

Aug. 27, 1929.

B. H. MONTGOMERY

1,726,084

HOSE REEL

Filed July 13, 1928

2 Sheets-Sheet 1

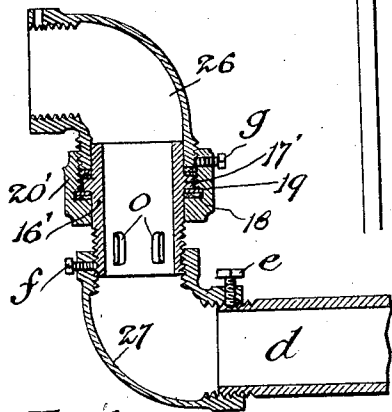


Fig. 6.

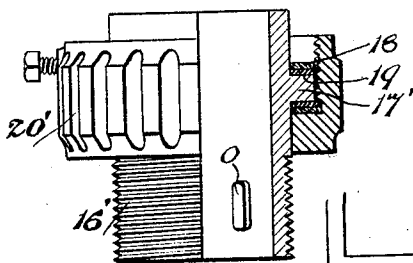


Fig. 7.

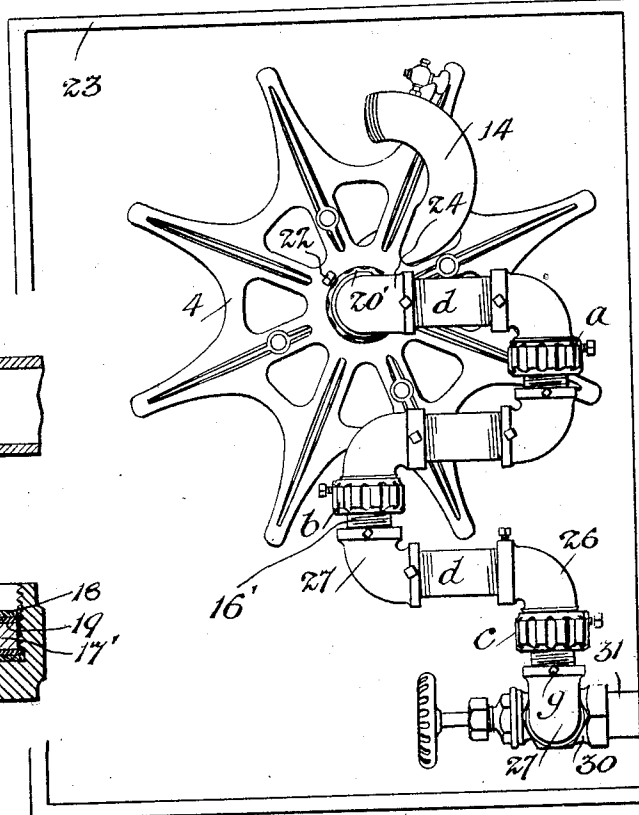


Fig. 1.

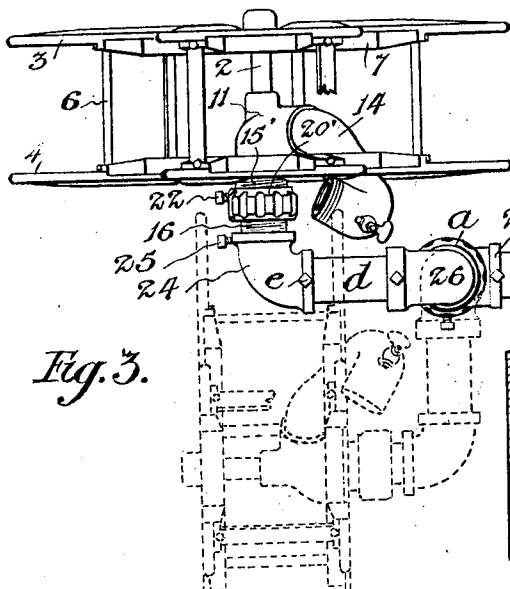
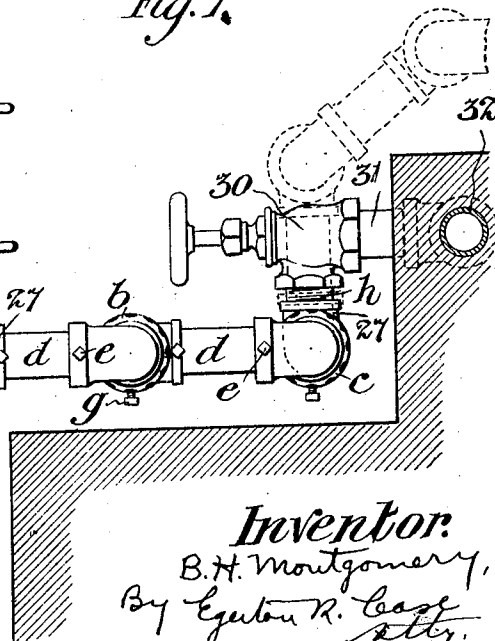


