(No Model.)

C. H. WEYGANT.

HOSE REEL.

No. 344,554. Patented June 29, 1886.

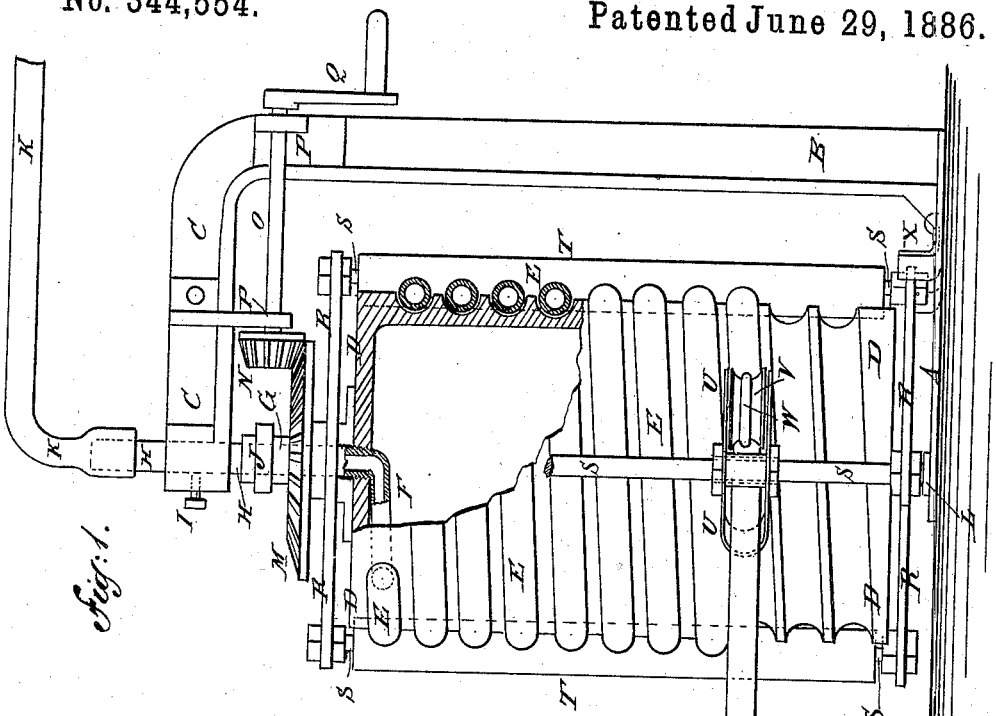

Fig. 1.

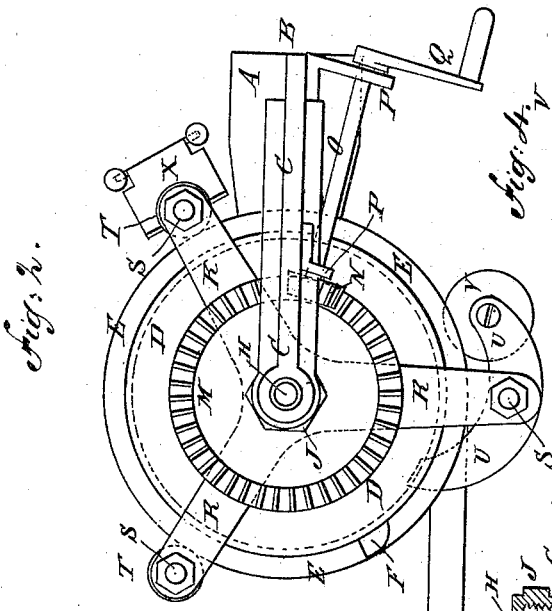

Fig. 2.

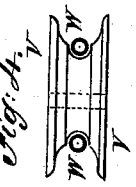

Fig. 4.

