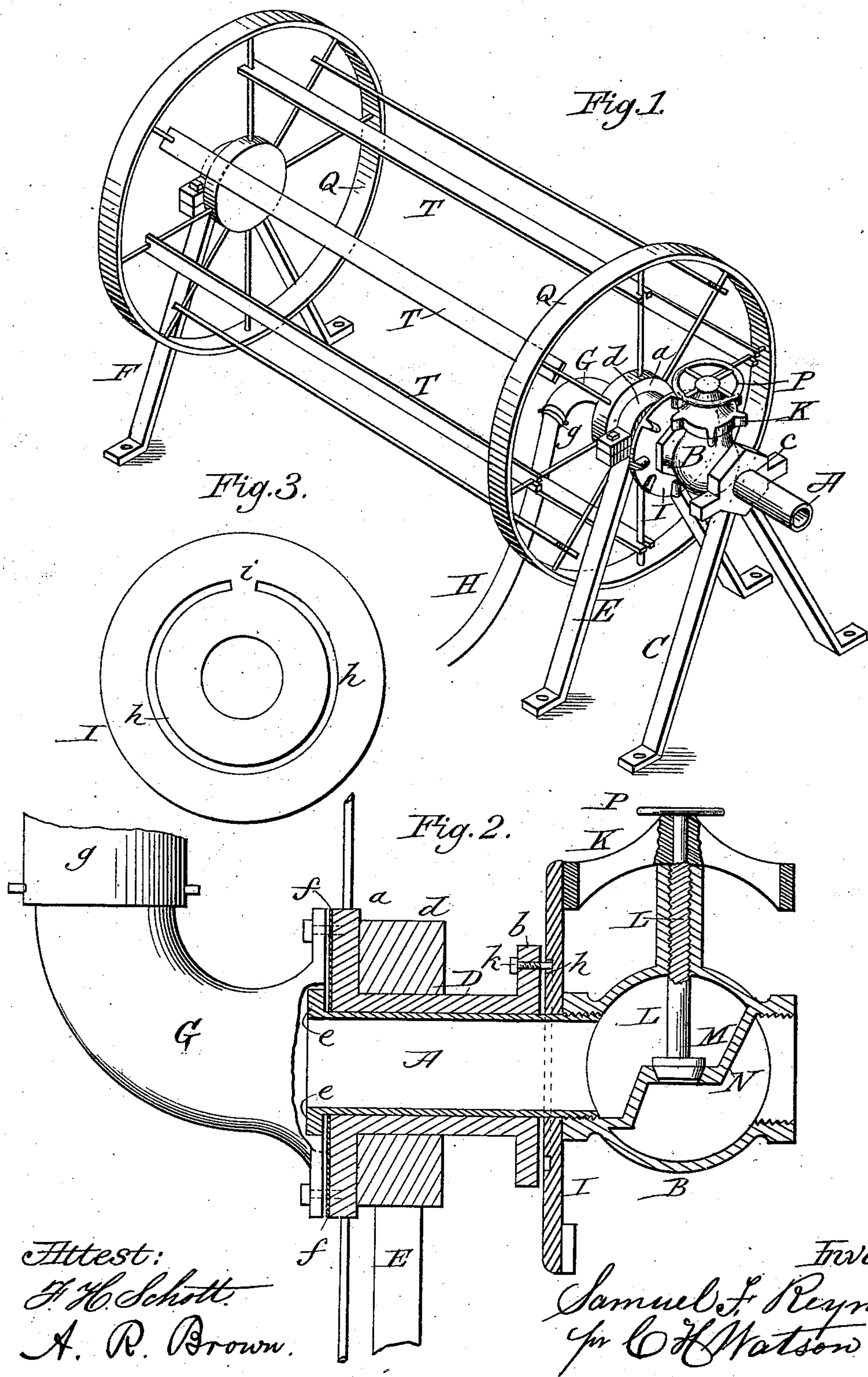


(No Model.)

S. F. REYNOLDS.  
AUTOMATIC HOSE REEL.

No. 357,154.

Patented Feb. 1, 1887.



Attest:  
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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC HOSE-REEL.

SPECIFICATION forming part of Letters Patent No. 357,154, dated February 1, 1887.

Application filed February 28, 1883. Renewed March 23, 1885. Serial No. 159,822. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL F. REYNOLDS, a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Automatic Hose-Reels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of reels in which the unwinding of the hose automatically opens a valve and thus turns on the water.

The invention consists in the combination, with a hose-reel having a stationary feed-pipe with valve attached thereto, of an elbow or goose-neck attached to a movable hub that surrounds the feed-pipe and has a detachable connection with the valve-gear; and, further, in certain details of construction, as hereinafter more fully described and claimed.

In the annexed drawings illustrating the invention, Figure 1 is a perspective view of my improved automatic hose-reel with hose unwound. Fig. 2 is a longitudinal section of the valve, feed-pipe, hub, and connections. Fig. 3 is a plan of the grooved side of one of the valve-gears.

Like letters of reference designate like parts.

The water-supply or feed pipe A is formed in two parts connected by the valve-chamber B, one of these parts being rigidly supported in the standard C, while the other is inclosed in an elongated hub, D, of the hose-reel. This hub D is provided at its ends with flanges or collars *a b*, and is journaled in suitable bearings on a standard, E, so as to rotate around the inclosed or stationary feed-pipe. The bearing or cap *c* of the standard C is formed so as to hold the feed-pipe firmly, while the cap *d* of the standard E is detachable, so that the hub D may be disconnected from the feed-pipe, if desired. The opposite end of the hose-reel is supported in a standard, F, in any suitable manner.

