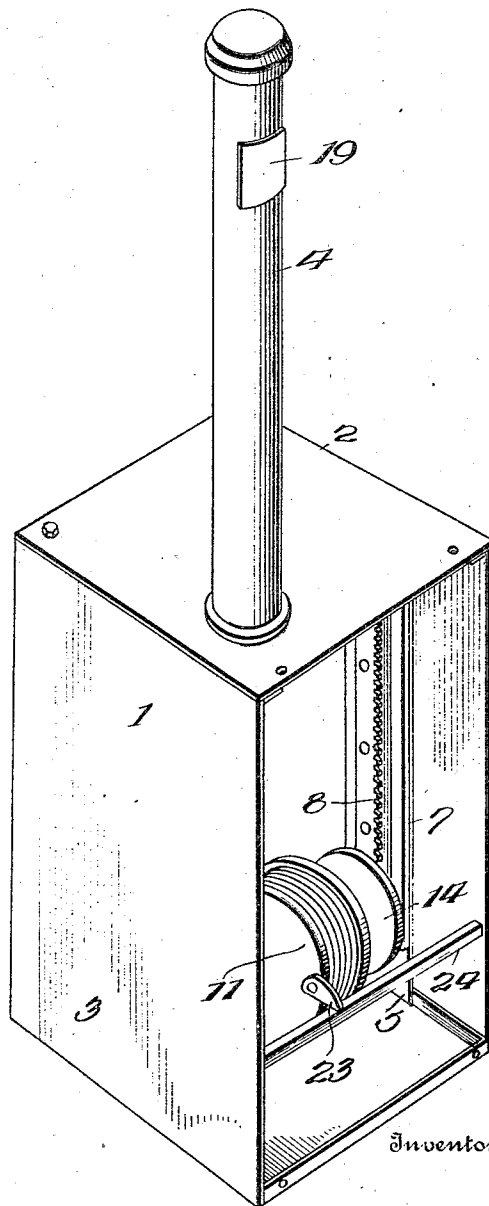
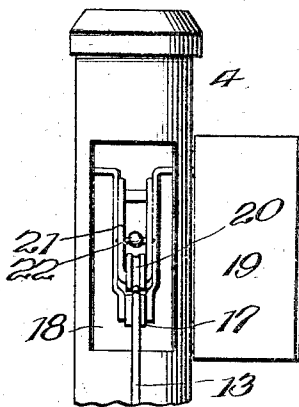


HOSE REEL.

1,228,501.

2 SHEETS—SHEET 1.



L.M. Twite

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Phansacker, Attorneys.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

LARS M. TWITE, OF COLFAX, WASHINGTON.

HOSE-REEL.

1,228,501.

Specification of Letters Patent.

Patented June 5, 1917.

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To all whom it may concern:

Be it known that I, LARS M. TWITE, a citizen of the United States, residing at Colfax, in the county of Whitman and State of Washington, have invented certain new and useful Improvements in Hose-Reels, of which the following is a specification.

This invention relates to hose reels and has for its object the provision of simple and efficient means whereby a considerable length of hose may be disposed in a small space and so as to be readily accessible when needed for use and be automatically rewound when the use is discontinued. The device is intended more particularly for use in garages to supply air to inflate tires, although it may be used in other places very advantageously. Objects of the invention are to provide means for maintaining the hose taut between the reel and the point of supply; to provide means for arresting the downward movement of the reel, and to provide means for preventing withdrawal of the hose prematurely.

The invention is illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of an apparatus embodying my improvements;

Fig. 2 is a view partly in vertical section and partly in side elevation of the improved apparatus;

Fig. 3 is a horizontal section;

Fig. 4 is a transverse vertical section;

Fig. 5 is a detail perspective view of the rack and guide for the reel;

Fig. 6 is a detail elevation of the means for preventing premature withdrawal of the hose.

In carrying out my invention, I employ a housing 1 which may be of sheet metal and is intended to be buried in the ground with the top 2 thereof flush with or just below the sidewalk or surface of the ground. The top plate 2 is removably secured in place by bolts so that access to the interior of the housing may be had when necessary, and from the said top plate rises a tube or column 4 in which the end of a hose will be contained in position to be readily grasped and withdrawn by the user. Upon the side walls 3 of the housing 1, I secure brackets 5 which may be conveniently formed from sheet metal, openings 6 being provided in the ends of the brackets through which fastening devices may be inserted into the side walls of the housing to secure the brackets