Fig. 3.



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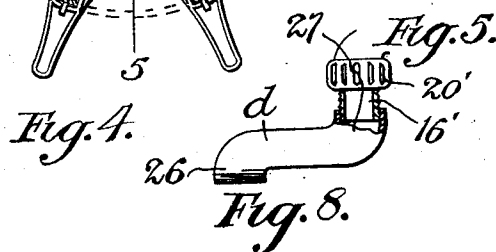
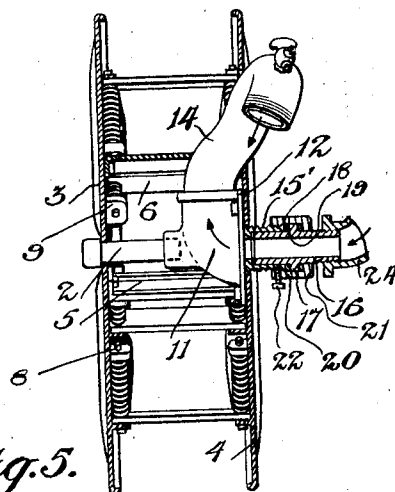
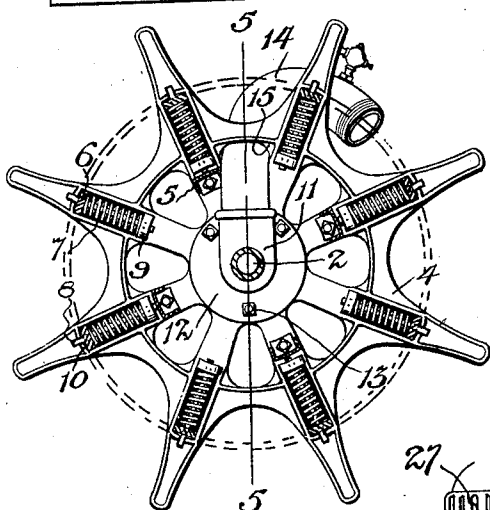
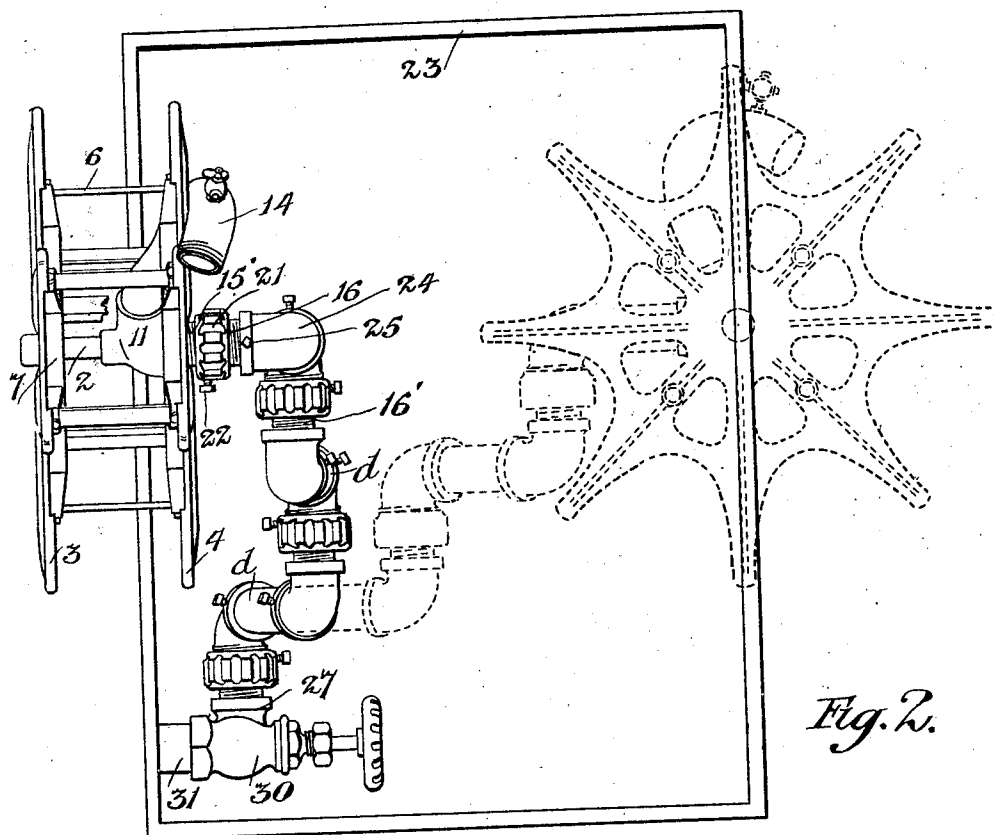
B. H. MONTGOMERY

