March 2, 1926. 1,575,337

W. J. HEPWORTH ET AL

SELF WINDING HOSE REEL

Filed Jan. 7, 1925 2 Sheets-Sheet 1

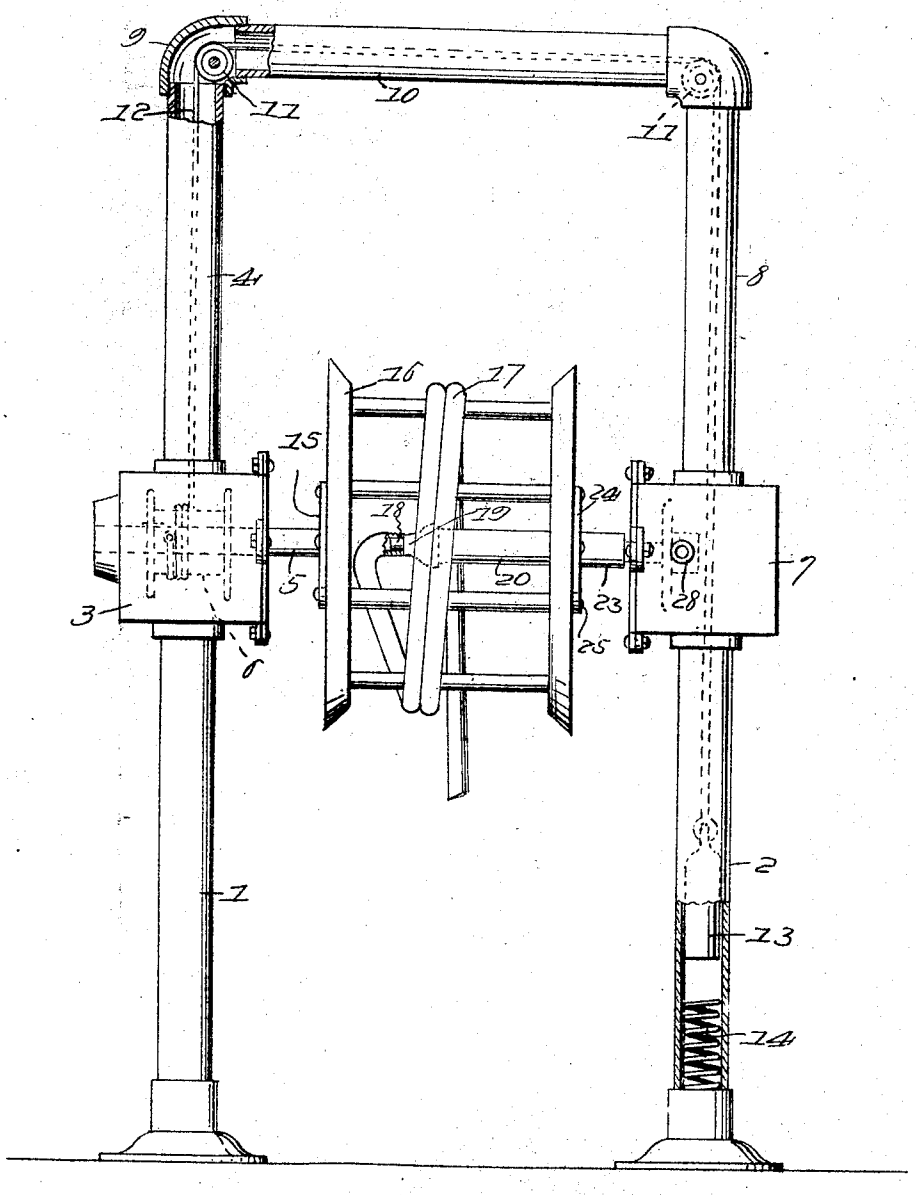


Fig. 1.

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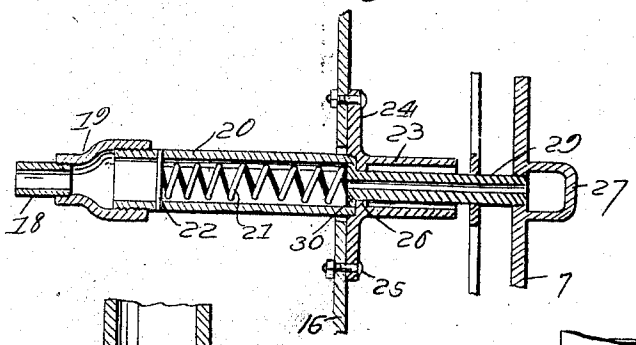
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Fig. 2.



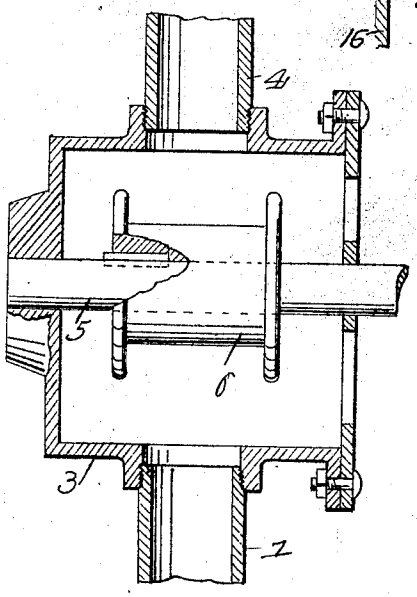


Fig. 3.

