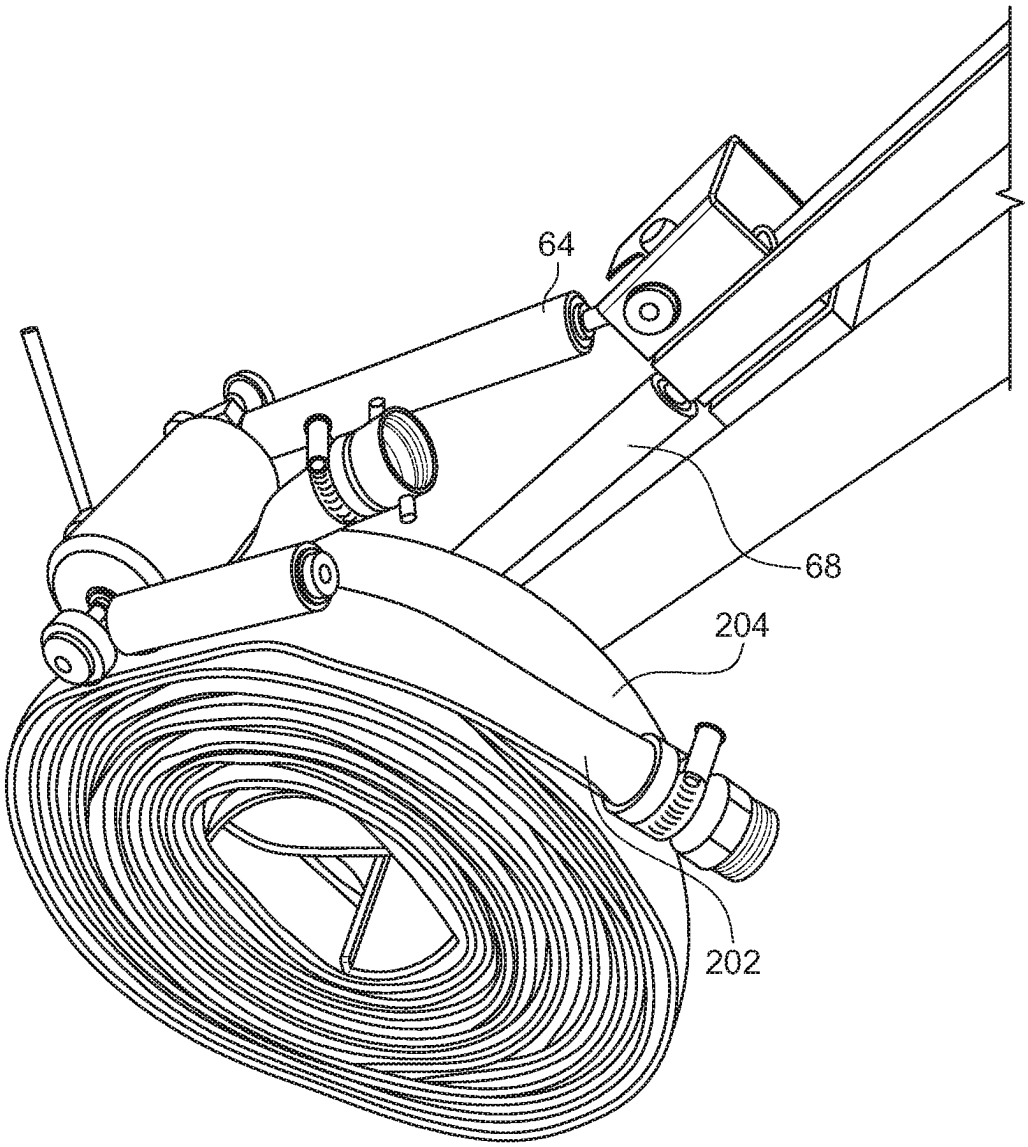


FIG. 20

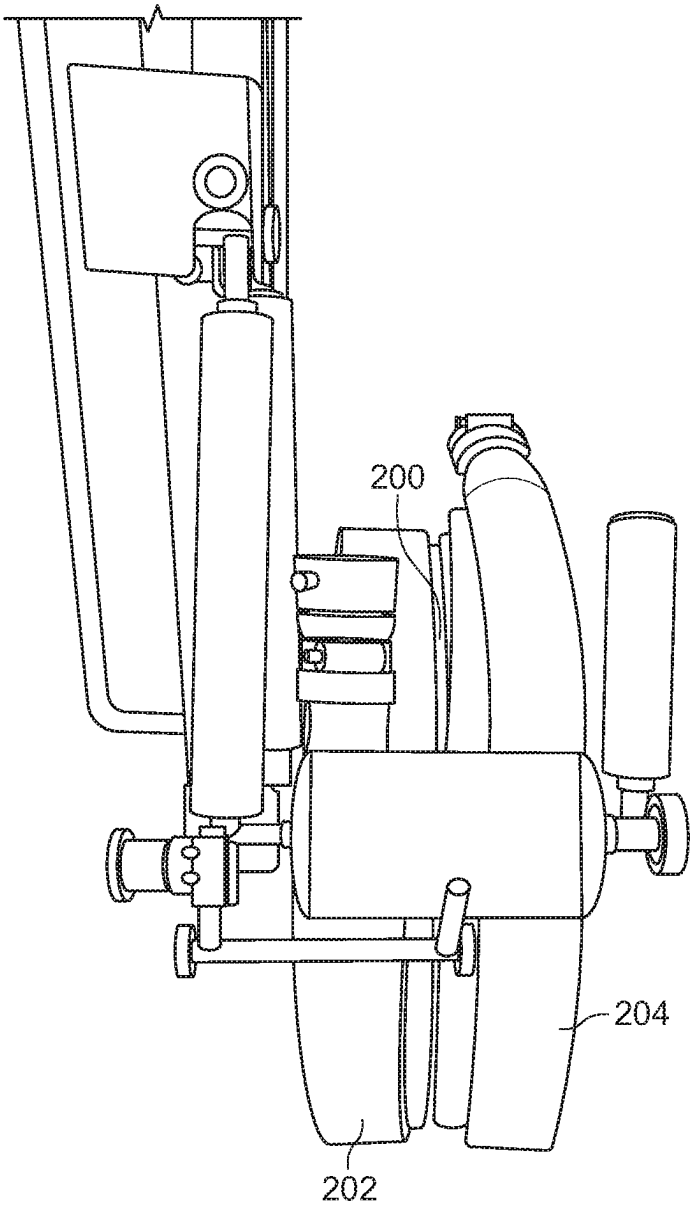


FIG. 21

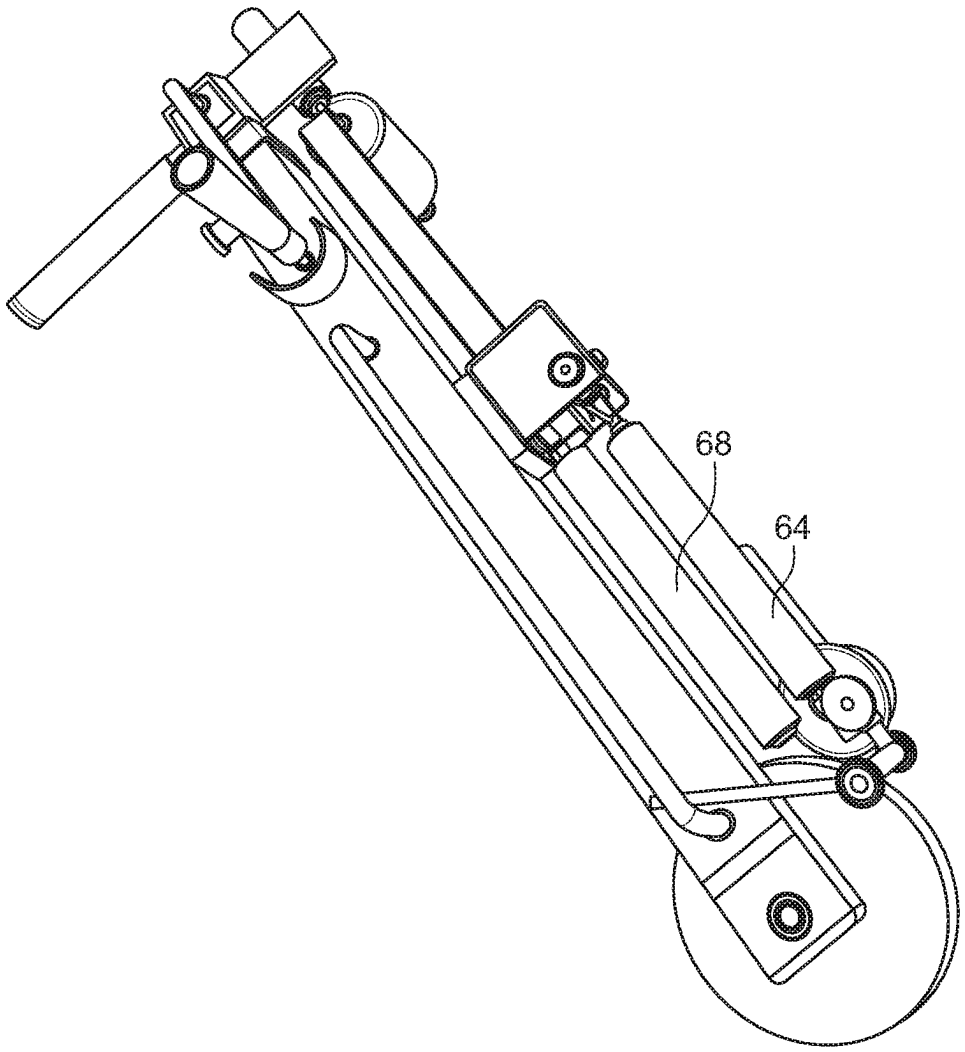


FIG. 22

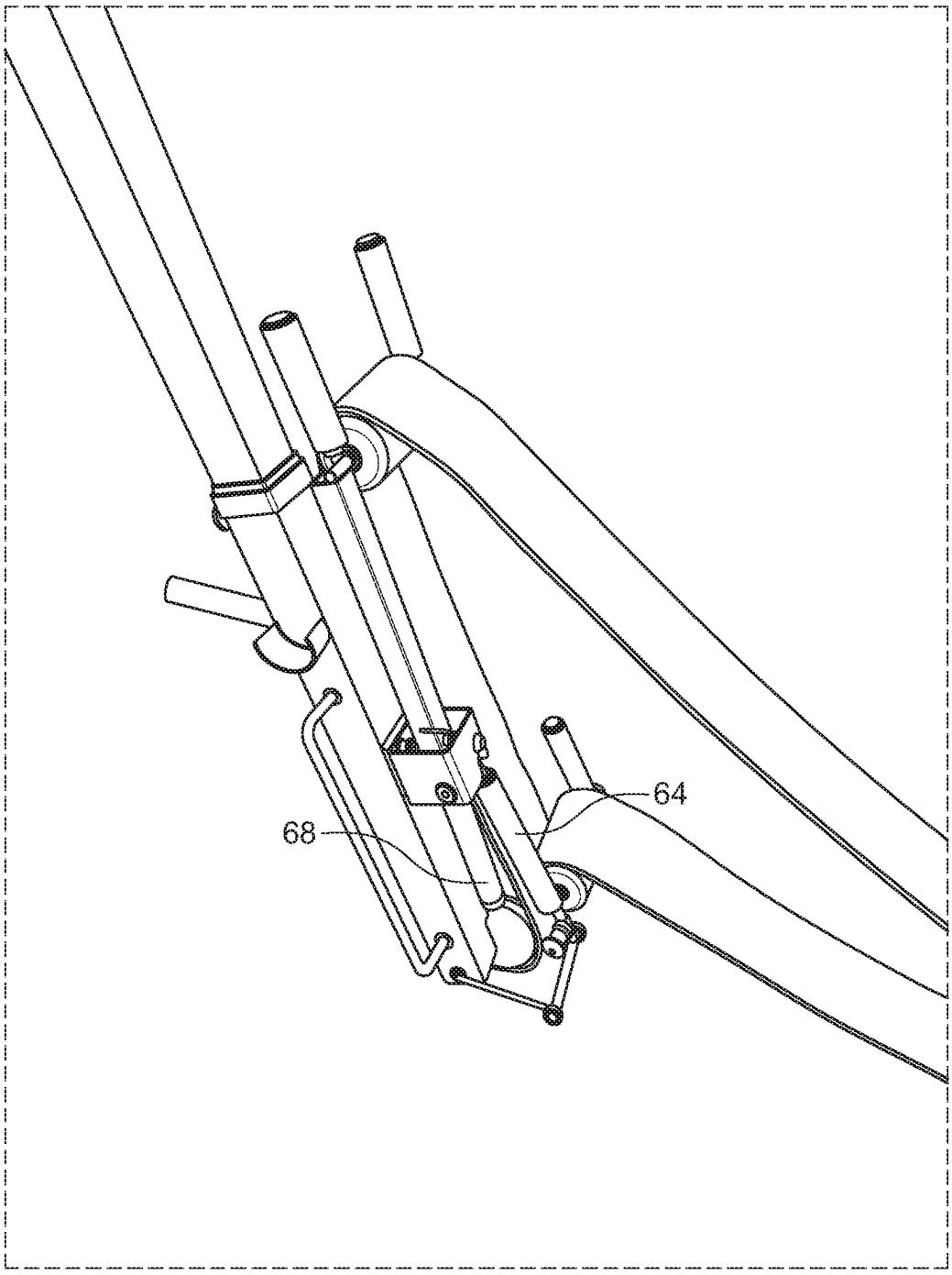


FIG. 23

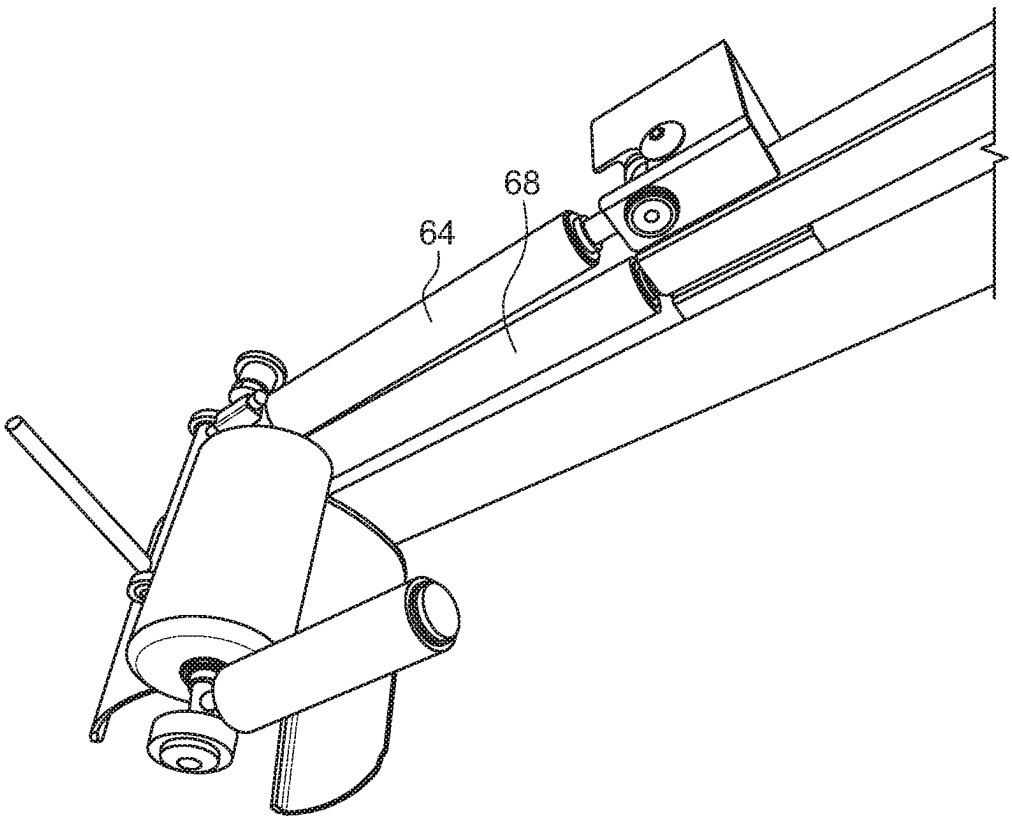


FIG. 24

A DEVICE FOR WINDING UP A HOSE

FIELD OF THE INVENTION

[0001] The present invention relates to a device for winding up a hose and has a specific use for a firefighting hose that is called a flat-flat hose.

BACKGROUND TO THE INVENTION

[0002] Whilst the description of this application relates to Lay-flat hose is commonly used in an emergency, mining, and agricultural industries it is not intended to limit the invention to the application to lay-flat hoses.

[0003] The benefit of a lay-flat hose over other types of hoses is its low requirement for space when it is packed up. Lay-flat hoses are commonly used with firefighting vehicles due to their compact size and flexibility. When the lay-flat hose is ready for use, a fighting crew can simply connect it to a pumping unit and run it out to a location of interest. Once it is ready for use the pump is turned on and water is discharged. When the users have finished using the hose the water is drained from the lay-flat hose, and then two staff are required to roll the lay-flat hose up. One staff member will hold an end, while the other staff member aligns the hose and rolls it up. Depending on the length of lay-flat hose