1,726,084

HOSE REEL-

Filed July 13, 1928

2 Sheets-Sheet 2.



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UNITED STATES PATENT OFFICE.

BEAUCHAMP HENRY MONTGOMERY, OF TORONTO, ONTARIO, CANADA.

HOSE REEL.

Application filed July 13, 1928, Serial No. 292,436, and in Canada June 13, 1927.

My invention relates to improvements in hose reels, more particularly identified in United States Patent No. 1,354,504 dated October 5th, 1920, and the object of the invention is to simplify the construction of the supporting means for the reel disclosed in the United States patent before-identified, so as to reduce cost of manufacture, and at the same time secure a wider range of movements through the medium of the supporting means for the reel than is possible with the supporting means disclosed in the said U. S. patent, and without the possibility of any of the joints of said supporting means becoming corroded and binding, and in the following specification and the drawings forming part thereof, I shall describe and illustrate a disclosure within my invention, and what I claim as new will be set forth in the claims forming part of this specification.

Fig. 1 is a rear elevation of my hose reel, showing in elevation the supporting means therefor, the said supporting means and reel being located within a cabinet, as well as the valve fittings for controlling the flow of water through said supporting means. Fig. 2 is a front elevation of the cabinet in which the hose reel and supporting means are housed, showing the said supporting means and hose reel in two different positions. Fig. 3 is a plan view of the hose reel and supporting means therefor and valve gear, showing the same in different positions, and supported from a wall without the use of a cabinet. Fig. 4 is a cross sectional view of the hose reel showing particularly the construction of the end spiders of the reel, and Fig. 5 is a vertical cross section on the line 5—5, Fig. 4. Fig. 6 is a vertical longitudinal section through portion of the supporting means for the hose reel, showing two elbows and the connecting nipple therefor. Fig. 7 is a vertical longitudinal section through one of the connecting nipples and the flanged nut whereby an elbow is combined with said nipple at one end thereof, and Fig. 8 is a side elevation of one of the units of the supporting means for the reel showing a modification in construction.

In the drawings, like characters of reference refer to the same parts.

Though I do not confine myself to housing my hose reel and the supporting means therefor in a cabinet, I have shown my hose reel and supporting means therefor with a cabinet in two figures of the drawings in

order to bring out particularly clearly the advantages derived from the use of the supporting means for the hose reel as it relates to the housing of the hose reel in a compact space. This hose reel is located in permanent position in a building, and because of the construction of the hose reel, more particularly identified in United States Patent No. 1,245,491 dated November 6th, 1917, a stream of water may be obtained from the hose while yet on the reel.

While it is important that the hose reel I employ be constructed so that certain parts thereof will yield to allow the hose to fully expand under the pressure of the water passing therethrough, it must be understood that I do not confine myself to any particular construction of hose reel which will function as set forth, though I prefer to construct the hose reel more particularly as identified in Fig. 4.

One important practical advantage flowing from the supporting means, for the hose reel, hereinafter more particularly described, is that the various parts of the hose reel, considered as a whole, may be placed to more advantage than the hose reel disclosed in United States Patent No. 1,354,504, aforesaid, so as to be made to harmonize with artistic architectural effects, and without impairment of the manipulation of the hose reel to the best advantage.

