Aug. 15, 1950 G. H. PALM 2,519,064

HOSE REEL

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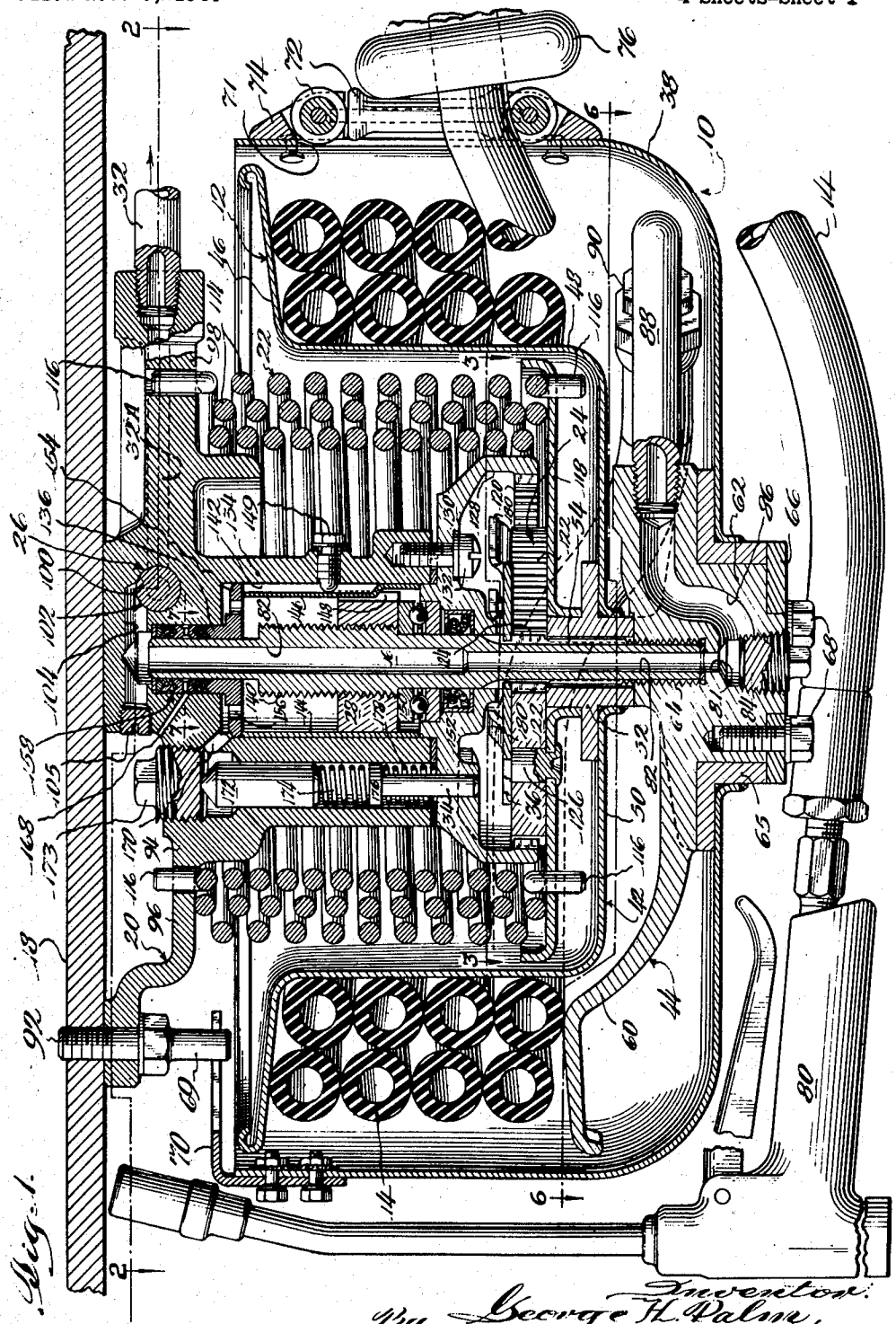


Fig. 1.