used, the staff member who is aligning and rolling the hose up may walk over 40 m undertaking this task. While rolling the lay-flat hose up the staff member will be hunched over, this is not an ergonomic friendly task.

[0004] The issue with rolling up the lay-flat hose is that it is not ergonomic for either staff member and places strain on their back. The hose can weigh up to and over 20 kg when it is damp, therefore it causes safety concerns and adds additional fatigue to the working crew.

[0005] Various hand-held devices have been constructed to overcome this issue. These devices work by engaging the hose with a set of forks and rotating those forks either by motive power or manpower until the lay-flat hose is rolled up on the reel.

[0006] The issue with this device is that it doesn't provide the user with an easy location for it to be held after the lay-flat hose is wound up, the hose is very tight and is not easy when rolled to move. Another key issue with these devices is the size, they commonly have a set of wheels or a large centrepiece housing an electric motor and batteries.

[0007] Reels have also been used to wind up the lay-flat hoses, though an issue with this is that the hose is fixed to the reel and is not easily removed. The reels also take up a substantial amount of space which is not ideal for a fire truck where space is limited.

[0008] This patent offers a solution, amongst others, for users to roll a lay-flat hose with an ergonomic location that allow users to easily grip the hose for handling. The device is also compact and can be stored easily.

SUMMARY OF THE INVENTION

[0009] In a first aspect the invention there is proposed device to wind up a hose comprising of an elongated shaft, a drivable drum extending adjacent the bottom of the shaft laterally to the shaft, a drive mechanism adapted to rotatable drive the drum, a roller located above the drum and supported by the shaft so as to feed the hose onto the drum, wherein the hose is fed over the roller and then engages the drum wherein the drive mechanism when operated winds the hose onto the drum.

[0010] Preferably the roller comprises of a lower roller and two side rollers on either side of the lower roller.

[0011] Preferably the side rollers are upward facing.

[0012] Preferably the drive mechanism is rotated by a crank handle that transfers power through a shaft to the drivable drum.

[0013] Preferably comprising an extendable shaft.

[0014] In one embodiment of the invention the device consists of a dividing device on the top roller allowing the device to roll a hose in 'double Dutch' style.

[0015] In another embodiment of the invention, the dividing device is on the bottom roller.

[0016] In another embodiment of the invention, a roller is located on the release arm reducing friction by rolling along the edge of the coiled hose and not allowing the hose to contact the main body of the device.

[0017] It should be noted that any one of the aspects mentioned above may include any of the features of any of the other aspects mentioned above and may include any of the features of any of the embodiments described below as appropriate.

[0018] The object of this invention is to provide a system and method to address the above shortcomings or at least provides the public with a useful alternative.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] Preferred features, embodiments and variations of the invention may be discerned from the following Detailed Description which provides sufficient information for those skilled in the art to perform the invention. The Detailed Description is not to be regarded as limiting the scope of the preceding Summary of the Invention in any way. The Detailed Description will make reference to a number of drawings as follows.

[0020] FIG. **1** is a side view of an embodiment of the present invention illustrating a device to roll up a hose.

[0021] FIG. **2** is a side view of the device displaying a partially rolled up hose.

[0022] FIG. **3** displays the device laid down with a flat hose completely rolled up.

[0023] FIG. **4** is the rolled-up flat hose of FIG. **1**.

[0024] FIG. **5** displays a user stepping on the top handle to disengage the device from the hose.

[0025] FIG. **6** is the device on the ground with a hose rolled up.