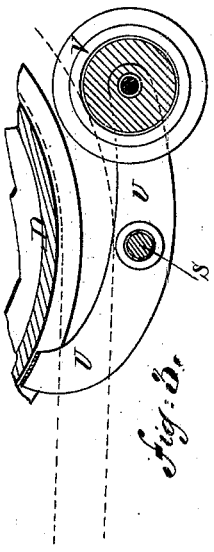

Fig. 3.

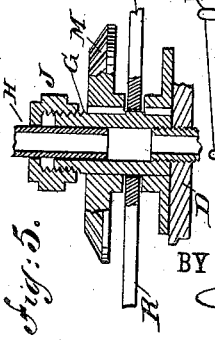

Fig. 5.

WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

C. H. Weygant

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES H. WEYGANT, OF NEWBURG, NEW YORK.

HOSE-REEL.

SPECIFICATION forming part of Letters Patent No. 344,554, dated June 29, 1886.

Application filed February 20, 1886. Serial No. 192,619. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. WEYGANT, of Newburg, in the county of Orange and State of New York, have invented a new and useful Improvement in Hose-Reels, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly in section, of my improved hose-reel, part being broken away. Fig. 2 is a plan view of the same. Fig. 3 is a sectional plan view of the guide frame and pulley, the pivoted standard, and a part of the reel-cylinder. Fig. 4 is an edge view of the guide-pulley, the tubular packing-ring being shown in section. Fig. 5 is a sectional elevation of the bearings and connections at the upper end of the reel-cylinder and reel-frame.

The object of this invention is to provide hose-reels constructed in such a manner that all the water in the hose, when the supply is shut off, will flow out of the discharge end of the said hose, and that the hose can be readily wound upon the reel-cylinder from its upper end downward, and can be led out in any desired direction.

The invention consists in the construction and combination of various parts of the hose-reel, as will be hereinafter fully described and claimed.

A is a base-plate, to one end of which is attached or upon it is formed the lower end of the standard B. Upon the upper end of the standard B is formed or to it is attached the outer end of a horizontal arm, C. The parts A B C form the stationary frame of the hose-reel, and can be attached to the floor of a room, the frame of a carriage, or other suitable support.

D is the reel-cylinder, upon the outer surface of which is formed a spiral groove to receive the hose E when it is wound upon the said cylinder. The end of the hose E, at the upper end of the cylinder D, is secured to the end of the pipe F, which passes in through the shell of the said cylinder, and at the axis of the cylinder is bent upward, passes through the center of the cylinder-head, and is secured in the sleeve G, attached to the said cylinder-head.

H is a tube, which passes through a vertical hole in the end of the arm C, and is secured in place in the said arm C by a set-screw, I. The lower end of the tube H enters the upper end of the sleeve G, and serves as a pivot to the upper end of the cylinder D. The joint between the ends of the tubes F H and the sleeve G is packed to prevent water from leaking out, and the said packing is secured in place by a cap-nut, J, screwed upon the end of the said sleeve G, and through which the tube H passes. To the upper end of the tube H is attached the end of a tube, K, leading to a pump, engine, reservoir, or other water-supply.

The lower end of the reel-cylinder D revolves upon a pivot, L, attached to the base-plate A.

To the sleeve G is keyed or otherwise secured a large beveled gear-wheel, M, into the teeth of which mesh the teeth of a small beveled gear-wheel, N, attached to the inner end of the shaft O. The shaft O revolves in bearings P, attached to the arm C and standard B, and to its outer end is attached a crank, Q, for convenience in revolving the reel-cylinder D to wind up the hose. The hose can be unwound by drawing upon its free end, or by operating the crank Q, as may be desired or convenient.

To the pivot L and the sleeve G are pivoted frames or spiders R, which are made with three or more radial arms. The outer ends of the corresponding arms of the two frames R are connected by rods S, which are secured to the said arms by nuts screwed upon the said rods above and below the said arms. Upon all the rods S but one are placed tubular rollers T, of such a size that they will be in contact with the outer sides of the coils of the hose E, so as to keep the said hose in place in the spiral groove of the reel-cylinder D.