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HOSE REEL

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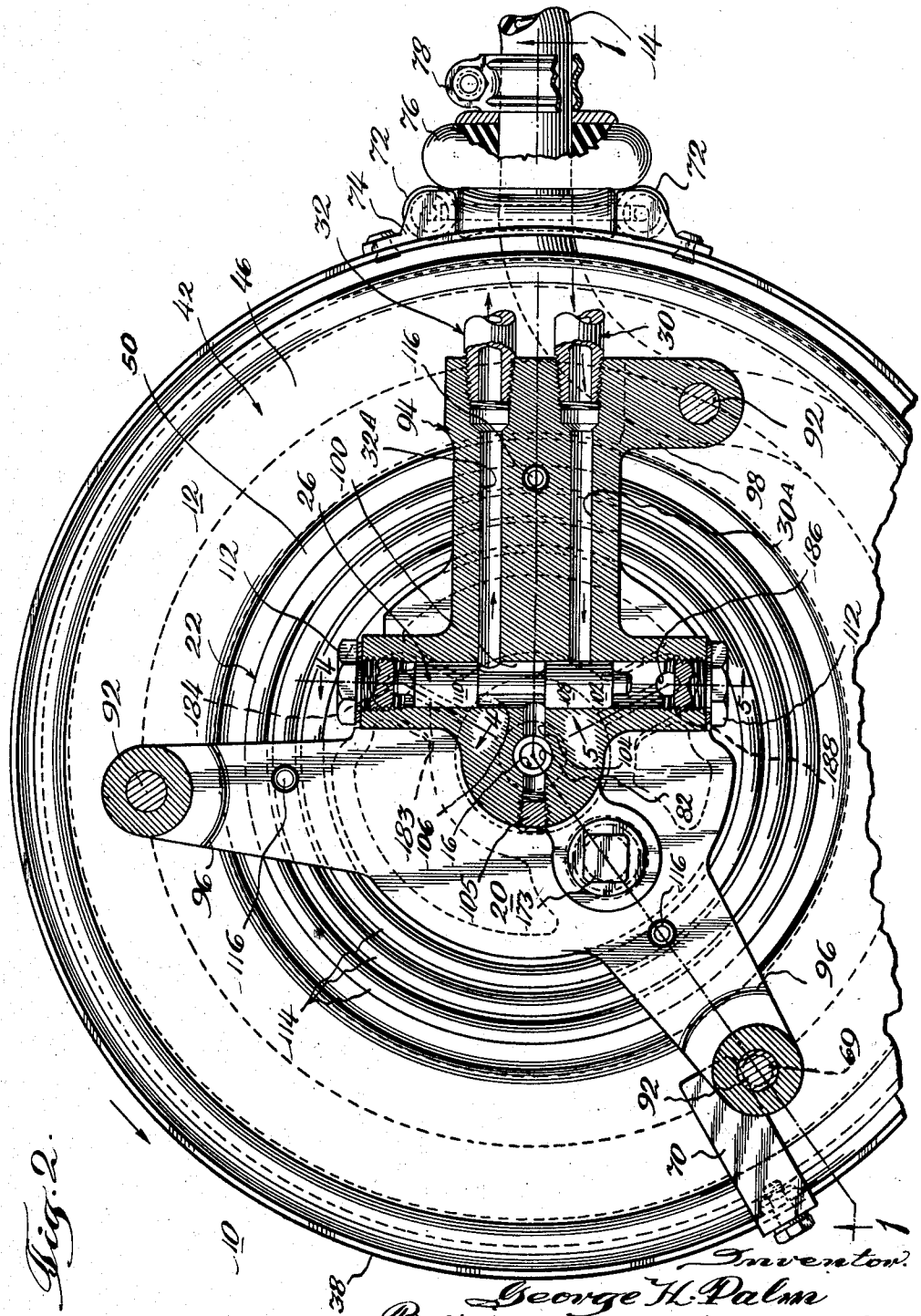


Fig. 2.

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Fig. 3.

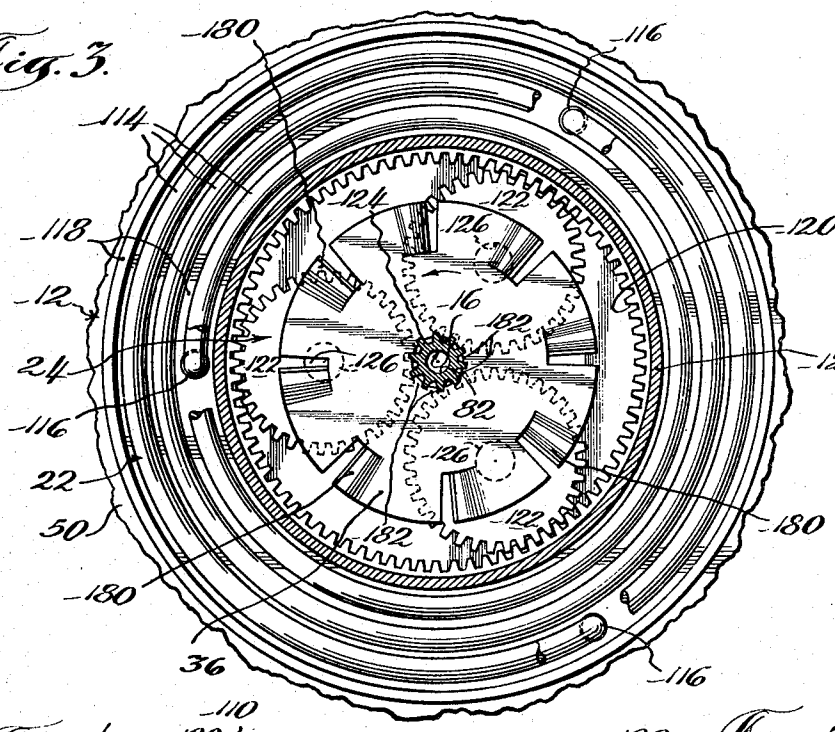



Fig. 4.