[0026] FIG. **7** is a rear view of the device.

[0027] FIG. **8** is the front view of the device.

[0028] FIG. **9** is a close-up view of the release arm of the device.

[0029] FIG. **10** is a partial internal view of the device.

[0030] FIG. **11** is a close-up view of the top crank.

[0031] FIG. **12** is a close-up view of the drum gears.

[0032] FIG. **13** is a view of the top crank handle and shaft.

[0033] FIG. **14** is a view of the internals.

[0034] FIG. **15** is a view of the top roller

[0035] FIG. **16** is a view of an embodiment with divider on the bottom roller and additional roller on release arm.

[0036] FIG. **17** is a perspective view of a hose being rolled double Dutch style.

[0037] FIG. **18** is a front view of a hose being rolled double Dutch style.

[0038] FIG. **19** is a side view of a hose being rolled double Dutch style.

[0039] FIG. **20** is a perspective view of a hose fully rolled in double Dutch style.

[0040] FIG. **21** is front view of a hose fully rolled in double Dutch style.

[0041] FIG. **22** is a side view of an embodiment with divider on the bottom roller and additional roller on release arm.

[0042] FIG. **23** is a side view of an embodiment with additional roller on release arm and divider placed to the side.

[0043] FIG. **24** is an embodiment with divider on the bottom roller and additional roller on the release arm.

DETAILED DESCRIPTION OF THE INVENTION

[0044] Referring now to the Figures in detail the lay-flat hose reel device **5** consists of a lower tube **10**, upper tube **20**, crank **40**, and a drum **180**.

[0045] The device **5** consists of an upper tube **10**. The upper tube **10** is square in shape, though it is not limited to this shape and can be but is not limited to a rectangle, triangle, or hexagonal. The upper tube **10** is hollow.

[0046] The material of the upper tube **10** can be but is not limited to aluminium, steel, carbon fibre, or fibreglass or a combination thereof.

[0047] At the top of the upper tube **10** there is a top handle **30**. The top handle **30** is a shaft that protrudes outwards from the upper tube **10**. The shape of the top handle **30** can be but is not limited to a shaft or an ergonomic handle. The top handle **30** is attached to the upper tube **10** by welding it in place, it can also be fastened wherein the handle is threaded into a threaded hole on the upper tube **10**. A crank **40** is located at the top of the upper tube **10**. The crank **40** is connected to a crankshaft **110** in the top crankshaft housing **105**. Connected to the crank **40** is a crank handle **45**. The crank handle **45** is circular in shape though other forms of handles can be used such as a bar or ergonomic grip. The crank handle **45** is connected to the crank **40** with a fastener, the fastener enabling the crank handle **45** to rotate.

[0048] The upper tube **10** internally engages the hollow lower tube **20**. The upper tube **10** can slide up and down inside the lower tube **20**. The upper tube **10** is fixed into place with the lower tube **20** with a locking pin **22** which is located on the outer surface of the lower tube **20**. The locking pin **22** is a spring-loaded pin that is fixed to the outer tube **20** at the top, an example illustrated in FIG. **2**.

[0049] When the locking pin **22** is pulled outward from the lower tube **20**, the pin **22** disengages the upper tube **10**, enabling the upper tube **10** to slide up and down inside the lower tube **20**. Once the upper tube **10** is in the desired position that is fully extended, the locking pin **22** can be released by the user. As the locking pin **25** is released it locks into a collated hole (not shown) in the upper tube **10**.

[0050] The lower tube **20** includes a handle **25** wherein the user can hold the device **5**. The handle **25** is typically a thin bar that protrudes out from the lower tube **20** to allow the user's hand to be inserted into and grip the bar. An example of the handle can be observed in FIG. **9**.

[0051] Connected in front of the lower tube **20** is a swing arm **50**. The swingarm **50** is connected to a swing arm mount **52**. The swingarm mount **52** is generally of a U-shaped configuration and has three sides that are fixed to the outer surface of the lower tube **20**. The three sides of the mount **52** protrude outwards between 20 to 40 mm. The mount **52** has an opening as shown in FIG. **1**, wherein the swing arm **50** is mounted. The swingarm **50** is mounted to the swing arm mount **52** with a fastener **58**. The swingarm **50** and the swing arm mount **52** have collocated holes **54**, **56** that allow the fastener **58** to pass through.

[0052] The fastener **58** is also fed through a helical spring **62**, wherein one end of the spring **62** is fitted over the swing arm **50** and the other end is abutted against the surface of the lower tube **20**. As the swingarm **50** is extended outwards from the lower tube **20**, the spring **62** increase in tension. As shown in FIG. **1**, this applies constant pressure onto the hose **200** as it is being wound up around the drum **160**. The swingarm **50** pushes the hose **200** into the drum **160**. The swingarm **50** is a bar with a U-shape. Rollers **64**, **65**, **66** are placed over the swingarm bar **50** bars on all three sides as shown in FIG. **10**. Two rollers **64**, **65** are located on the sides while one roller **66** is located on the bottom. The distance between the side rollers **64**, **65** are adjustable and can range from 5 cm to 1 meter in width. This can be adjusted either by but not limited to sliding the two arms apart from each other with a telescopic bar, or by detaching the swingarm **50** and fitting a wider one.

