April 7, 1931. C. F. MOORE 1,799,599

HOSE REEL

Filed Feb. 6, 1930 3 Sheets-Sheet 1

Fig. 1.

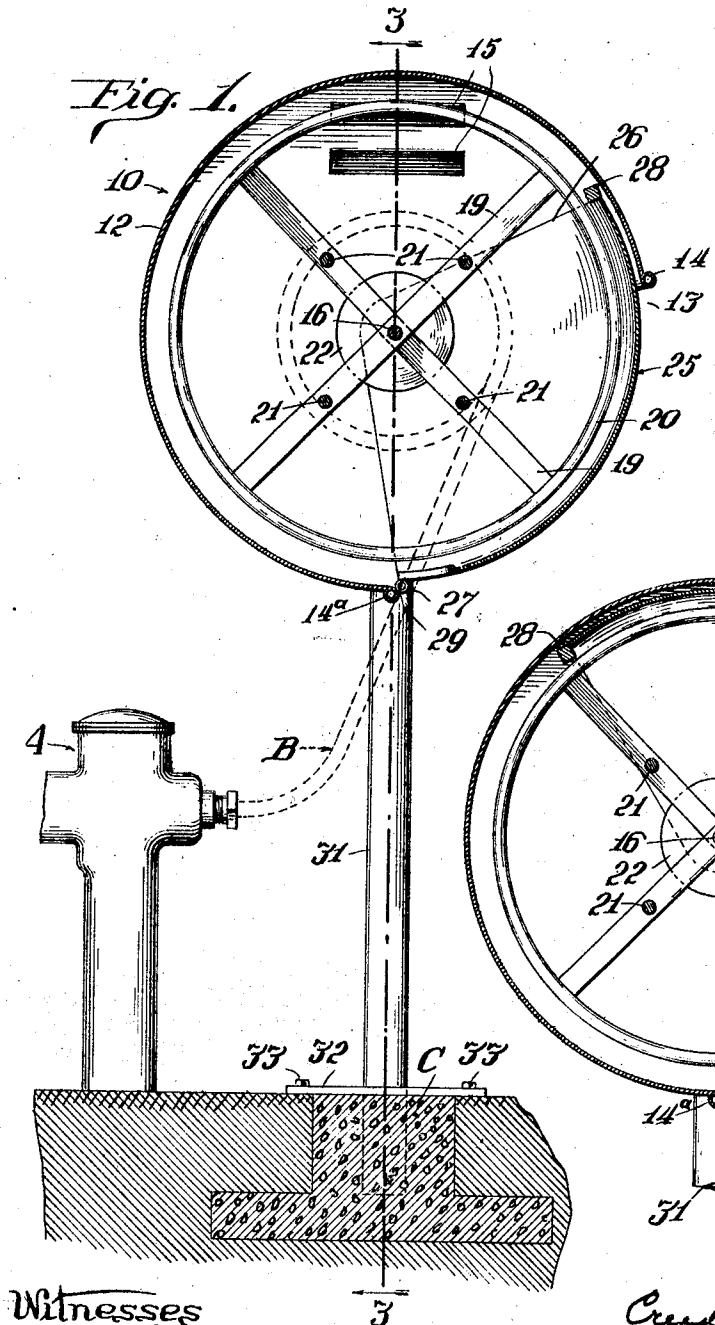
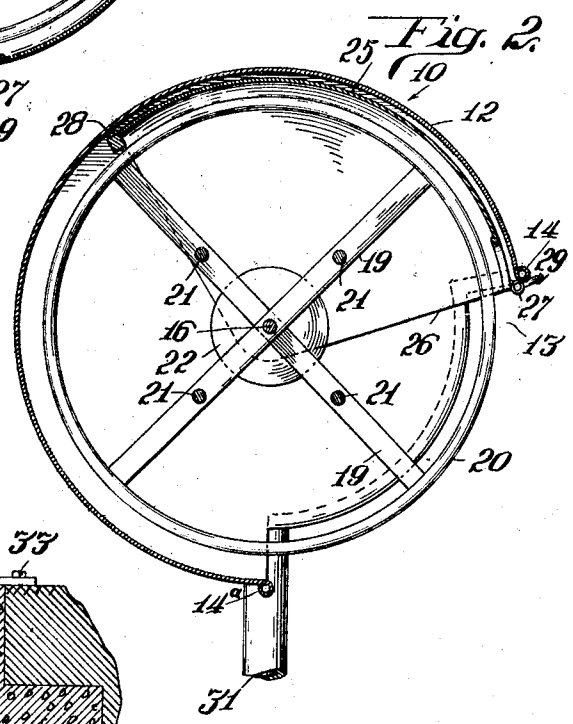


Fig. 2.