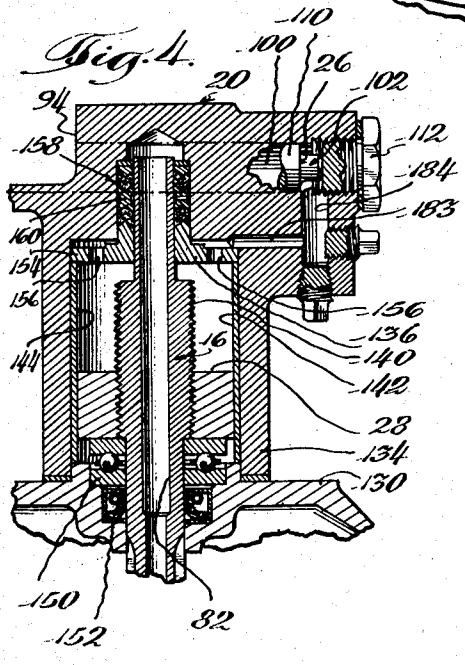
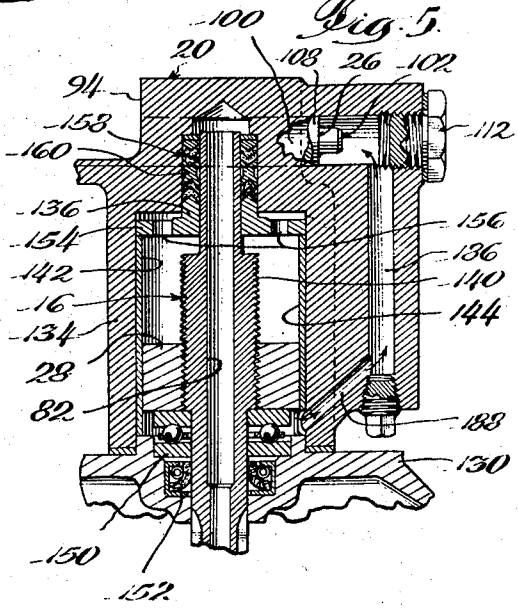



Fig. 5.




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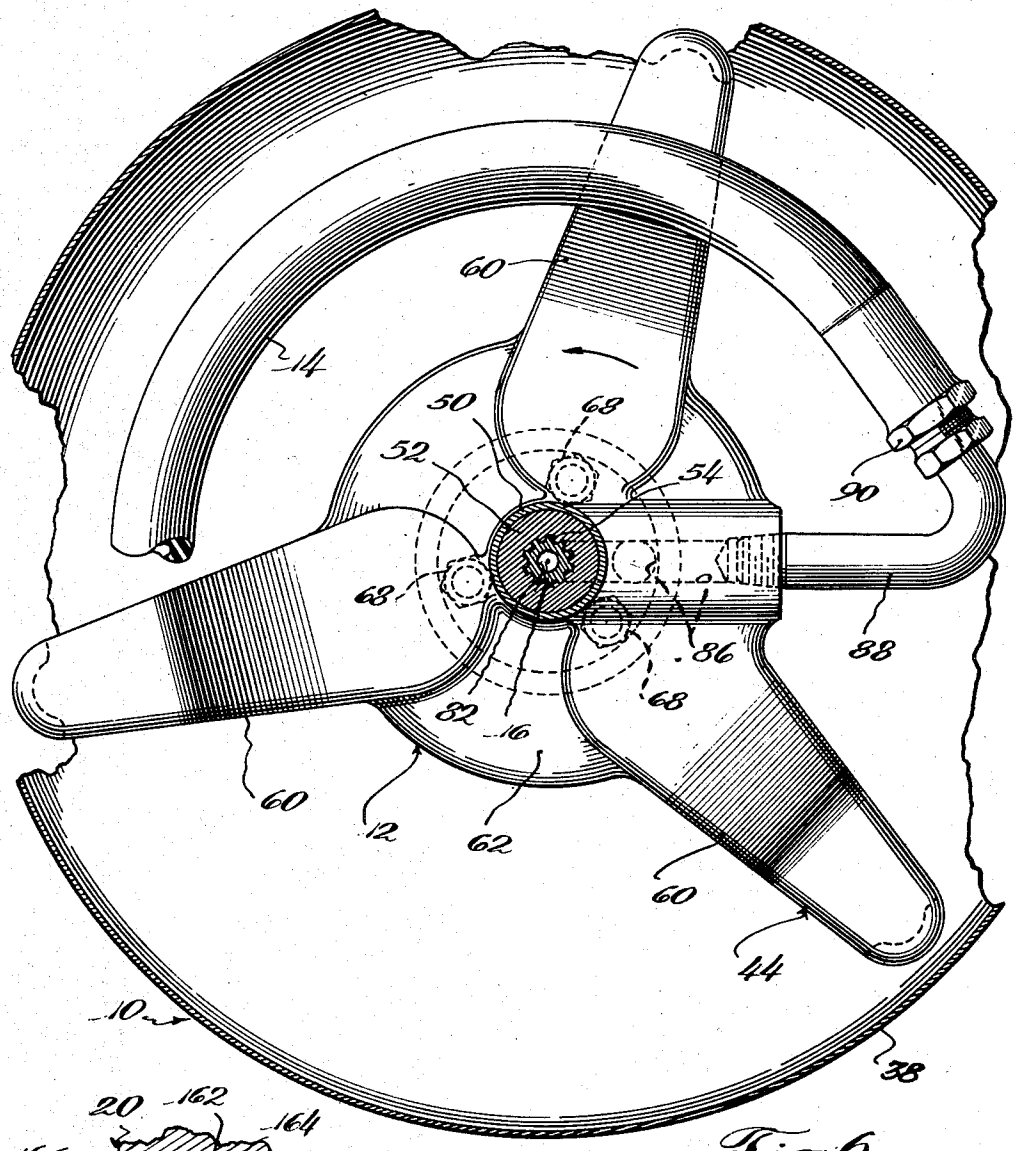



Fig. 6.