[0053] The rollers **64**, **65**, **66** can rotate on the swing arm **50**. The rollers **64**, **65**, **66** can be but are not limited to bearing or bushings mounts. A fastener **68** is used to retain the rollers **64**, **65**, **66** on the swingarm **50**.

[0054] On the opposite side of the lower tube **20** to the swingarm **50** is a release arm **80**. The release arm **80** is attached to the lower tube **20** by a mount **82**. The mount **82** is a L-bracket that protrudes outwards. The mount **82** is fixed to the lower tube **20** by welding it to the surface. The release arm **80** is connected to the mount **82** by a pin **84** with a mechanical bias. The mechanical bias used can be but is not limited to a spring, or gas strut. The mechanical bias retains the release arm **80** in the same orientation as shown in FIG. **9**, as the release arm pivots on the pin **84**, it will apply pressure to the mechanical bias to return it back to its original position as shown in FIG. **9**.

[0055] The release arm **80** is connected to the mount **82** in the centre of the release arm **80**, though the location of the connection between the release arm **80** and the mount **82** is not limited to this location and can be positioned anywhere the user may require.

[0056] The release arm **80** can swing in the mount **82**, though it is limited to the range it can swing since the release arm **80** will foul on the release arm mount **82** past a certain angle. At the top of the release arm **80**, a release arm top roller **86** is located. The release arm top roller **86** is attached to a mount **90** at the top of the release arm **80**. The release arm top roller **86** is fastened **88** to the mount **90**. A nut is placed over the fastener **88** to retain the release arm top roller **86** in the mount **90**.

[0057] The release arm top roller **86** is formed of a U-shaped bar **92** with two arms that extend towards the top handle **30** and the same direction as the swing arm **50**. An example can be observed in FIG. **9**.

[0058] The width of the release arm **80** is adjustable, the width of the release arm can be but is not limited to between 10 cm to 100 cm. It can be adjusted by replacing the release arm **80** with a wider one or the release arm **80** can have a telescopic bar allowing the width to be expanded.

[0059] On each of the arms of the of the bar **92** rollers **94**, **95** are located. The rollers **94**, **95** slide over each of the arms of the bar **92**, a fastener **98**, **100** is used to retain the rollers **94**, **95** in place. A larger roller **96** is found at the bottom of the U-shape bend of the release arm top bar **92**. The rollers **94**, **95**, **96** can be but are not limited to a bearing or bushing mount that allow it to spin freely.

[0060] At the top of the upper tube **10** the crank handle **40** is connected to the crankshaft **110**. The crankshaft **110** protrudes out of the top crank housing **105** hole **107**. The crankshaft **100** mounted to the crank **40** with a fastener. The crankshaft **110** is connected to a crank gear **120**, which is mounted to a crank bearing **125**. The crank gear **120** is connected to the main crank gear **130**. The main crank gear **130** and crank gear **120** have a gear ratio of 1:1. The main crank gear **130** is seated in a main crank gear bearing **132**. The main crank gear bearing **132** is fixed to the bottom of the top crank housing **105**. The main crank gear **130** is connected to the main shaft **134** wherein when the main crank gear **130** is rotated the main shaft **134** will also rotate.

[0061] The main shaft **134** is a shaft that is inserted into the centre void of the upper **10** and lower tube **20**. The main shaft **134** can be any shape or profile in particular but is not limited to a square, tube, hex, triangular, octagonal, and fluted. The secondary shaft extension **145** matches the same profile of the main shaft **134**. Both shafts **134**, **145** need to have complimenting profiles that allow them to interlock with each other but are capable to slide up and down.

[0062] A secondary shaft extension **145** is inserted into the void in the main shaft **134**, an example can be observed in FIG. **12**. The secondary shaft extension **145** can slide up and down inside the centre of the main shaft **134**. The secondary shaft extension **145** is connected to a secondary shaft **150**. The secondary shaft **150** enters into the drum gear housing **170** wherein it is connected to the lower shaft gear **155**. The lower shaft gear **155** is mounted in place by the lower shaft gear bearing **158**. The lower shaft gear bearing **158** is fixed to the drum gear housing **170**. The lower shaft gear **155** is connected to the drum gear **160**. The lower shaft **155** and the drum gear **160** have a gear ratio of 1:1.

[0063] The drum gear **160** is connected to a drum gear shaft **164**. The drum gear shaft **164** is held in position inside the drum gear housing **170** by drum gear bearing **162**. The drum gear bearing **162** is fixed to the drum gear housing **170** inner wall. The drum gear shaft **164** extends out of the drum gear housing **170** through a hole **172** on the side of the drum gear housing **170**. The drum gear housing **170** is fixed to the lower tube **20** at the bottom as shown in FIG. **10**. The drum crankshaft **164** is connected to the drum **180** by the drum gear shaft **164** being connected to the drum rear plate **185**.

[0064] The drum rear plate **185** shape can be but is not limited to a circle, square, oval, or rectangle.

[0065] The diameter of the rear drum plate **185** can be but is not limited to 2 cm to 600 cm.

[0066] The rear drum plate **185** can also be adjustable wherein the arms **190**, **192** can be adjustable and the diameter they are positioned on the rear drum plate **185** is adjustable. This can be undertaken by switch the drum **180** with a different size or using a drum **180** with arms that can be shifted to change the diameter. The drum rear plate **185** has two semi-circular arms **190**, **192** that protrude outwards from the drum rear plate **185**.