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Fig. 3

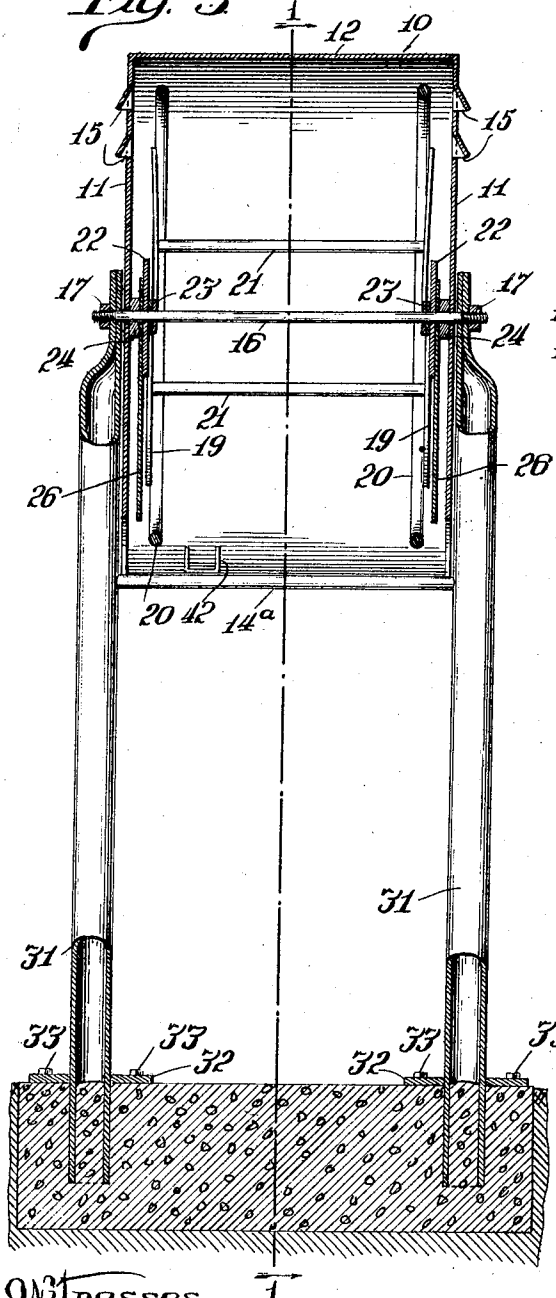
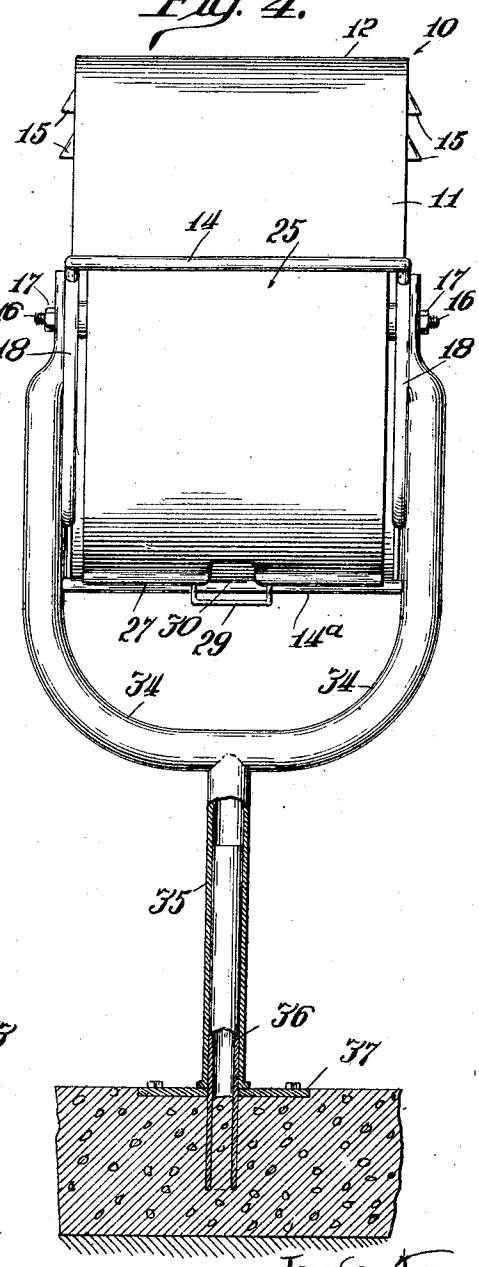