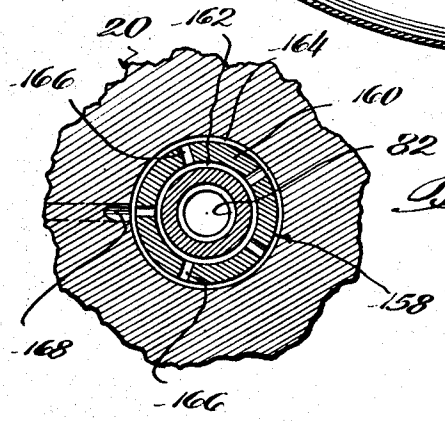



Fig. 7.

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Patented Aug. 15, 1950 2,519,064

# UNITED STATES PATENT OFFICE

2,519,064

## HOSE REEL

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Application November 8, 1944, Serial No. 562,416

15 Claims. (Cl. 299—79)

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The present invention relates to hose reels and particularly to power operated lubricant hose reels. In my copending application Serial Number 562,417, filed November 8, 1944, there is disclosed a power operated lubricant hose reel so constructed and arranged that the hose may be unwound or extended to a desired extent and rewound or retrieved by power means. A manually operable control valve is provided for the purpose of conditioning the reel for extension of the hose or operation of the power means to rewind the hose. The power means is actuated by lubricant obtained from a suitable source of lubricant under pressure.

A primary object of the present invention is to provide a new and improved hose reel wherein power means for rewinding the hose is energized for such operation when the hose is unreeled.

A further object of the present invention is to provide a hose reel of the character described wherein spring means constitute the power source and wherein the spring means is tensioned by movement through one turn as the reel on which the hose is supported is rotated through several turns.

Another object of the present invention is to provide a new and improved hose reel wherein the power means is controlled through the hose.

Another object of the present invention is to provide a power operated hose reel having a control valve which is controlled to condition the mechanism for unwinding or winding the hose through the medium of the hose and wherein the hose need not be held under tension when in use.

Another object of the present invention is to provide a new and improved power operated lubricant hose reel including a reel mounted upon a rotatable shaft adapted also to operate a control valve operating piston.

A further object of the present invention is to provide a new and improved hose reel including detent means for maintaining the reel in position to which it is rotated by unwinding of the hose and which detent means is adapted to be released through the medium of the hose.

Other objects and advantages of the present invention will become apparent from the ensuing description, in the course of which reference is had to the accompanying drawings in which:

Fig. 1 is an axial cross-sectional view through the hose reel, the view being taken along the line 1—1 of Fig. 2;

Fig. 2 is a transverse cross-sectional view through the apparatus taken along the line 2—2 of Fig. 1 and illustrating in greater particularity the construction of the control valve;

Fig. 3 is an enlarged fragmentary transverse cross-sectional view taken along the line 3—3 of Fig. 1 and illustrating details of a detent mechanism and of an epicyclic gear set interposed between a central reel supporting shaft and power means for rotating the reel;

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Fig. 4 is a fragmentary axial cross-sectional view taken along the line 4—4 of Fig. 2 and illustrating details of construction of the control valve and its operating means;

Fig. 5 is a view similar to Fig. 4 taken along the line 5—5 of Fig. 2;

Fig. 6 is a fragmentary cross-sectional view taken along the line 6—6 of Fig. 1 illustrating details of construction of the reel, the reel hub and a fitting through which lubricant is supplied to the hose from the central reel supporting shaft; and

Fig. 7 is an enlarged fragmentary cross-sectional view taken along the line 7—7 of Fig. 1 illustrating details of a rotary seal embodied in the apparatus.

Before going into a detailed description of the hose reel of the present invention, it may be well briefly to describe its general nature. The hose is mounted upon a reel supported by a hollow central rotatable shaft. The shaft is connected through gearing, preferably epicyclic gearing, to power means which preferably takes the form of a coil spring or springs. As the hose is unwound from the reel, the spring is wound for subsequent power rotation of the reel to rewind the hose thereon. The unwinding of the hose operates mechanism operating a control valve so that lubricant under pressure is supplied to the hose through the central shaft. The rotation of the reel also results in the operation of a detent mechanism adapted to hold the reel in the position into which it is rotated. When it is desired to rewind the hose, the hose is moved in unwinding direction thereby to release the detent mechanism and to permit the tension springs to rotate the reel and rewind the hose. At the same time the rewinding operation disconnects the hose from the lubricant and connects it to a relief conduit which may be connected to the low pressure side of a lubricant supply source.