The hose reel I prefer to use is substantially identical in construction to that disclosed in the United States patents aforesaid, and it embraces a spindle which forms a trunion 2 on which is mounted one of the spiders 3. 4 is the other spider, and these spiders are connected together by bars 5 suitably secured in place. The hose shown in dotted lines is wound over the bars 6, the ends of which are located between guide flanges 7 integrally formed with each spoke of the spiders, and located on the inner side thereof. A rod 8 is located between each pair of flanges, and the inner end of each rod is screwed into a lug 9, with which each spoke of the spiders is provided. A coiled spring is mounted on each of the rods 8 and between the bars 6 and the associated lugs 9. Flanges 10 integrally formed with each of the spokes of the spiders form stops for the bars 6.

One end of the trunion 2 is provided with an elbow 11, and this elbow is provided with a flange 12 which is secured by bolts 13 or

equivalent means to the central portion of the spider 4. A pipe 14 is coupled to the elbow 11 and is so formed as to be readily passed through an opening 15 in the spider 4. The inner end of the hose, (not shown) is coupled to the threaded end of said pipe. Most of the parts I have just described are clearly illustrated in the United States patents, aforesaid.

Integrally formed with the flange 12 is an externally threaded nipple 15'. This nipple receives the inner end of the nipple 16, which nipple is provided exteriorly with a flange 17. Any suitable packing is interposed between the outer end of the nipple 15' and the flange 17. I prefer to use a fiber washer 18 and a copper or brass washer 19 in the locations in question (see Figs. 5 and 6). A flanged nut 20 is placed on the nipple 16, and interposed between the flange 21 of said nut and the flange 17 is any suitable packing, preferably of the character already mentioned. This flanged nut screws on the outer end of the nipple 15' (see Fig. 5) and by means of a set screw 22 or equivalent means, the flanged nut 20 is keyed to the nipple 15'. Therefore it will be clear that the reel and nipple 15', as well as the flanged nut 20, will freely rotate around the nipple 16.

Since this type of article lies unused for many months at a time, it is essential that the joints or bearings be constructed so that while a fluid-tight joint is provided, there will be no possibility of the parts corroding and binding. This is an important feature of this invention, because the reel and its supporting parts must freely rotate at any time, and any serious stiffening of the joints or bearings that will not permit the immediate availability of the reel would have very serious results, as is self-evident. Therefore I have eliminated ground joints of the type disclosed in the prior art, and particularly in my U. S. Patent #946,681, January 18, 1910.

The supporting means for the hose reel comprises a plurality of elbows and nipples which permit said supporting means to be moved to assume different shapes so as to position the hose reel as desired.

In Fig. 1 the hose reel and its supporting means are shown as housed within a casing 23, which is viewed from the rear for the purposes of clearness of illustration, and in Fig. 2 the hose reel is shown in full lines as off to one side of said casing and in front thereof. Only because of the limitations of the size of the sheet of bristol board upon which Fig. 2 is made, the hose reel would be shown well to the left of the casing 23. This position of the hose reel would permit the hose to be drawn towards the spectator or away from him.

In the dotted position of the hose reel shown in Fig. 2, the hose may be run off to the right or left of the spectator.

In Fig. 3 the supporting means for the hose reel is shown as mounted in the corner of a passage, and the different positions of the hose reel and said supporting means clearly illustrate the directions in which said hose reel may be rotated to provide for a supply of fire hose in the location desired.

Figs. 1, 2 and 3 particularly, show that the supporting means for the hose reel is very flexible.

The nipple 16 is screwed into an elbow 24, and these parts are keyed together by any suitable means such as a set screw 25. The elbow 11 and nipple 15'; nipple 16, and flanged nut 20, together with the elbow 24, form one unit of the supporting means for the hose reel, and at *a*, *b*, and *c*, I show three other units. All of these units are connected together by short pieces of pipes or nipples *d*, and each end of the pipes or nipples *d* is tapped into and keyed to its associated elbow by any suitable means such as set screws.

Upon referring particularly to Fig. 6, there will be seen the construction of any of the units *a*, *b*, and *c*, and the internal construction of the unit embracing the elbows 11 and 24 already particularly identified. 26 and 27 are the elbows of any unit *a*, *b*, and *c*, and 16' is the nipple. This nipple is provided with an outer threaded end which is screwed into the elbow 27. These parts are suitably keyed together as by means of set screws *f*. The flanged nut 20' houses the flange 17', of the nipple 16'. The plain end of the nipple 16' is passed into the elbow 26 where it has bearing, and it will be seen that the nipple 16' has a plain bearing surface where it is in contact with the flanged nut 20'. The flanged nut 20' and elbow 26 of each unit are coupled together by any suitable means such as set screws *g*. Since brass or copper washers 19 are in contact with the flange 17', and since fiber washers 18 (see particularly Fig. 7) are interposed between the brass or copper washer 19 and the iron parts, there will be no possibility of corrosion taking place, and a leak-tight joint will be provided.