Fig. 4.



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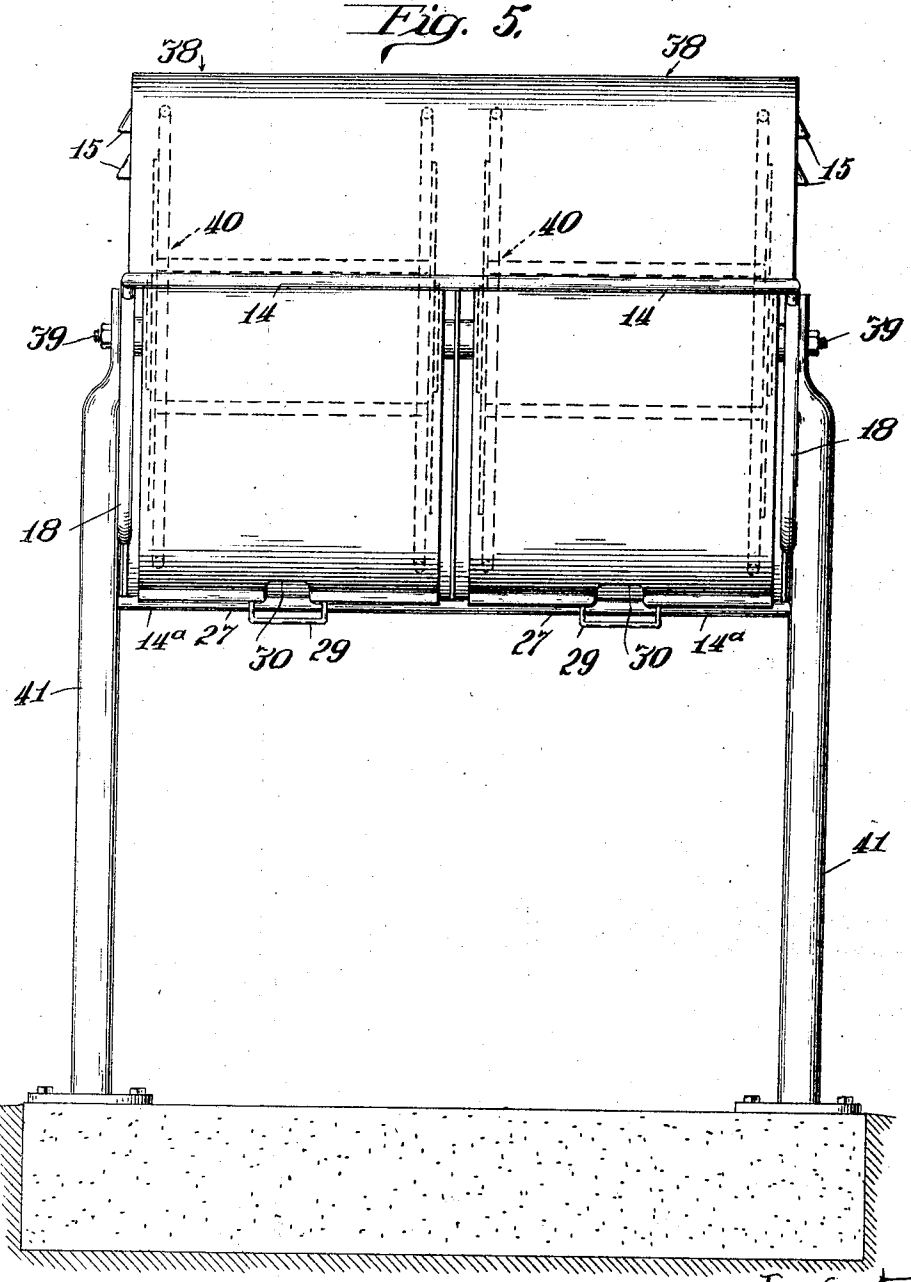
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HOSE REEL

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Fig. 5.



