Feb. 16, 1926. 1,573,439

H. E. BEDFORD

REEL FOR DOUBLE HOSE LINES

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Fig. 1.

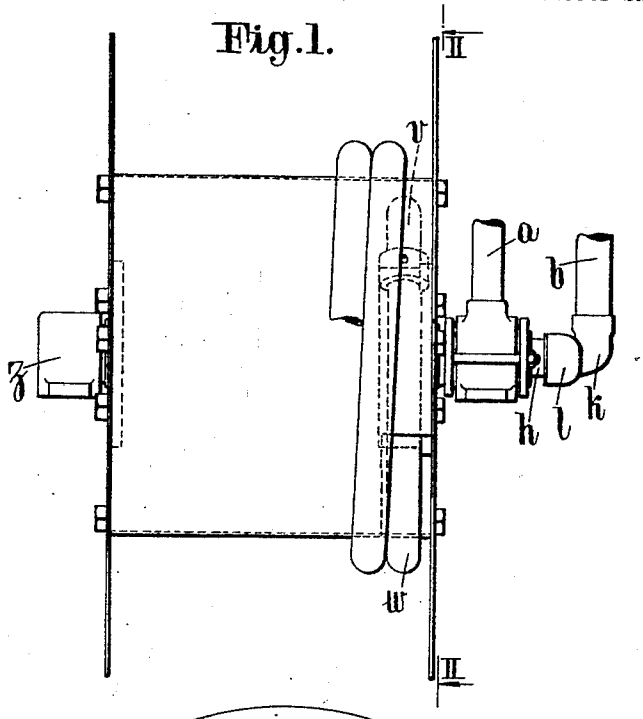
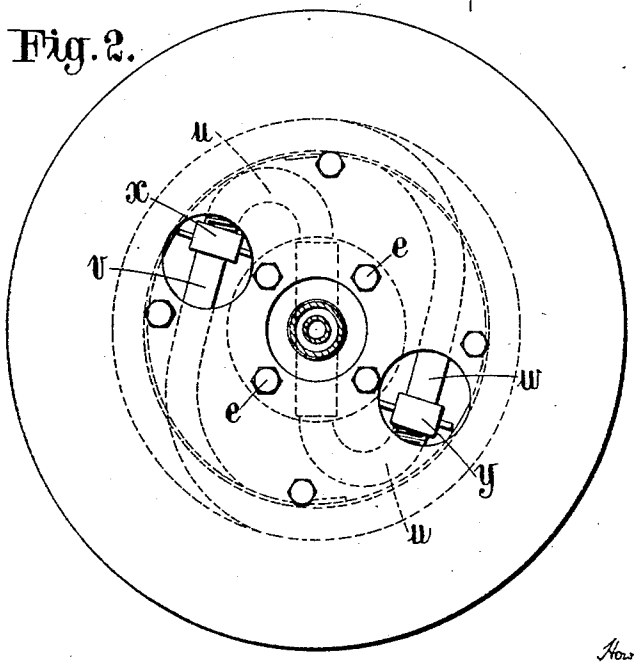


Fig. 2.



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Fig. 3.

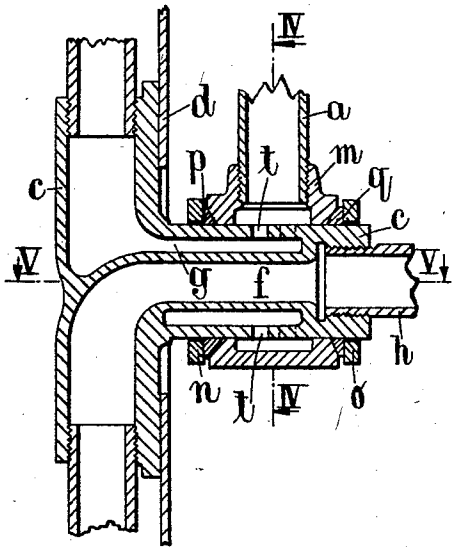
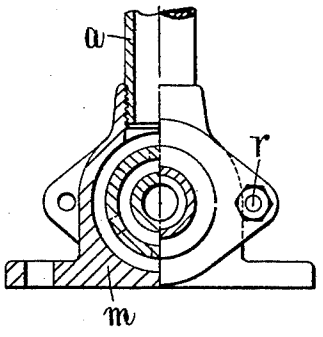


Fig. 4.



