

(No Model.)

2 Sheets—Sheet 1.

W. N. CASSON.
HOSE REEL.

No. 538,950.

Patented May 7, 1895.

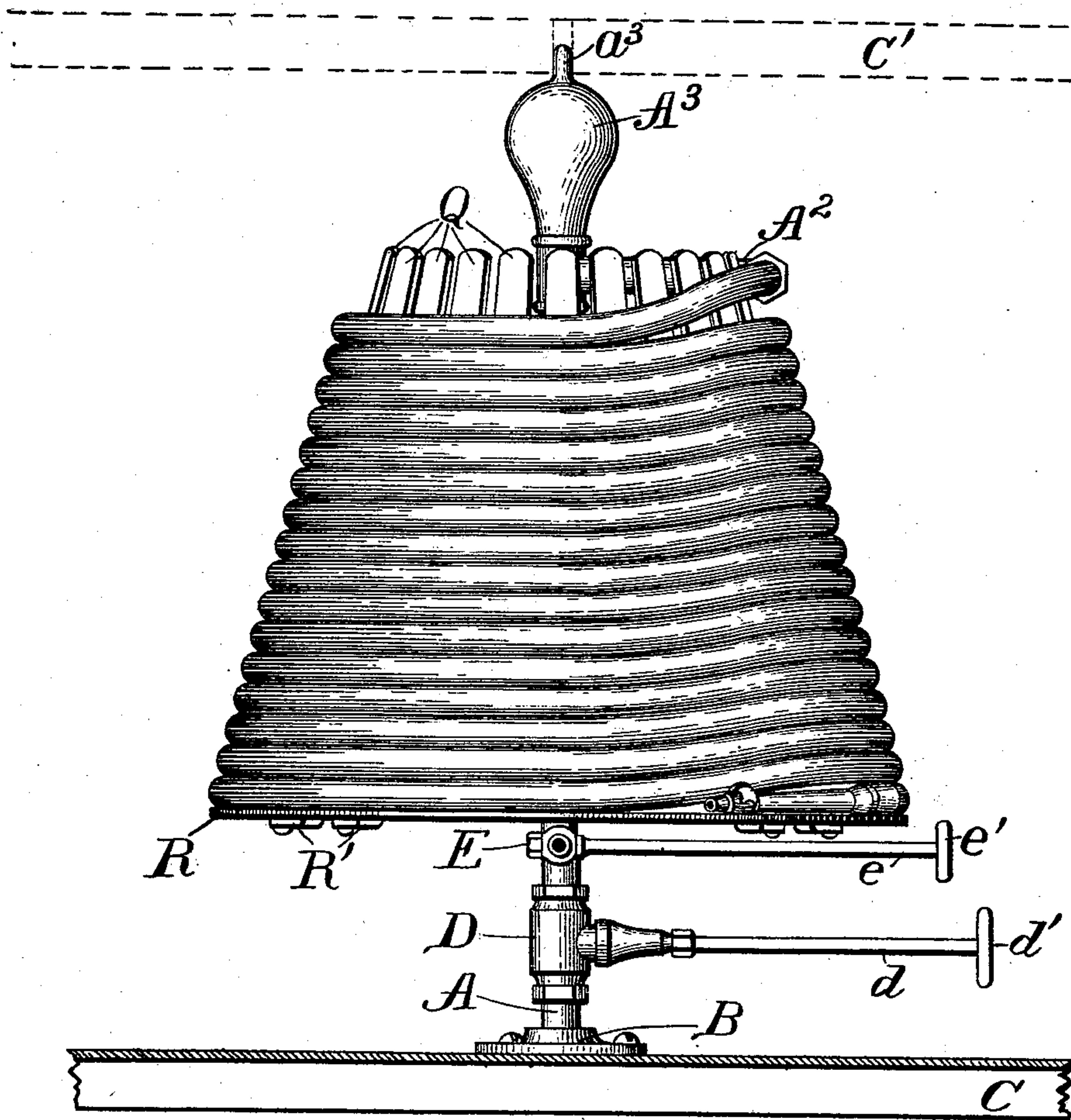


FIG. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM N. CASSON, OF MARINETTE, WISCONSIN, ASSIGNOR OF ONE-HALF
TO JOHN J. CASSON, OF SAME PLACE.

HOSE-REEL.

SPECIFICATION forming part of Letters Patent No. 538,950, dated May 7, 1895.

Application filed September 22, 1894. Serial No. 523,806. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. CASSON, a citizen of the United States, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented certain new and useful Improvements in 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.

My invention relates to improvements in apparatus for reeling up and running out hose, adapted for use in factories, warehouses, river boats, ships, and in all other places where it is desirable to secure rapidly a flow of water through a hose.

My invention consists especially of certain improvements upon the apparatus described in Letters Patent for an improvement in hose reels, No. 517,731, granted to me April 3, 1894.

Reference is had to the accompanying drawings, wherein the same parts are indicated by the same letters.

Figure 1 represents a side elevation of the hose-reel and its attachments, showing the hose wound thereon. Fig. 2 represents a perspective view of the hose-reel, the hose being removed and parts of the reel being broken away for the sake of clearness in the drawings; and Fig. 3 represents a section through the axis of the supply-pipe, the air-chamber, and the goose-neck.