[0067] The number of arms **190**, **192** on the drum rear plate **185** can be but is not limited to 1 to 20 arms. The number of arms **190**, **192** are based on what the user will require.

[0068] The two semi-circular arms **190**, **192** are opposite each other on the drum rear plate **185**. The position of the arms **190**, **192** are not limited to these positions and can be placed anywhere on the place in accordance to the users' requirements. The shape of the arms **190**, **192** can be but is not limited to semi-circles, circular tubes, a flat panel, a circle with a single slot opening, and a square.

[0069] The edge is rounded on each of the arms **190**, **192**. This can be undertaken by but is not limited to fixing a bar **194** to each of the arms' **190**, **192** edges or folding the edges. Rounding the edge of the arms **190**, **192** allows the hose **200** to be easily removed when required.

[0070] As the crank arm **40** is rotated, the crank gear **120**, main crank gear **130**, main shaft **134**, secondary shaft extension **145**, secondary shaft **150**, lower shaft gear **155**, drum gear **160**, and the drum **180** are rotated at the same time. The device **5** can be rotated clockwise and anti-clockwise.

[0071] The hose **200** that is preferably used for within this invention is a flat hose. A flat hose is commonly a hose that can fold flat, this is achieved by the hose being made of a woven water resistant material or PVC.

[0072] In a second embodiment of the invention there is a flange **72** with flange screw for tightening or loosening. Flange **72** is attached to swing arm **50**. Extending from the flange **72** is flange arm **74**, with dividing pole **76** at the end of the flange arm. Dividing pole **76** allows the hose to be rolled into two adjacent rolls **202**, **204** in a "double Dutch" roll.

[0073] A "double Dutch" rolled hose is also known in the art as a "double donut", or "twin donut" rolled hose.

[0074] Referring to FIG. **21**, "double Dutch" rolled hose **200** is rolled into two adjacent rolls **202**, **204**. This method of rolling a fire hose is commonly used for grass fire fighting hoses.

EXAMPLE 1

[0075] The device **5** is capable to roll up a flat hose **200**. The hose diameter can be between 4-300 mm in edge-to-edge width.

[0076] Firstly, the device **5** is in its compact state, wherein the upper tube **10** is pushed into the lower tube **20**. The user then pulls the spring-loaded pin **22** out allowing the inner tube **10** to be extended out of the lower tube **20** until the device **5** is at its operational state as shown in FIG. **9**.

[0077] The user firstly lays the hose **200** on the ground. The hose **200** can be either folded on itself or laid down flat as a single layer.

[0078] The folded end of the hose **200** is wrapped around the two arms **190**, **192** on the drum **180** in an S-shape as shown in FIG. **2**.

[0079] The lower length of the hose **200** is wrapped over the swing arm **50**, and the other length of the hose **200** is pulled over the release arm **80** as shown in FIG. **2**.

[0080] The user then rotates the crank **40** while walking towards the end of the hose **200**. As the user is rotating the crank **40** and walking towards the end of the hose **200**, the hose **200** will continue to roll up around the drum **180**. An example of a partially rolled up hose **200** on the drum can be observed in FIG. **2**. The swingarm **50** is constantly

applying pressure on the hose **200** due to the spring **62**. This keeps the hose **200** tight against the drum **180** and ensures the hose **200** is not loose.

[0081] Once the hose **200** is completely rolled up on the drum the device is laid down as shown in FIG. **7**.

[0082] The user can then step on the top handle **30**. As the user steps on the top handle the release arm abuts with the ground and the upper **10** and lower tube **20** pivot on the release arm pin **84**. As the upper **10** and lower tube **20** pivot when the user steps on the top handle **30**, the drum **180** is pushed upwards leaving the hose **200** rolled on the ground as shown in FIG. **6**.

[0083] If the device **5** is used to roll up a single layer hose **200**, the hose **200** is first laid down on the ground flat. The end of the hose **200** is then inserted between the two drum arms **190**, **192**. The user then starts to rotate the crank handle **45**, and as the crank handle **45** is rotated the drum **180** will rotate and the hose **200** is rolled around the drum **180**. As the crank handle **45** is rotated the user will simultaneously walk toward the end of hose **200**. Once the hose **200** is totally wrapped around the drum **180**, the device **5** is then laid down on the ground as shown in FIG. **5**. The user then steps on the top handle **30**. As the user steps on the top handle **30**, the release arm **80** abuts against the ground and the upper **10** and lower tube **20** will pivot on the release arm pin **84**. As the drum **180** is raised, the hose **200** will remain flat on the ground as shown in FIG. **6**.

[0084] An alternative rolling configuration is possible to roll a single layer hose **200**, into a "Double Dutch" style roll. The two ends of the flat hose are brought directly adjacent each other creating two adjacent hose segments **202**, **204**, with a folded end at the far length of the hose. The end of the hose **200** is then inserted between the two drum arms **190**, **192**, with hose segments **202**, **204** on either side of the dividing pole **76**. The user then starts to rotate the crank handle **45**, and as the crank handle **45** is rotated the drum **180** will rotate and the hose **200** is rolled around the drum **180**. As the crank handle **45** is rotated the user will simultaneously walk toward the end of hose **200**. Once the hose **200** is totally wrapped around the drum **180**, as shown in FIG. **21**, the device **5** is then laid down on the ground as shown in FIG. **5**. The user then steps on the top handle **30**. As the user steps on the top handle **30**, the release arm **80** abuts against the ground and the upper **10** and lower tube **20** will pivot on the release arm pin **84**.