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UNITED STATES PATENT OFFICE

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HOSE REEL

Application filed February 6, 1930. Serial No. 426,199.

My invention relates to hose reels involving a suitable housing or canopy for the reel proper and the hose carried thereby; the housing being provided with an opening and an easily movable cover or closure for said opening adapted to move out of the way so as provide unobstructed access to and passage for the hose when necessary.

The invention also contemplates a housing constructed of metal or other suitable fire and weather proof material adapted to fully protect the hose therein and which is constructed to be mounted on suitable supports or brackets, either within or outside of a building and in close proximity to a water supply line or hydrant.

The invention also has for its object the provision of a structure which may be suitably sealed or locked to prevent improper access to or tampering with the housed hose and its couplings.

At the same time it permits one end of the hose to remain coupled to the water or other fluid supply conduit or hydrant where occasion requires.

A further object of the invention is to provide an indestructible construction adapted also to be mounted in locations where space is more or less limited and access and operation of the usual fire company hose cart or wagon is impossible; while at the same time providing a housing for the hose which permits adequate circulation of air throughout so as to prevent injurious temperatures within the housing which have deteriorating effect on the hose.

The above enumerated objects and advantages, as well as other advantages inherent in the invention, will all be readily comprehended from the detailed description of the accompanying drawings, wherein:—

Figure 1 is a sectional side elevation of my improved hose reel, with the closure or cover in closed position; while indicating in dotted lines the end of the hose extending from the housing and connected to a hydrant; the view being taken substantially on the line 1—1 of Figure 3.

Figure 2 is a similar sectional view of the housing proper, showing the closure or cover in complete open position.

Figure 3 is a front sectional elevation of the device illustrated in Figure 1; the view being taken substantially on the line 3—3 of Figure 1, as viewed by the arrows.

Figure 4 is a front elevation of a modified form of support or mounting, with portions of the latter being in section and the housing closed.

Figure 5 is a similar view showing a modification of the housing, in closed condition, and employing the type of support and mounting employed in Figure 1.

In the particular exemplification of the invention, as disclosed in the first three figures of the drawings, my improved reel comprises a cylindrical housing 10 preferably made of heavy sheet metal involving the two side walls 11, 11 whose perimeters are preferably welded to the encircling peripheral wall 12; the walls being welded together into an integral weatherproof structure.

The peripheral wall 12, at what may be termed the front side of the device, is cut away or formed to provide a segmental opening as shown at 13 to permit proper access to and manipulation of the hose and other equipment within the housing.

In order to prevent cutting or chafing of the hose the edges of the sheet metal at the opening are provided with a suitable curl or beading which in the particular exemplification—because of the heavy sheet metal employed, may be in the nature of slotted or split tubing 14, 14ª disposed transversely of the peripheral wall 12 and adapted to receive the edges of the sheet metal and this tubing welded or otherwise suitably secured in place so as to prevent ingress of moisture.

The two side walls 11, 11, adjacent the top and preferably substantially at the vertical axis of the device, are provided with louvres 15, 15, of moisture shedding arrangement as best shown in Figure 3. These louvres are made by cutting and stamping the metal outwardly so that air will pass upwardly therebeneath without permitting ingress of moisture. These louvres are provided so that proper circulation of air throughout the

metal canopy or housing may be obtained to maintain a low temperature within the housing to prevent deterioration of the hose from excessive temperatures. In tests made with my improved device, it has been found that the temperature within the housing was but a few degrees, not exceeding four degrees Fahrenheit, in excess of the atmospheric or outside temperature. These tests were made with hose wound on the reel proper within the housing and in one of the warmest sections in the United States.

The two side walls 11, 11 have holes at the axis of the housing for passage of a suitable metal rod 16 therethrough; with the ends of the rod preferably threaded and suitably extended beyond the side walls in order to receive the side portions of a suitable bracket or supporting standard; the threaded ends receiving nuts as at 17, see Figure 3.

The side walls 11 of the housing coincident with the opening are also preferably provided with a rounded perimeter or split tubing, as shown in Figures 4 and 5 at 18.