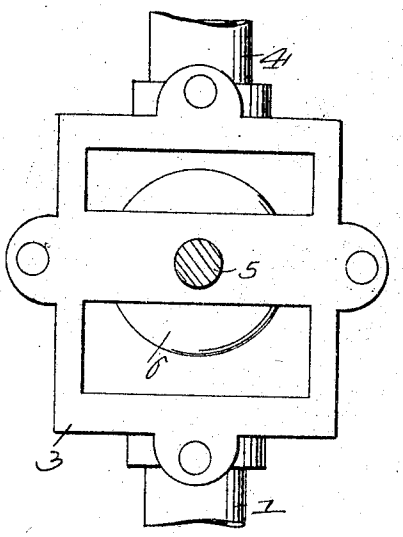


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM JOSEPH HEPWORTH, OF HOUSTON, AND WILLIAM SHERMAN HORNBECK, OF ALVORD, TEXAS, ASSIGNORS OF ONE-THIRD TO WILLIE MACK SINGLETON, OF HASLET, TEXAS.

SELF-WINDING HOSE REEL.

Application filed January 7, 1925. Serial No. 1,098.

To all whom it may concern:

Be it known that WILLIAM JOSEPH HEPWORTH and WILLIAM SHERMAN HORNBECK, residing, respectively, at Houston, in the county of Harris and State of Texas, and at Alvord, in the county of Wise and State of Texas, have invented new and useful Improvements in Self-Winding Hose Reels, of which the following is a specification.

The object of the invention is to provide a device on which the air hose of an air pressure tank may be carried so as to be coiled up in a neat and orderly fashion when not in use and readily unreeled to permit the discharge nozzle of the hose to be carried to a remote point for use.

With this object in view, the invention consists in a construction and combination of parts of which a preferred embodiment is illustrated in the accompanying drawings, wherein:

Figure 1 is a view in side elevation of the improved apparatus, certain of the parts being broken away.

Figure 2 is a longitudinal sectional view through the joint through which air is admitted from the point of supply to the hose.

Figure 3 is a vertical sectional view through the housing in which the winding drum is carried.

Figure 4 is a detail elevational view looking at the structure of Figure 3 from the right hand side.

Referring to the drawings, the invention is shown as comprising base columns 1 and 2. On top of the base column 1 which is made preferably of pipe, there is mounted a housing 3 which is preferably of the shape of a hexahedron. Upstanding from this housing on the top there is a supplemental column 4. Mounted in the housing 3 there is a shaft 5 which is disposed horizontally, the columns 1 and 4 standing in a vertical plane. This shaft carries within the housing a drum 6 for the purpose hereinafter appearing.

At the upper end of the column 2 there is mounted a housing 7 similar to the housing 3 and upstanding on top of this housing there is a supplemental column 8. The columns 1, 2, 4 and 8 are hollow columns and the two supplemental columns carry at their upper ends the elbows 9 which are connected to the opposite ends of a pipe or tubular connection 10. Sheave pulleys 11 are rotatably mounted in both elbows 9 and trained over these pulleys there is a cable 12 or its equivalent, one end of this cable connecting to the drum 6 on which it is designed to wind. The cable passes from the drum through the column 4, the pipe 10, and down through the column 8, the housing 7 and into the column 2 receiving in the column 2 the weight 13 which is raised or lowered as the shaft 5 and with it the drum is rotated in one direction or the other.

The spring 14 is provided at the bottom of the column 2 for the obvious purpose of cushioning the weight 13 when the latter drops to its lowest point.

The shaft 5 projects through the housing 3 in the direction of the housing 7 and on its projecting end is provided with a flange 15 to which a hose reel 16 is secured by appropriate fasteners. On this reel there is designed to be wound the hose 17 one end of which connects with the nipple 18 which in turn is connected to one end of the reducing coupling 19, the other end of the latter being connected with a pipe or tubular member 20 in which there is contained a compression spring 21 whose one end bears against a pin 22 carried in the pipe or tubular member 20. That end of the pipe 20 remote from the coupling 19 is threadingly engaged with a thimble 23 which is provided with an annular flange 24 through which there are passed the bolts 25 for connecting this thimble to the reel 16 on the opposite side from the flange 15. An annular rib 26 is formed in the thimble and it is against this annular rib that that end of the pipe 20 connecting with the thimble abuts.

The housing 7 on the interior carries an air conducting channel 27 having an inlet opening 28 at one side of the housing for the attachment of an air conducting medium to the housing to admit air into the channel. In order that air may be conducted to the pipe 20 from this channel 27, there is provided a tubular member 29 whose one end enters the housing 7 and communicates with the channel 27, the other end projecting from the housing and passing through the thimble 23, this end being formed with an annular flange 30 which abuts the annular rib 26 in the thimble and which has bearing against it one end of the spring 21.