Referring now to the drawings, the hose reel as a whole is indicated by the reference character 10. It includes a rotatable reel or drum 12 for the hose 14. The reel is secured to and supported by a central hollow rotatable shaft 16 which also serves as a conduit for lubricant to the hose and operating means for the detent mechanism and control valve. The reel as a whole is supported from suitable structure, such as a wall or ceiling, in this case a ceiling 18, by a stationary support indicated as a whole by reference character 20. It includes also suitable power means 22 connected by gearing 24 to the shaft. The connection of the hose to a source of lubricant under pressure is controlled by a control valve 26 movable by an operating mech-

anism including a piston 28 threaded on and vertically reciprocable by the central shaft 16. A conduit 30 (see Fig. 2) leads to a source of lubricant under pressure and a conduit 32 forms a relief or return line leading, for example, to the return or low pressure side of the lubricant source. The apparatus includes also a reciprocable pawl 34 cooperating with a ratchet plate 36 to hold the reel in the position to which it is turned when the hose is unwound. It includes also a cover 38 out of which the hose projects.

The reel 12 is made of two parts, one of which is a flanged cup-shaped member 42 and the other an integral three-armed casting 44. The open end of the cup-shaped member 42 is provided with an outwardly extending flange 46 constituting a rim, an axially extending portion 48 and an end plate defining portion 50. The latter is secured as by welding to a hub 52 suitably secured as by splining to a portion 54 of shaft 16. The casting 44 includes the three laterally extending arms 60 (see Fig. 6) and a central hollow hub 62 suitably secured as by the threaded connection 64 to the shaft 16.

The cover 38 is mounted upon the hub 62 for limited rotation so that the hose may be more readily moved to desired angular positions relative to the reel support. In the illustrated embodiment of the invention, the hose reel is mounted for rotation about a vertical axis and it is desirable to be able to move the hose to various positions angularly with respect to the axis of rotation. The cover is suitably secured as by welding to a flanged bearing 65 which is rotatable about the hub 62, and is held on the hub by a retaining ring 66 and a plurality of bolts 68. The rotation of the cover is limited to approximately 360 degrees by a fixed stop 69 engageable with a right angled stop 70 secured to the upper side of the cover.

The cover 38 is provided with a roller surrounded aperture 71 through which the hose extends. The rollers 72, of which there are four, are mounted in pins secured to a fitting 74 riveted or otherwise secured to the cover as best illustrated in Figs. 1 and 2.

The rewinding or retractive movement of the hose upon the reel may be adjustably limited by a bushing 76 encircling the hose and positioned by a clamp 78. A suitable lubricant applying device, such as the hand valve 80, is secured to the outer end of the hose.

Lubricant is supplied through the centrally extending rotatable shaft to the hose through the reel hub 62. The hub has an axial opening 81 (the outer end of which is closed by a plug 84) communicating with the central bore 82 in the shaft. The hub also has a generally radial passageway 86, to the outer end of which is attached a generally V-shaped tube 88, to the end of which the hose 14 is secured by a coupling 90 of conventional construction.

The stationary support 20 of the hose reel is adapted to be secured by three studs or bolts 92 to the ceiling 18, note that one of the bolts is integral with the stationary stop 69 heretofore referred to. It should be understood, however, that the hose reel may be secured to vertical walls or portable devices or the like. The stationary support 20 includes a main casting 94 having at its upper end a pair of angularly spaced apart arms 96 and a third extension 98 to which the previously referred to conduits 30 and 32 are connected. The extension 98 also has a pair of radial bores 30A and 32A forming extensions of the pressure and relief lines and leading to a main centrally located valve chamber 100, within which a reciprocable control valve member 102 is located (see especially Figs. 1 and 2).

The control valve member 102 is movable between two positions. In the indicated position (which is the position occupied by it when the hose is wound upon the reel), the hose is connected to the relief conduit through the passage 82 in the central shaft, a radial passage 104 in the fixed support and the annular groove 106, located between the piston-like ends 108 and 110 of the valve, and bore 32A. The passageway 104 is preferably bored from the opposite side of the housing from that at which the control valve is located and its opposite end is closed by a plug 105. In the other position of the valve (which corresponds to the position occupied by the valve when the hose is unwound from the reel), the pressure conduit 30 is similarly connected to the hose through the central shaft and the annular groove 106 which then provides communication between bores 104 and 30A. The ends of the valve chamber 100 are closed by similar plugs 112. The manner in which the control valve is moved between its two positions will be described shortly.

As heretofore indicated, the hose is unwound by hand and the power means for rewinding the hose is energized during such unwinding. It is preferred that the power means be of the spring type and include a plurality (three) of helical springs 114 which are provided with oppositely extending axial ends 116, whereby one end of each spring is secured to the fixed support and the opposite end of each spring is secured to the reel through a flanged plate 118 rotatably secured on hub 52. It may be seen, therefore, that as the hose is unwound and the reel rotated, the spring is tensioned to an extent determined by the unwinding of the hose. This tensioning of the spring is utilized to rewind the hose in a manner to be described shortly.