The rod 16, aside from providing means for securing the housing to a bracket or support, also constitutes the axis or shaft on which the reel proper is mounted and about which it rotates.

The reel proper, which may be of any suitable construction, is also preferably of metal; consisting of the crossed side bars or arms 19, 19 arranged in pairs on each end and the end of the arms or bars 19 connected together by the encircling tubing or rods 20. The opposite side arms or ends of the reel are connected together by the rod 21, preferably in number equal to the number of arm portions disposed radially from the axis 16. The various elements constituting the reel proper are preferably all welded together into an integral structure so as to have sufficient strength and rigidity adapted to support a sufficient length of hose and to withstand the strains encountered during use and manipulation.

The side bars or arms 19, at each end of the reel, are provided with discs or annular metal plates 22, riveted or otherwise rigidly secured to the arms; and these plates 22 are apertured for passage of the rod 16 therethrough; the plates 22 providing the supporting hubs for the reel. The plates are to be of sufficient thickness and strength to provide proper bearing surface; the plates being shown with suitable metal blocks or washers 23, 24, arranged on opposite sides of the respective plates 22. These washers may be secured to the plates to afford sufficient bearing surface with shaft 16 and the washer 24 being also adapted to act as a spacer between the ends of the reel and the side walls 11, 11 of the housing.

The opening in the housing 10 is provided with a closure or cover consisting of the segmental peripheral wall 25 of length somewhat greater than the length of opening 13 in the housing; and this peripheral wall 25 at opposite ends is provided with the sectoral side walls 26, 26. These walls are also of heavy sheet metal and welded together to provide a weatherproof and fireproof closure. The sectoral walls 26, 26 are cut so as to have the inner angular ends extend beyond the axis of the housing and these inner ends are apertured for passage of the shaft or rod 16 therethrough so that the cover may oscillate about the shaft 16. The cover width is slightly less than the distance between the side walls 11, 11 of the housing so as to provide a sufficient clearance to enable free and easy operation of the cover as well as to permit free air circulation throughout the housing, while at the same time afford the desired protection for the housing contents.

In order to provide sufficient rigidity and also afford protection to the hose in its passage into and out of the housing, especially in the more or less hasty and rough manipulation apt to be encountered, the lower edge of the cover is provided with a beading preferably in the form of slotted tubing 27 disposed transversely of the closure or cover and welded or otherwise suitably secured thereto so as to afford a rigid, weather resisting structure.

In order to reenforce the upper edge of the cover and also act as a counterbalance to keep the cover in either open or closed position, I provide said edge with a heavy metal bar 28, extending transversely of the cover and preferably welded to the inner or lower side of the peripheral wall 25, while the ends may be also welded, if possible, to the sectoral side walls 26.

The lower end of the closure or cover is shown preferably provided with a metal hand-clasp or handle 29 which I prefer to rigidly secure in place by welding. This handle permits easy manipulation of the cover; and the handle as well as the reenforcing or rigidifying tube 27 will act as a stop for the cover when in closed or opened position and thus prevent the too far swinging movement of the cover.

In certain localities and under certain hazardous conditions it may be advisable to have one end of the hose coupled or connected to the water or other fluid supply line or hydrant shown at A in Figure 1, with the end of the hose indicated in dotted lines at B; and for that reason I provide the peripheral wall 25 of the cover with an opening 30 (see Figures 4 and 5) preferably substantially centrally located just above the handle 29, so as to permit the end of the hose to pass therethrough while the cover is in closed position. The opening 30 is made at the lower edge of the peripheral wall 25 so as to

permit the cover to operate or be opened with the hose coupled to the hydrant.

In Figures 1 and 3 I show my improved reel mounted on two metal supports 31, 31, of any suitable cross-sectional configuration, as for example in the form of tubing with the upper ends flattened as shown and drilled for passage of the ends of rods 16 therethrough; the housing being disposed between the upper ends of the supports 31, 31 and all securely clamped together by screwing up nuts 17 on the threaded ends of the rod 16 as shown.

In order to prevent spreading of the supports and to provide a rigid structure, the metal tubing 14ª, previously described, is also preferably employed as a tie-bar by having the ends of the tubing 14ª rigidly secured or welded to the supports 31. This will also assist in preventing rotative movement of the housing. The size of the supports 31 are, of course, in keeping with the size of the housing adapted for the length of hose required and in keeping with the conditions under which the device is intended to be employed.