The joint between the annular flange 30 and the rib 26 is a ground joint and the spring 21 obviously serves to keep this joint tight.

In the use of the improved apparatus, air is led from a suitable source of supply through the channel 27, the tubular member 29, the pipe 20 and coupling and nipple 19 and 18 to the hose 17. When it is desired to use the device, the hose is unwound from the reel, thereby causing the rotation of the latter with the consequent rotation of the shaft 5 and the drum 6 which it carries. The cable 12 is thereupon wound upon the drum and the weight 13 elevated. As the reel rotates, the pipe and thimble are rotated with it but the tubular member 29 is not and the spring 21 serves to hold the joint between the flange 30 and rib 26 tight enough to preclude the leakage of air at this point. The air cock is designed to be carried at the end of the hose 17 as usual and when the desired amount of air has been obtained, it is only necessary to release the hose, whereupon the weight 13 drops, thereby rotating the drum 6 and with it the shaft 5 and the reel 16, thus winding the hose on the reel until the weight drops upon the spring 14 when further movement of the reel ceases.

The invention having been described, what is claimed as new and useful is:

1. An apparatus of the kind set forth comprising a pair of supporting columns, a housing carried by each column, a tubular connection between the columns, a shaft journaled in one of the housings, a drum carried by the shaft and enclosed within the housing, a reel carried by the shaft exterior to the housing, a hose carried by the reel, an air supply duct in the other housing, connections between said duct and the hose, a weight carried in one of the columns, and a flexible connection between the weight and the drum whereby the gravity of the weight may effect the rotation of the drum for the useful purpose specified.

2. An apparatus of the kind set forth comprising a pair of supporting columns, a housing carried by each column, a tubular connection between the columns, a shaft journaled in one of the housings, a drum carried by the shaft and enclosed within the housing, a reel carried by the shaft exterior to the housing, a weight carried in one of the columns, sheave pulleys rotatably mounted at the tops of the columns, and a cable having one end connected with the drum and the other end connected with the weight, the said cable being housed within the columns and trained over the pulleys, whereby the weight may be employed to effect the rotation of the drum for the useful purpose specified.

3. An apparatus of the kind set forth comprising a pair of spaced columns, a housing carried by each column, a shaft journaled in one of the housings, a drum carried by said shaft and enclosed within the said housing, a reel carried by the shaft and disposed between the two columns, an air duct carried by the other of said housings, a tubular member communicating with the air duct and projecting through the said housing, a thimble in surrounding relation to the tubular member, the said thimble being connected to the reel, means for providing an air tight connection between the thimble and the tubular member, a hose carried by the reel, connections between the hose and the thimble, a weight carried in one of the columns, and a flexible connection between the weight and the drum whereby the gravity of the weight may effect the rotation of the drum for the useful purpose specified.

4. An apparatus of the kind set forth comprising a pair of spaced columns, a housing carried by each column, a shaft journaled in one of the housings, a drum carried by said shaft and enclosed within the said housing, a reel carried by the shaft and disposed between the two columns, an air duct carried by the other of said housings, a tubular member communicating with the air duct and projecting from the said housing, a thimble in surrounding relation to the tubular member, the said thimble being connected to the reel, a pipe connected with the thimble and projecting towards and aligning with the shaft, a hose carried by the reel and having one end connected with the said pipe, a spring enclosed in the pipe and bearing upon the tubular member to maintain a tight contact between it and the thimble, and connections between the weight and the drum whereby the gravity of the weight may effect the rotation of the drum for the useful purpose specified.

5. An apparatus of the kind set forth comprising a pair of spaced columns, a housing carried by each column, a shaft journaled in one of the housings, a drum carried by said shaft and enclosed within the said housing, a reel carried by the shaft and disposed between the two columns, an air duct carried by the other of said housings, a tubular member communicating with the air duct and projecting from the said housing, a thimble in surrounding relation to the tubular member, the said thimble being connected to the reel, means for providing an air tight connection between the thimble and the tubular member, a hose carried by the reel, connections between the hose and the thimble, a weight carried in one of the columns, sheave pulleys rotatably mounted at the upper ends of the columns, and a cable turned over said pulleys and housed within the columns and having one end connected with the drum and the other end connected with the weight for the useful purpose specified.

6. An apparatus of the kind set forth comprising a pair of spaced columns, a housing carried by each column, a shaft journaled in one of the housings, a drum carried by said shaft and enclosed within the said housing, a reel carried by the shaft and disposed between the two columns, an air duct carried by the other of said housings, a tubular member communicating with the air duct and projecting from the said housing, a thimble in surrounding relation to the tubular member, the said thimble being connected to the reel, means for providing an air tight connection between the thimble and the tubular member, a hose carried by the reel, connections between the hose and the thimble, a weight carried in one of the columns, sheave pulleys rotatably mounted at the upper ends of the columns, a cable turned over said pulleys and housed within the columns and having one end connected with the drum and the other connected with the weight, and a spring housed in the bottom of that column in which the weight is carried for cushioning the impact of the weight when lowered.

In testimony whereof we affix our signatures.

WILLIAM JOSEPH HEPWORTH.
WILLIAM SHERMAN HORNBECK.