Since the flanged nut 20' of each unit is keyed to the elbow 26 the same has threaded connection with, this elbow and flanged nut will be fulcrumed on the nipple 16', and therefore the supporting means for the said hose reel is very flexible and is so constructed to support the hose reel and its load firmly in the desired position.

It will be observed upon referring particularly to Fig. 6 that the elbow 26 of each unit *a*, *b*, *c*, is internally threaded at its upper end and externally threaded at its lower end, whereas the companion elbow 27 is internally threaded at each end, and that the short pipes or nipples *d* are screwed into the lower end of an elbow 27 and into the upper threaded end of an elbow 26, and these parts are suitably keyed together as by set screws *e*.

The elbow 27 of the unit *c* is connected by a nipple *h* with the casing 30 of the water valve. This casing is shown as supported by a short pipe or nipple 31, which latter element is coupled to the supply pipe 32 in any manner well-known in the art.

The pipe or nipple *d* interposed between adjacent units constructed as before-described is essential as thereby is the said supporting means given the necessary "reach" beyond the valve casing 30.

The parts described composing said supporting means are substantially of like size, and consequently the forces are balanced, and the various parts may be compactly housed.

Since one end of the nipple 16' is externally threaded and the rest of the said nipple is externally finished to have a substantially water-tight joint, the said nipple is placed in position by a suitable key (not shown) which engages between lugs *o* integrally formed with said nipple. The provision of said lugs overcomes any possibility of injuring the external surface of said nipple when assembling the various parts composing the said supporting means.

In Fig. 8 I show a modified construction where the elbows 26 and 27 are integrally formed with each pipe or nipple *d*. This construction reduces cost of manufacture and time for assembly, and eliminates two possible sources for leakage in the form shown in certain other figures where each end of a pipe or nipple *d* is externally threaded and screwed into the inner ends of opposing elbows.

Obviously the construction of my supporting means, and the manner in which same is coupled to the reel, may be modified or slightly changed, without departing from the spirit of my invention.

What I claim as my invention is:

1. In combination a hose reel embracing two spiders; means whereby the same are connected together; a trunnion for said reel, one end of which is provided with an elbow; a flange carried by said elbow by means of which the elbow is coupled to one of said

spiders; an externally-threaded nipple fixedly carried by said elbow and projecting beyond one side of said reel; a flanged nipple having a plain exterior bearing surface extending into said first-mentioned nipple and threaded at its outer end; a flanged nut embracing said flanged nipple and screwing over said first-mentioned nipple and keyed thereto; suitable packing at the required locations housed in said flanged nut; an articulated conduit the upper end of which is fixedly secured to the threaded end of said flanged nipple, and a valve-controlled supported conduit to which the intake end of said articulated conduit is coupled.

2. In combination, a suitable hose-reel; an articulated conduit therefor to which the hose carried by the reel, is coupled; means directly carried by one end of said reel whereby it is revolvably coupled to the upper end of said conduit, the latter comprising a plurality of pairs of elbows internally threaded each at its outer end; conduit packing-provided means revolvably connecting said elbows together, and a pipe or nipple fixedly coupled at one end to the outer end of the upper elbow of said pairs of elbows, and to the outer end of the lower elbow of the next pair of elbows whereby the necessary adjustable "reach" is given to said conduit and the parts permitted movement in horizontal planes.

3. In combination a suitable hose-reel; a jointed extensible conduit the parts of which essentially move through horizontal planes embracing a plurality of pairs of elbows; means between the elbows of each pair whereby they are revolvably coupled together to have a water-tight packed joint; a horizontal conduit coupling the upper and lower elbows of each pair of elbows fixedly together; a hose connection carried by said reel, and means directly carried by one end of said hose reel whereby said hose connection is revolvably coupled to the upper end of said conduit.

In testimony whereof I have affixed my signature.

BEAUCHAMP H. MONTGOMERY.