In Figure 1, I show my improved reel mounted on a foundation (which may be of wood) as shown at C, into which the lower ends of the supports may be inserted; and in order to firmly anchor the supports in place, show the supports 31 at a slight distance removed from the immediate ends with flanges 32. These flanges 32 may be made integral with or welded to the supports and provided with suitable bolt receiving openings for the spikes or bolts 33.

In Figure 3, I show the lower ends of the supports embedded in and secured to a cementitious or concrete foundation.

In Figure 4, I show the single reel housing of the previously described figures mounted on a bifurcated type of standard consisting of the yoke or U-shape member 34, which, like standards 31, may be of tubular form having the upper flattened ends which fit against opposite sides of the housing and are apertured to receive the housing and reel supporting rod 16. This yoke portion may also be reenforced by having the ends of the tubing 14ª secured or welded thereto.

The lower intermediate portion of the yoke 34 is provided with the tubular stem 35 whose lower end is preferably flanged as shown.

The tubular stem is adapted to fit over a cylindrical metal post 36. In the particular exemplification, this post 36 is shown provided with a flange or plate 37 preferably welded thereto and adapted to be imbedded in and secured to the foundation into which the lower end of the post 36 is inserted or imbedded so as to securely support the standard. Before the tubular portion 35 is telescoped onto the post 36, it is preferable to cover the latter with a suitable lubricating compound which not only permits free rotation of the standard thereon, but also prevents corrosion of the various members.

With this construction it is apparent that the housing may be rotated in any desired direction to enable the hose to be drawn to the location of use.

In Figure 5, I illustrate a double or pair of housings 38, 38, supported by the same supporting shaft or rod 39 which is similar to rod 16 except as to length. The housings 38 are identical in construction and similar to housings 10 previously described, except that the adjacent or abutting sides of the housings 38, 38 are not provided with the louvres 15 which, however, are arranged in both outer side walls.

Each housing 38, like housings 10, is provided with a reel, shown in dotted lines at 40, which is similar in construction to the reel previously shown and described; and both reels 40 are independently rotatable on the rod 39.

Each compartment or housing 38 has a pivoted or swinging closure or cover like that heretofore described, with the lower edge having the cut away portion or opening 30 arranged in the segmental wall 25, and provided with a handle 29; while the edge of the opening in the housing is provided with the split tubing 14 at the top of the opening and the split tubing 14ª at the bottom of the openings and this tubing 14ª preferably extended to the supporting members 41 to which it is preferably secured for the purpose of bracing the supports and providing a rigid structure.

The supports 41, 41 may be similar to those shown in Figures 1 and 3, having flattened upper ends which fit against the sides of the housing and are apertured to receive the rod or shaft 39.

With this type of construction, separate hose is permitted for attachment to two hydrants or water supply lines; at the same time enabling hose of different sizes to be housed in locations where such requirement exists.

The bottom of the housing on its interior, namely in close proximity to the opening, is shown provided with a U-shaped bracket 42 (see Figure 3) which is preferably welded in place and is adapted to fit the hose connecting coupling, holding it in place where it is readily accessible for quick removal and attachment to a hydrant.

As my improved constructions are all metal and therefore indestructible and can be mounted in any location, they are especially adapted for use in such places as oil fields, docks, railroad yards, in buildings or on the roofs as well as in localities or places where space is limited; and also in places where the operation of a hose cart is impossible.

Furthermore, with my improved construction, the hose can be more readily and efficiently handled by fewer operators; while at

the same time permitting the housing to be locked against unauthorized access.

I have shown what I believe to be the best embodiments of my invention, which have been described in terms employed merely as terms of description and not as terms of limitation, as structural modifications are possible and may be made without, however, departing from the spirit of my invention.