A represents the stand pipe for supplying the water to the hose, which passes through the plate B secured to the floor C, thus giving a firm and rigid support, and leads to the revoluble pipe A' which revoluble pipe is surmounted by a casting containing the goose neck A² and the air chamber A³, which casting is screwed or soldered as at a², on the pipe A' and revolves therewith. This pipe A is provided with a stop valve D controlled by the valve stem d and hand wheel d' at one side of the reel and beneath the same, or can be located as desired convenient to operate, determined upon from the source of water supply with valve stem either horizontal or vertical. The drain cock E is also controlled by a similar valve stem e and hand wheel e'. Fast on the stand pipe A is the split sleeve L which supports the lower hub K which is con-

nected by means of the spokes or ribs M to the conical frame of the hose reel.

The top of the pipe A is screw threaded at a to engage corresponding threads on the sleeve F on the top of which sleeve rests the bearing ring H, which ring supports the flange f, of the sleeve F' which is screwed as at a or otherwise rigidly attached to the lower end of the revoluble pipe A'.

The lip g of the coupling piece G hooks over the flange f of the sleeve F, and the lower end of the coupling piece is screwed to the sleeve F, as shown in Fig. 3. Mounted above the sleeve F' and rigidly attached to the revoluble pipe A' is the hub K' connected by the spokes or ribs M' to the upper portion of the conical frame of the hose reel.

The air chamber A³ is provided with a lug a³ at the upper end thereof to serve as an axle bearing should the reel be journaled between two floors or mounted in a frame as indicated by the dotted lines in Fig. 1.

The spokes M and M' are connected to the rings P and P' on which are secured the staves Q arranged like the elements of a truncated cone.

The bars R' secured to the inside of the rings P and P' and bent outward as at r not only serve to stiffen the structure but also support the annular shelf R on which the nozzle and the lowest turn of the hose rest when the hose is reeled up.

The slope of the conical exterior of the reel is made sufficiently great to prevent the hose from slipping down when it is being wound around the reel from the top toward the bottom thereof. From this it will be seen that the hose is wound from the top of the reel toward the bottom and that any tendency of the lengths to slip down the conical surface of the reel is resisted not only by friction all round the surfaces of the reel but also by the conical shape of the reel, and also by its being coupled at the goose neck and held in position. If each coil of the reel be assumed to be a perfect ring it will be seen that each ring would have its own position on the reel and that the downward pressure of the upper coils would be mainly taken up by the body of the reel and not by the coils lying lower down. Again by this construction and mode of wind-

ing not only is the nozzle supported on the annular shelf R when not in use, but also the said nozzle is given a fair lead from the start.

Ordinarily the valves D and drain cock E are kept closed, but when it is desired to pass water through the hose, the valve D is opened, and the water flows up through the pipes A and A' through the gooseneck A² and then down through the hose finding its exit through the nozzle. The air chamber A³ gives the requisite cushion to the pressure of the water and regulates the inequalities thereof.

It will be obvious that the water will begin to flow and continue flowing through the hose no matter how much the said hose is unwound, and thus it is not necessary to run out the whole length of the hose in order to establish a free flow of water. Thus it will be seen that the hose may be rapidly led out to any point within its reach, and that no more need be led out than the length actually required to reach the desired point.

When the water is turned off by means of the valve D if the drain cock E be opened the hose will drain itself, like a siphon. By the position of the union between the two hubs, the one on the fixed pipe and the other on the revoluble pipe, the sag of the frame work distributes the strain between the two hubs, and the excessive wear on the joint at the pipe coupling found in the device described in my patent aforesaid is obviated and this equally distributes the weight of reel, part on the union joint and the balance on the revoluble hub supported by the split collar. Again by having an air chamber the flow of the water is made more regular, while by having the goose neck and air chamber made in one casting and secured on to the top of the revoluble pipe multiplicity of parts is avoided, and the construction is rendered materially cheaper.

By having the valve rods within easy reach from the side of the reel either horizontally or vertically greater convenience in manipulating the valves is obtained.

The various other advantages of the herein

described construction will readily suggest themselves to any one of practical mind.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an apparatus of the character described, the combination with a vertical stand pipe, of a revoluble pipe and a union connecting the two pipes, a goose neck fast to said revoluble pipe and a hose connected thereto, an air chamber surmounting said revoluble pipe; a hub fixed on said revoluble pipe and another hub revolubly mounted on said stand pipe, and a conical frame mounted on said hubs, substantially as and for the purposes described.

2. In an apparatus of the character described, the combination with a vertical stand pipe, of a revoluble pipe and a union connecting the two pipes, an air chamber surmounting said revoluble pipe and provided with a nipple on the upper end thereof to serve as a journal for the upper end of the reel; a goose neck fast to said revoluble pipe, and a hose connected thereto, and a conical reel suspended with its axis vertical on a pair of hubs, one of which is fast to said revoluble pipe, and the other revolubly mounted on said stand pipe, substantially as and for the purposes described.

3. In an apparatus of the character described, the combination with a vertical stand pipe, of a revoluble pipe and a union connecting the two pipes, a goose neck fast to said revoluble pipe and a hose connected thereto; a hub fixed on said revoluble pipe and another hub revolubly mounted on said stand pipe, and a conical frame mounted on said hubs, substantially as and for the purposes described.

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

WILLIAM N. CASSON.

Witnesses:

JOHN H. HOWE,

R. H. CHURCHILL.