In order that the springs need be tensioned by only one rotation of the ends fixed or secured to plate 118, they and the plate are connected to the spool through gearing, preferably epicyclic gearing, including a stationary ring gear 120, three planet gears 122 mounted upon a planet carrier which is preferably the previously referred to plate 118, and a sun gear 124 preferably made integral with the central shaft 16. The planet gears are rotatably secured to the carrier 118 by studs 126 or the like. The ring gear is formed integrally with the axial flange 128 of an end plate 130 secured by bolts 132 to an axial portion 134 of the main support casting 94. The central shaft is journaled in the central portion of end plate 130 and in a bearing 136 secured to the upper end of casting 94. The arrangement is such that as the reel is rotated during unwinding of the hose, the planet carrier is rotated at reduced speed by the sun gear 124 formed integral with the spool supporting shaft 16 and the shaft 16 is rotated by the springs 114, more specifically by the planet carrier, when the hose is being rewound.

The control valve is moved between its two positions under manual control, which is preferably exerted through the hose. In the specific arrangement illustrated, the control valve is moved by hydraulic fluid (such as a suitable oil) acted upon by the previously referred to piston 28 which is reciprocated vertically by rotation of the central shaft 16. The shaft is provided with a threaded portion 140 which receives the piston

which is also threaded. The piston is mounted within a central bore 142 in the main casting 94 although the piston does not engage the bore. The piston engages rather a piston chamber defining sleeve 144 disposed within the bore 142 and having an axial bead 146 loosely engaging an axial groove 148 in the piston, whereby rotary movement of the piston is prevented and fluid may flow from one side of the piston to the other, for a reason which will appear shortly. A set screw 149 extends through the axial portion 134 of casting 94 and into the bead 146, thereby to prevent the sleeve and also the piston from rotating.

Downward movement of piston 28 is limited by a thrust bearing 150 seated within the end plate 130 and leakage of lubricant from within the chamber is prevented by a rotary seal 152 also disposed within the end plate. The upper end of the piston chamber is partly closed by the bearing 136 which has an annular flange portion 154 seating upon the sleeve 144. The flange portion of the bearing is, however, provided with a plurality of apertures 156 so that lubricant may flow into and out of the upper part of the piston chamber. Leakage of fluid from the piston chamber and around the upper part of the central shaft 16 is prevented by a seal 158 surrounding the shaft and located near the upper part of the shaft. The seal includes a metal washer 160 (see Fig. 7) having inner and outer circular grooves 162 and 164 connected by a plurality of radial bores 166 whereby any fluid which may leak beyond either of the two sealing packings may bleed out through an upwardly inclined passage 168 to the exterior of the casing.

The apparatus is so constructed and arranged that the piston 28 moves upwardly when the hose is unwound or unreeled. In the rewound position in which it is shown, the piston is at its lowermost limit. This limit is determined by the thrust bearing and is so arranged in assembly that the springs are pretensioned to some desired degree when the hose is completely rewound. When the hose is unwound, the shaft 16 rotates and, among other things, it moves the piston 28 upwardly. When this occurs, the fluid above the piston is utilized to make operative the detent mechanism including the pawl 34 and ratchet plate 36 and also to move the valve 102 from its indicated position in Fig. 2 to its other position wherein the source of lubricant under pressure is connected to the hose.

The detent mechanism is rendered operative by upward movement of the piston 28, as follows: Some of the fluid within the piston chamber moves upwardly through openings 156 in the bearing plate 136 and through passageway 170 into the space around the upper end of the piston 172 and depresses the piston. This piston normally abuts against the plug 173 which is removable so that the piston chamber may be filled with hydraulic fluid. Preferably the piston chamber is filled until the chamber and the region above the piston 172 are substantially completely filled Depression of the piston 172 tensions a spring 174 bearing against the upper end 176 of the pawl 34. The pawl, as a consequence, moves downwardly against the force of a somewhat stronger spring 178 so that the lower end projects into the path of movement of ratchet teeth 180 on the ratchet plate 36. During the unwinding operation, the pawl rides over the teeth, but as soon as pull upon the hose ceases, the springs 114 tend to move the plate 36 in the opposite direction, with the result that



the teeth 180 strike the pawl 34 and prevent the ratchet plate and reel from moving. The ratchet plate is provided with teeth 182 having a splined connection with the central shaft 16 so that when the ratchet plate is prevented from moving, the central shaft and reel are likewise so prevented from moving, once the ratchet plate has engaged the pawl, as described; then after a lapse of a certain period of time, the piston 172 is gradually moved upwardly by the spring 174, the fluid from above the piston 172 being forced back into the piston chamber and to the underside of the piston 28 by reason of the previously referred to loose fit between the axial groove 148 on the piston and the bead 146. Thus, while the reel is kept from rotating and rewinding the hose after the hose has been pulled out and released, the pawl is releasable by later pulling on the hose to disengage a ratchet tooth 180 from the pawl. When this is done, the spring 178 is effective to move the pawl 34 upwardly thereby to effect the release.

When the piston 28 moves upwardly from the position shown in Fig. 1, it also moves the valve 102 from the position shown in Fig. 2 to its opposite position. The upward movement of the piston 28 forces fluid from the piston chamber through the openings 156 to act upon the end 110 of the piston valve 102. The flow of fluid at this time may be observed in Fig. 4 from which it may be seen that the lubricant flows through the openings 156 to the valve chamber through radial and vertical passageways 183 and 184, respectively.