What I claim is:—

1. A hose reel of the character described comprising a sheet metal housing having annular side walls and an encircling wall, all integrally secured together; the encircling wall having a segmental cut-away portion to provide an opening into the housing; a rod disposed laterally through the center of the housing and extended through the center of the housing and extended through the side walls; a metal hose winding reel rotatably mounted on said rod within the housing; means whereby said reel is maintained in spaced relation with the side walls of the housing; a metal closure for the opening in the housing consisting of a segmental sheet wall and two sectoral side walls, the side walls and segmental wall being integrally secured together and the inner ends of the two side walls being journaled on said rod so as to permit the closure to swing thereon; means for limiting the extent of rotation of said closure member; and housing supporting means secured to the outer ends of said rod.

2. A hose reel of the character described comprising a sheet metal housing having a cylindrical wall formed to provide a segmental opening at the forward lower side and two annular side walls, all of said walls being welded together into an integral structure; the walls at said opening being provided with rounded rigid edges; a rod passing axially through said housing; a closure for said opening consisting of a segmental sheet metal wall and two sectoral sheet metal side walls, all welded together into an integral structure, with the inner ends of the side walls extending beyond the central axis of the housing and journaled on said rod; the lower edge of the closure member being provided with a rounded rigidifying edge and with a hand-grasp secured thereto so as to prevent too far rotation of the closure member; a metal hose winding reel rotatably mounted on said rod within the housing; and a metallic standard disposed on opposite sides of the housing and secured to the ends of said rod.

3. A hose reel of the character described comprising a sheet metal housing having a cylindrical wall formed to provide a segmental opening at the forward lower side and two annular side walls; the side walls being provided with louvres; all of said walls being welded together; a rod passing axially through the side walls of the housing; a closure for said opening consisting of an outer sheet metal wall and two sectoral side metal walls, all welded together; the inner ends of the side walls being journaled on said rod, the closure member being adapted to swing upwardly into the housing into open position; hand grasping and stop means secured to the lower edge of the closure member whereby the extent of rotative movement of the closure member about the rod is determined; and a hose winding reel rotatably mounted on said rod.

4. A hose reel of the character described comprising an annular sheet metal housing whose walls are integrally secured together; the side walls being provided with air admitting and moisture shedding openings, while the encircling wall is formed to provide an opening arranged beneath the horizontal axis of the housing; a supporting shaft disposed axially through the housing and both side walls; a hose winding metallic reel rotatably mounted in the housing on said shaft; a sheet metal closure for said second mentioned opening having sectoral side walls pivoted on said shaft so as to swing through a vertically disposed arc, said closure member being located within the perimeter of the housing-walls; stop means for limiting the degree of oscillation of the closure member; a metallic support having arms extending on opposite sides of the housing, said arms being apertured to receive the ends of said shaft; and means for securing said arms in place and to prevent movement of the housing.

5. A device of the character described comprising a sheet metal housing whose walls are integrally secured together; the front wall being formed to provide an opening; a rod disposed transversely through the housing and through the side walls thereof; a sheet metal closure for said opening having side walls extending into the housing and journaled at their inner ends on said rod so as to permit the closure to swing into the housing into open position; means for limiting the swinging movement of the closure; a hose winding metallic reel journaled on said rod; a metallic support for the housing having arms disposed on opposite sides of the housing, said arms being apertured to receive the ends of said rod; and means for clamping the arms in place and to prevent movement of the housing.

6. A device of the character described comprising a sheet metal housing whose walls are integrally secured together; the front wall being formed to provide an opening; reenforcing means on the edges of the walls at said opening formed to present a smooth surface to the hose during its passage through said opening; the outer side walls of the housing having downwardly and outwardly sloping louvres whereby air circulation throughout the housing is permitted without ingress of moisture; a rod disposed through

the housing and through its side walls; a metal reel rotatably mounted on said rod and provided at its ends with radially disposed arms and encircling rods secured to the outer ends of the arms; a metal closure member for said opening having sectoral side walls whose inner ends are journaled on said rod so as to permit the closure member to oscillate within the housing; the front wall of the closure member having a cut-out portion at its lower edge for passage of a hose and provided with a stop and grasping portion; the top and bottom edges of the closure member having reenforcing means with the means at the top also constituting a counterbalance; and a tubular metal standard having portions arranged on each side of the housing and secured to said rod.

CREED F. MOORE.

CERTIFICATE OF CORRECTION.

Patent No. 1,799,599. Granted April 7, 1931, to

CREED F. MOORE.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 4, lines 18 and 19, strike out the words "and extended through the center of the housing"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 28th day of April, A. D. 1931.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.