[0085] Referring to FIG. **22**, in an embodiment of the device, an additional supporting roller **68** is attached adjacent to side roller **64**. The addition of the supporting roller **68** assists with reducing friction when rolling the hose. The supporting roller **68** reduces friction by rolling along the edge of the coiled hose **200**, and not allowing the hose to contact the body of the device **20**.

[0086] The device **5** rolls the hose **200** up leaving a centre hole in the rolled-up hose **200**. This centre hole in the rolled-up hose **200** allows a user to simply place their hand in there for manual handling and ergonomics while handling the hose.

[0087] An alternative to the crank handle **45** can be the use of a connector wherein a power plant such as an electronic motor can be attached to drive the rotation. For example, the crank **40** can have a socketed end wherein an electronic impact wrench can be attached. The user can then simply attach an impact wrench to drive the device **5**. This can be also in the form of removing the top assembly and fitting a power source to the main shaft **134** to drive the device **5**.

[0088] If the hose **200** is not laid down flat on the ground, the swingarm **50** and release arm **80** are capable to realign the hose into the correct orientation as it is fed around the drum **180**. This allows the user to roll up the hose by themselves with little to no preparation. Commonly flat hoses are used on firefighting trucks wherein the hose is compact.

LIST OF COMPONENTS

[0089] The drawings include the following integers.

[0090] **5** Device
[0091] **10** Upper tube
[0092] **20** Lower Tube
[0093] **22** Spring loaded pin
[0094] **25** Lower tube handle
[0095] **30** Top handle
[0096] **40** Crank
[0097] **45** Crank handle
[0098] **50** Swing arm
[0099] **52** Swing arm mount
[0100] **54** Swing arm mount hole
[0101] **56** Swing arm hole
[0102] **58** Fastener
[0103] **60** Nut
[0104] **62** Spring
[0105] **64** Side roller
[0106] **65** Side roller
[0107] **66** Lower roller
[0108] **68** Supporting roller
[0109] **68** End nut
[0110] **70** Flange screw
[0111] **72** Flange
[0112] **74** Flange arm
[0113] **76** Dividing pole
[0114] **80** Release arm
[0115] **82** Release arm mount
[0116] **84** Release arm pin
[0117] **86** Release arm top roller
[0118] **88** Top roller fastener
[0119] **90** Release arm top mount
[0120] **92** Release arm top bar
[0121] **94** Release arm top side roller
[0122] **95** Release arm top side roller
[0123] **96** Release arm top bottom roller
[0124] **98** Top nut
[0125] **100** Top nut
[0126] **105** Top crank housing
[0127] **107** Top crank housing roller
[0128] **110** Crank shaft
[0129] **120** Crank gear
[0130] **125** Crank gear bearing
[0131] **130** Main crank gear
[0132] **132** Main crank gear bearing
[0133] **134** Main shaft
[0134] **136** Main shaft extension cover
[0135] **145** Secondary shaft extension
[0136] **150** Secondary shaft
[0137] **155** Lower shaft gear
[0138] **158** Lower shaft gear bearing
[0139] **160** Drum gear
[0140] **162** Drum gear bearing
[0141] **164** Drum gear shaft

[0142] **170** Drum gear housing
[0143] **172** Drum gear housing orifice
[0144] **180** Drum
[0145] **185** Drum rear plate
[0146] **190** Drum sides
[0147] **192** Drum sides
[0148] **195** Drum side edge
[0149] **200** Hose
[0150] **202** "Double Dutch" rolled hose first segment
[0151] **204** "Double Dutch" rolled hose second segment
[0152] Further advantages and improvements may very well be made to the present invention without deviating from its scope. Although the invention has been shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus. Any discussion of the prior art throughout the specification should in no way be considered as an admission that such prior art is widely known or forms part of the common general knowledge in this field.
[0153] In the present specification and claims (if any), the word "comprising" and its derivatives including "comprises" and "comprise" include each of the stated integers but does not exclude the inclusion of one or more further integers.

1. A device to wind up a hose comprising of:
an elongated shaft;
a drivable drum extending adjacent the bottom of the shaft laterally to the shaft;
a drive mechanism adapted to rotatable drive the drum;
a roller located above the drum and supported by the shaft so as to feed the hose onto the drum, wherein the hose is fed over the roller and then engages the drum wherein the drive mechanism when operated winds the hose onto the drum.

2. The device in claim **1** wherein the roller comprises of a lower roller and two side rollers on either side of the lower roller.

3. The rollers in claim **2** wherein the side rollers are upward facing.

4. The device in claim **2** wherein a dividing pole allows for a dividing a hose into two segments to "Double Dutch" roll the hose.

5. The device in claim **2**, wherein an additional supporting roller is located adjacent to at least one side roller located on either side of the lower roller.

6. The device in claim **1** wherein the drive mechanism is rotated by a crank handle that transfers power through a shaft to the drivable drum.

7. The device in claim **1** further comprising an extendable shaft.

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