To rewind the hose, the latter is pulled further, slightly, to release the pawl for return by spring 178, whereupon the springs 114 are effective to rotate the reel and rewind the hose. The piston 28 moves downwardly and in so moving, moves the control valve 102 back to the position in which it is shown in Fig. 2. This is done by the flow of fluid from the underside of the piston to act upon the end 108 of the valve. The flow to this end of the valve may be observed by reference to Fig. 5 from which it can be noted that the end of the valve is connected to the underside of the piston through a vertical passage 186 and a radially and upwardly inclined passage 188.

A brief description of the operation of the hose reel as a whole will now be given. The drawings illustrate the reel with the hose fully wound thereon. At this time the control valve is in the position in which it is illustrated in Fig. 2, the hose is connected to the relief conduit 32 through tube 88, passageway 86 in the reel hub, passageway 82 in the central shaft 16, passageway 104, groove 106 of the control valve, and passageway 32A. The piston portion 108 of the control valve cuts off the high pressure lubricant and piston 28 is at its lowermost position, the pawl 34 is retracted, and piston 172 is at its uppermost position, all as illustrated in Fig. 1. The springs 114 are unwound but not completely because of the pretensioning thereof.

When the hose is unwound from the reel for use in lubricating, either in part or fully, the spool rotates the central shaft and the latter moves the piston 28 upwardly. It also coils or tensions the springs 114 but at a reduced rate of rotation because of the planetary gear drive between the two. The upward movement of the piston 28 results in the movement of the control valve 102 from its indicated position in Fig. 2 to its other position wherein lubricant under pressure is supplied to the hose through conduit 30A

and the central groove 106 of the valve which now connects passage 104 to passage 30A. As a result, the lubricating apparatus may be used. The pawl 34 is moved downwardly by the piston because the latter applies pressure to piston 172 causing it to move downwardly and to compress springs 174 and 178 and to move the pawl 34 into operative relation with the ratchet teeth 180 on ratchet plate 36. As a result, when the hose is no longer under tension, the springs tend to rotate the reel to rewind the hose and one of ratchet teeth 180 engages pawl 34 and binds it against the end plate 130. This holds the reel in the position to which it is moved. In a short time the piston 172 moves upwardly because of the flow of fluid to the backside of piston 28 thereby to condition the detent mechanism for release under the control of the operator.

After the lubrication has been completed, the hose may be automatically rewound upon the reel simply by applying a slight pull or jerk to the hose. When this is done, the reel is moved to slightly unwind the hose with the result that the ratchet tooth 180 in engagement with pawl 34 is moved away from the pawl. The pawl is immediately moved upwardly by spring 178 and as a result the springs 114 rotate the spool to rewind the hose. As the spool rotates in rewinding the hose, the piston 28 moves downwardly and forces fluid to move the control valve 102 back to the position in which it is shown in Fig. 2. At this time the oil flows in the direction indicated by the arrows in Fig. 5.

It should be noted that the hose may be unwound to any desired extent and that it is held there by the detent mechanism. It should be apparent from the foregoing description that the detent mechanism holds the reel in the event the hose is initially unwound either partly or entirely. Assuming it is unwound partly, then it can be readily unwound further and held in its new position by the detent mechanism. After the first phase of unwinding the piston 172 returns to the position in which it is indicated in Fig. 1 whereby the pawl 34 is conditioned for release upon further movement of the reel in unwinding direction. Then when the hose is unwound further, the piston 28 moves upwardly again to move the piston 172 downwardly to move, in turn, the pawl into operative relation relative to the ratchet plate 36. At this time the upward movement of piston 28 has no further effect on the position of the control valve member 102 because the pressure is applied to the same end of the latter as it was in the first instance.

When the hose is being rewound, the rewinding operation can be terminated by again applying tension or unwinding the hose. If this is done, the piston 28 is again moved upwardly to condition the detent mechanism for operation and to move control valve member 102 to connect the lubricant source to the hose.

While I prefer to employ the form and arrangement of the parts as shown in the drawings and as above described, the invention is not to be restricted thereto except so far as the claims may be so limited, it being understood that changes might well be made in the form and arrangement of the parts without departing from the spirit of the invention.

I claim:

1. Hose reel apparatus of the type including a rotatable reel supporting a hose and means for connecting the hose to a source of fluid under pressure, including in combination, means for rotating the reel in opposite directions, and control means operated by rotation of the reel in said opposite directions for selectively connecting the hose to the fluid source or to a low pressure region.

2. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure, including in combination, means for rotating the reel in opposite directions, means operable selectively to connect the hose to the fluid source or to a low pressure region, and pressure producing means operative upon movement of the reel for operating said last mentioned means selectively in response to the direction of movement.

3. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure, including in combination, manual means for rotating the reel in a direction to unwind the hose therefrom, power operated means for rotating the reel in a direction to rewind the hose thereon, valve means for connecting the hose to and disconnecting it from the source of fluid under pressure, and means operated by the rotation of the reel in opposite directions for moving said valve means between its selective positions.

4. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure, including in combination, means for rotating the reel, two-position valve means operable to connect the hose to the source of fluid in one position and to connect it to a low pressure region in another position, and pressure operated means rendered effective upon rotation of the reel to operate the valve between its two positions.

5. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure, including in combination, means for rotating the reel to rewind the hose thereon, valve means operable to connect the hose to the source of fluid and to disconnect it therefrom, and means including pressure generating means rendered effective upon rotation of the reel and operatively connected to the valve for moving said valve to disconnect the hose from the source of fluid when said reel is rotated to rewind the hose thereon.

6. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure, including in combination, means rotatably supporting the reel so that the hose may be unwound from the reel by applying tension to the hose, spring means tensioned upon unwinding of the hose for rotating the reel in a direction to rewind the hose thereon, valve means operable to connect the hose to or to disconnect it from a source of fluid pressure, and means including a piston movable in opposite directions in response to rotation of the reel in opposite directions manually or by the spring means and hydraulic fluid means actuated in response to movement of said piston in opposite directions for operating the valve means.

7. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure and which is rotatable to rewind the hose thereon by means energized during unwinding of the hose, including in combination, normally inoperative detent means for preventing rewinding movement of the reel, and means operable by move-

ment of the reel in unwinding direction for rendering said detent means operative, said last mentioned means being rendered ineffective while the detent means is effectively holding the reel at rest.

8. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure and which is rotatable to rewind the hose thereon by means energized during unwinding of the hose, including in combination, normally inoperative detent means adapted to be moved to a position to prevent rewinding movement of the reel and to be held in said position, pressure operated means for moving the detent into its operative position, and reel operated means for producing pressure during rotation of the reel to operate said detent operating means.

9. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure and which is rotatable to rewind the hose thereon by means energized during unwinding of the hose, including in combination, normally inoperative detent means adapted to be moved to a position to prevent rewinding movement of the reel and to be held in said position, means including a piston resiliently connected with the detent means for moving the detent means into its operative position, and piston means and hydraulic fluid means operative upon rotation of the reel in unwinding direction for producing pressure during rotation of the reel to operate said piston.

10. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure and which is rotatable to rewind the hose thereon by spring means energized during unwinding of the hose, including in combination, means for connecting the hose to the source of fluid, detent means adapted to be conditioned for preventing rewinding movement of the reel, and means operated by and upon rotation of the reel in unwinding direction for operating both said preceding means.

11. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure and which is rotatable to rewind the hose thereon by means energized during unwinding of the hose, including in combination, valve means operable to connect the hose to or to disconnect it from a source of fluid pressure, normally inoperative detent means adapted to be moved to a position to prevent rewinding movement of the reel and to be held in said position, means including a piston resiliently connected with the detent means for moving the detent means into its operative position, and means including a piston chamber, hydraulic fluid and a piston reciprocable in said chamber in opposite directions in response to opposite directions of rotation of the reel for operating said first mentioned piston and said valve means when said reciprocable piston moves in one direction and for operating said valve only when said reciprocable piston moves in the opposite direction.

12. Hose reel apparatus of the type including a rotatable reel supporting a hose, including in combination, a stationary support having an axially extending portion, means including a rotatable shaft coaxially disposed relative to and extending beyond said portion and secured to the reel, spring means surrounding said portion of the support and connected to said support, means including planetary gearing located adjacent the end of said portion of the support and interconnecting said spring means and shaft, said planetary gearing including a sun gear connected to said shaft, a planet carrier connected to the spring and a ring gear secured to said support, and detent means operable to prevent rotation of the reel in one direction including a ratchet plate mounted on said shaft and a pawl mounted for axial movement in said support.

13. Hose reel apparatus of the type wherein the reel is rotated to rewind the hose thereon by coiled spring means housed substantially within the reel and tensioned during unwinding of the hose, characterized in that the reel is operatively connected to the coiled spring means through planetary gearing housed within the reel and having a fixed ring gear coaxial with the reel, a sun gear rotatable with the reel and a planet carrier secured to the spring means, whereby the spring means is tensioned by rotating the planet carrier through one revolution in response to a plurality of revolutions of the reel and sun gear.

14. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure and which is rotatable to rewind the hose thereon by means energized during unwinding of the hose, including in combination, detent means conditioned for operation by the unwinding of the hose for preventing rewinding of the hose, said detent means including a member initially urged into engagement with the reel and thereafter prevented from moving out of engagement with the reel only by force exerted thereon by the reel, and means yieldingly urging said detent means out of position for engagement with the reel whereby when the reel is moved further in the direction to unwind the hose the detent means is rendered ineffective.

15. Hose reel apparatus of the type including a rotatable reel supporting a hose adapted to be connected to a source of fluid under pressure and which is rotatable to rewind the hose thereon by means energized during unwinding of the hose, including in combination, detent means engageable with the reel and conditioned by the unwinding of the hose to prevent rewinding movement of the reel, and means rendered effective by said conditioning for yieldingly urging the detent means out of reel holding position and resisted only by the frictional engagement of the detent with the reel whereby the reel is releasable by application of tension upon the hose.

GEORGE H. PALM.


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