That portion of the feed-pipe A inclosed in the hub D is screw-threaded at one end for connection with the globe-valve B, and its other end is provided with a flange, *e*, that enters a recess formed in the expanded or

flanged end of an elbow or goose-neck, G, which is securely bolted to the flanged end *a* of the hub D, the goose-neck and hub being thus connected so as to be capable of rotating together. An annular packing or washer, *f*, of any suitable material, is secured between the flanged ends of the hub D and goose-neck G, thereby forming an effective, strong, and durable water-tight joint that is capable of resisting any ordinary water-pressure. The hose H is connected to the goose-neck or elbow G by a coupling, *g*, in the ordinary manner.

A gear, I, is arranged loosely on the feed-pipe A, between the hub D and valve-chamber B, a detachable connection with the reel-hub being provided, so that the gear I may rotate therewith, when desired. The gear I meshes with a pinion, K, on the stem L of a valve, M, that has a seat, N, within the valve-chamber.

It will be seen that when the gear I is connected to the hub D the rotation of the latter with the reel will cause the valve to be opened and closed automatically. The valve may also be operated by hand, if desired, by means of a hand-wheel, P, on the valve-stem. The inner face of the gear I is preferably provided with a nearly annular groove, *h*, the ends of the groove being separated by an uncut portion of the gear, so as to form a bearing, *i*, for the end of a set-screw, *k*, that is passed through the flange *b* of the reel-hub.

Instead of connecting the reel-hub and gear-wheel by the means above described, any other suitable connection may be employed—as, for instance, an adjustable dog or similar device attached to one of the spokes of the reel.

The pinion K, being fast on the valve-stem L, rises and falls with the valve. The cogs or teeth of this pinion, as well as those on the gear-wheel I, may be either straight or beveled, and are so proportioned that the pinion does not become disengaged from the gear-wheel until the valve is open, the under side of the teeth or cogs on the pinion being dressed back, so as to allow the gearing to go out of mesh just as the valve is opened, and the cogs being so arranged as to avoid binding.

The wheels Q Q, forming the sides of the reel, are connected by reel-bars T T, that are



secured to the spokes of said wheels in any suitable manner. These reel-bars T T are inclined inwardly from the valve end of the reel, as shown in Fig. 1, being attached to the spokes 5 of one wheel at points nearer the hub than in the other wheel, the diameter of the space inclosed by said reel-bars being thus expanded at the valve end of the reel and contracted at the opposite end, as shown. The hose H, 10 which is wound upon the reel-bars from the elbow or goose-neck G, that is arranged within the expanded end of the reel-frame, is thus filled from the enlarged or expanded end of the frame while being unwound from the con- 15 tracted end, thereby allowing the hose sufficient space to fill without the necessity of employing springs or other compression devices on the reel-spokes.

The operation of the reel in automatically 20 opening the valve when the hose is unwound will be readily understood. By withdrawing the set-screw *k*, that connects the hub D and loose gear I, the hose may be wound or un- 25 wound without affecting the valve. It will also be observed that while the hose is being unwound the flow of water can be checked or controlled at will by simply turning the set- 30 screw *k* so as to cause it to be disengaged from the valve-gearing, when the valve may be operated by hand.

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

1. The combination, with a hose-reel having 35 a stationary feed-pipe with valve attached thereto, of a gear mounted loosely on said feed-pipe and meshing with a pinion on the valve-stem, and a flanged hub surrounding the inner end of the feed-pipe and having a set- 40 screw for connecting the groove of the gear for actuating said gear by the rotation of said reel, as shown and described.

2. The combination, with a hose-reel having a stationary feed-pipe with valve attached thereto, of an elbow or goose-neck attached to 45 a movable hub that surrounds the feed-pipe, a gear loosely mounted on said feed-pipe and meshing with a pinion on the valve-stem, and means for detachably connecting the hub and loose gear, substantially as described. 50

3. The combination, with the stationary feed-pipe A, mounted on standards C E, and having a valve-chamber, B, provided with valve M, valve-stem L, and pinion K, of the movable 55 hub D, surrounding the inner end of the feed-pipe, the gear I, mounted loosely on the feed-pipe, and means for detachably connecting said hub and gear, substantially as described.

4. The combination of the stationary feed-pipe A, valve-chamber B, valve M, stem L, 60 pinion K, rotating hub D, surrounding the feed-pipe, gear I, mounted loosely on said feed-pipe, and having on one side a groove, *h*, and the set-screw *k*, passed through a flange on the hub and adapted to engage said groove, sub- 65 stantially as described.

5. The combination of the stationary feed-pipe A, having flange *e*, the rotating hub D, mounted on said feed-pipe, and having a flange, 70 *a*, the flanged goose-neck G, bolted to the flange *a* of the hub, and the packing *f*, secured between the hub and goose-neck, substantially as described.

6. The combination, with the stationary feed-pipe A, having flange *e*, of the recessed goose- 75 neck G, and the hub D, having flange *a*, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL F. REYNOLDS.

Witnesses:

JOHN E. SAVEN,  
W. S. CHATTERTON.