Upon the rod S that is not provided with a roller, T, is placed a frame, U, the forward part of which is made U-shaped, is curved inward, and is made of such a shape and size that its convex side will fit into the groove of the reel-cylinder D, and its concave side will receive and serve as a

guide to the hose E as it passes to and from the said reel-cylinder D. The rear end of the frame U is forked, and to it is pivoted the pulley V, the face of which is concaved to receive and fit upon the hose E as it rests in the groove of the reel-cylinder D. In the bottom of the groove in the face of the pulley V is formed a smaller groove to receive an annular rubber tube, W, to rest upon the hose E with a yielding pressure, so as to hold the said hose from slipping and becoming slack upon the reel-cylinder D and getting out of place upon the said cylinder. With this construction, as the hose E is wound upon the reel-cylinder D, the frame U and pulley V move down the rod S as the said hose is laid in the groove of the said cylinder.

As the hose E is unwound from the reel-cylinder D, the frame U and pulley V move up the rod S, so as to cause the said hose to keep its place in the groove of the said cylinder until it reaches the point where it leaves the cylinder.

The frame R S T turns freely on its bearings, and is held in any place into which it has been adjusted by the forked plate X, which is hinged at its outer edge to the floor or frame, to which the reel is secured in such a position that when the said plate is swung down toward the reel its forked end will grasp the outer end of an arm of the lower frame, R, and thus hold the frame R S T from turning.

With this construction the water is introduced at the upper end of the reel, and the hose is wound from the upper end of the reel downward, so that when the inflow of water is stopped all the water that may be in the hose will flow out at its discharge end or nozzle without its being necessary to open any waste-way.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the spirally-grooved reel-cylinder and bearings therefor, of a traveling frame, through which hose may be passed, and a support for the frame, said frame having one end bearing in the spiral groove of the cylinder, whereby, when the cylinder is rotated, the frame will be caused to travel in the longitudinal plane of the cylinder, substantially as set forth.

2. The combination, with the spirally-grooved cylinder and bearings therefor, of a traveling frame, through which hose may be passed, a support for the frame, and a grooved pulley on the inner end of the frame adjacent to the cylinder, the forward end of the frame extending into the groove in the cylinder and operated by the revolution thereof, whereby hose passing between the pulley and the cylinder will hold the forward end of the frame into engagement with the groove of the cylinder, substantially as set forth.

3. In a hose-reel, the combination, with the frame A B C, the reel-cylinder D and its driving mechanism, and the hose E, wound downward upon the said cylinder, of the pivoted frame R S and the tubular rollers T, placed upon the upright rods of the said frame, substantially as herein shown and described, whereby the said hose will be kept in place upon the reel-cylinder, as set forth.

4. In a hose-reel, the combination, with the frame A B C, the reel-cylinder D and its driving mechanism, the hose E, wound downward upon the said cylinder, and the pivoted frame R S, having tubular rollers T, of the frame U, having U-shaped forward end fitting into the groove of the reel-cylinder, and provided at its rear end with a concave pulley, V, fitting upon the hose, substantially as herein shown and described, whereby the said hose will be guided as it passes to and from the reel-cylinder, as set forth.

5. The combination, with the base, the vertical standard B, and the horizontal arm C, having a bearing at the outer end, of the spirally-grooved cylinder D, having the pipe F extending through the upper end of the cylinder at the center thereof, the sleeve G, connected to said pipe, the bevel-gear M, fixed on the sleeve, the tube H, secured in the end of the arm C and coupled to the said sleeve, means for operating the said gear, the spiders journaled at opposite ends of the cylinder, rods T, connecting the arms of the spiders, a traveling guide-frame mounted on one rod and operated by the cylinder when in motion, and a locking device for the spider-frame, substantially as set forth.

CHARLES H. WEYGANT.

Witnesses:
JAMES T. GRAHAM,
C. SEDGWICK.