in place. The longitudinal edges of the sheet metal plates forming the brackets may be bent over the main portions of the brackets so as to form overhanging ribs or guides 7 and upon the longitudinal vertical edges of the rear guide, I form rack teeth 8. The spaced relation of the guides 7 to the main bodies of the brackets will accommodate the peripheries of the pinions 9 on the shaft 10 of the reel or drum 11 and the engagement of the pinions with the racks 8 will cause the drum or reel to rotate as it is raised and lowered within the housing. To strengthen the brackets and the racks, the racks may be constructed of separate bars rigidly secured to the brackets, as illustrated. The reel or drum is composed of two members of different diameters, as shown clearly in the drawings, the larger member 11 being provided with an opening 12 in its inner side through which the hose 13 may extend to be wound upon the smaller reel or drum member 14. The hose is wound upon the two reel or drum members so that both portions of the hose will wind or unwind simultaneously. That portion of the hose which is wound around the smaller drum 14 extends through the rear side of the housing, as indicated at 15, so as to pass to the pump or reservoir of compressed air and between the rear side of the housing and the reel or drum a small weight 16 is mounted freely upon the hose so as to maintain the taut relation of the same to the drum. The main portion of the hose extends upwardly from the drum 11 through the tube or column 4 and, near the upper end of said tube or column, passes over an idler or guide pulley 17 which is arranged adjacent an outlet opening 18 which is normally closed by a door 19. By referring to Fig. 2 more particularly, it will be noticed that the nipple of the hose which is engaged over the inflation valve will be supported immediately adjacent the outlet opening 18 so that when the door 19 is opened, the end of the hose may be readily grasped and the hose drawn out so as to be applied to the inflation valve. To prevent premature retraction of the hose, I provide a keeper or holding dog consisting of a roller 20 which is adapted to fit over the hose and against the idler or guide pulley 17 and is carried by a hanger 21 pivotally mounted at its upper end within the column 4. A handle member 22 is provided on this hanger so that it may be conveniently manipulated and the

roller 20 is provided with a peripheral groove which will fit over the hose so that, while it will exert sufficient pressure upon the hose to hold it against the idler 17 and prevent its movement over the idler it will not clamp the hose so tightly as to cut off the flow of air.

It is thought the operation of the apparatus will be readily understood. When the hose is not in use, the weight of the reel and of the hose wound thereon will hold it to the lower end of the housing and the point to which the reel may descend is determined by a projection or finger 23 on the periphery of the reel engaging a stop 24 at the front of the housing, the pinions 9 and rack 8 being so proportioned that the rotation of the reel will bring the said finger into position at the proper instant to engage the said stop, as will be readily understood on reference to Fig. 2. When it is desired to use the hose, the door 19 is opened and the hose withdrawn by merely pulling upon the upper free end of the same. The pull exerted upon the hose will, of course, be transmitted to the reel so that the reel will rotate and this rotation of the reel, through engagement of the pinions and the racks, will cause the reel to rise to the upper end of the housing and, consequently, will permit a great length of hose to be withdrawn so that the nipple may be easily engaged upon the inflation valve of all the wheels of an automobile successively without requiring a shifting of the automobile or a great tugging or straining upon the hose. When the tires have been inflated and the use of the hose is no longer necessary, the holding roller 20 is lifted from the hose whereupon the weight of the reel will cause it to roll downwardly upon the racks and the hose will, consequently, be wound upon the reel as the reel descends, the end of the hose being withdrawn into the tube 4 so that it will be out of the way and not exposed to injury. It will be readily understood from the foregoing description, taken in connection with the accompanying drawings, that a long hose can be conveniently stored in a small space by my improved apparatus and readily drawn out for use when desired, and when the hose is not in use, it will be automatically withdrawn and rewound. The device is exceedingly simple in the construction and arrangement of its parts and will occupy but a very small space.

Having thus described the invention, what is claimed as new is:

1. In an apparatus for the purpose set forth, the combination of vertically disposed guides, a reel movable along said

guides, a hose wound on said reel and having both ends free of the same, means for causing rotation of the reel as it moves along the guides, means between the reel and supply end of the hose for holding the hose taut, and means for limiting the downward movement of the reel.

2. In an apparatus for the purpose set forth, the combination of a reel, a hose wound thereon and having both ends free thereof, means for causing upward movement of the reel as the hose is unwound therefrom, means for causing downward movement of the reel and rewinding of the hose upon release of the hose, means between the reel and the supply end of the hose to keep the hose taut, and means for limiting the downward movement of the reel.

3. In an apparatus for the purpose set forth, the combination of a housing to move vertically therein, a reel disposed within the housing, a hose wound on the reel and having both ends free of the same, a stop on the interior of the housing near the lower end of the same, a finger upon the reel projecting beyond the periphery of the same to engage said stop, and means for causing rotation of the reel as it moves vertically within the housing whereby to wind or unwind the hose.

4. In an apparatus for the purpose set forth, the combination of a housing, a reel mounted within the housing and having two concentric members of different diameters, the larger member having an opening in its end adjacent the smaller member, a hose wound upon the two members of the reel and passing through the said opening, a tension device engaging that portion of the hose passing from the smaller member of the reel, and means for effecting vertical movement and rotation of the reel to automatically wind and unwind the hose.

5. In an apparatus for the purpose set forth, the combination of a housing, a column rising from said housing, a reel mounted within the housing, a hose wound upon the reel and extending upward within said column, means for effecting a rotary movement of the reel to permit unwinding of the hose when a pull is exerted on the hose, an idler in the column over which the hose passes, a hanger pivoted in the column above said idler, and a keeper carried by the lower end of the hanger and adapted to coact with said idler to hold the hose against movement.

In testimony whereof I affix my signature. 120

LARS M. TWITE. [L. s.]