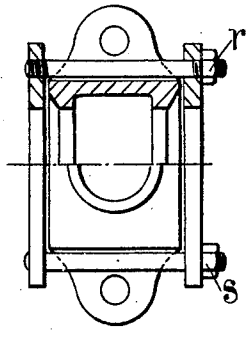


Fig. 5.

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UNITED STATES PATENT OFFICE.

HOWARD EDWIN BEDFORD, OF LONDON, ENGLAND, ASSIGNOR, BY MESNE ASSIGNMENTS, TO PYRENE MANUFACTURING COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF DELAWARE.

REEL FOR DOUBLE-HOSE LINES.

Application filed June 17, 1925. Serial No. 37,814.

To all whom it may concern:

Be it known that I, HOWARD EDWIN BEDFORD, a British subject, and resident of 9 Grosvenor Gardens, London, SW. 1, England, have invented certain new and useful Improvements in Reels for Double-Hose Lines (for which I have filed an application in Great Britain, No. 18412/24, dated 1st August, 1924), of which the following is a specification.

This invention relates to hose reels and its object is to provide a convenient construction of reel adapted to carry two separate hose lines and to provide inlet connections enabling the two hose lines to be permanently connected to two separate liquid supplies. There is often a need for a reel which will allow two different solutions to be supplied to two hose lines so as to enable them to pass separately into the two hose lines without regard to the length of the hose which may be uncoiled. As an example, it may be mentioned that fire extinguishing apparatus are in general use wherein it is necessary to conduct an acid solution and an alkaline solution separately through hose lines and to allow them to mix only when they arrive near the point of ejection through a nozzle to form a fire extinguishing foam. Although the invention is particularly applicable to such apparatus it is not, of course, limited to such.

According to the present invention, the bearing for a hose reel at one side is constructed so that the one liquid passes through the bearing and the journal is constructed with two independent passages into which the two liquids flow and within the side plate of the reel the two passages are permanently connected to the two hose lines. The journal with its passages is preferably made as a single casting secured to the side plate of the reel, one of the passages being co-axial with the journal and having a connection with the supply pipe for the one liquid also running co-axially with the journal. The other supply pipe comes in substantially radially through the bearing within which the journal turns. The liquid from it enters by way of ports into an outer passage in the journal concentric with the co-axial passage and the journal casting is preferably formed so that the two passages within the side plate of the reel turn outwards in opposite directions to points at which the hose lines make permanent connection with the casting.

In order that the invention may be clearly understood and readily carried into effect, one construction of double hose reel in accordance with the present invention and suitable for use in a fire extinguishing plant as above explained will now be described more fully with reference to the accompanying drawings, wherein:—

Figure 1 is a side elevation of the reel;

Figure 2 is a side elevation from the right of Figure 1, the central portion being shown in section on the line II—II in Figure 1;

Figure 3 is a central vertical section to an enlarged scale through the journal formed with the inlet passages showing the connections for the two liquid supplies;

Figure 4 is a vertical section on the line IV—IV in Figure 3; while

Figure 5 is a plan with one half in horizontal section on the line V—V in Figure 3.

The two solutions for producing the fire extinguishing foam are supplied through two fixed pipes *a* and *b*. The two solutions pass from these pipes through the journal at the right-hand side of the reel, as viewed in Figure 1. The journal comprises a casting *c*, which is somewhat annular in shape and is caused to protrude outwardly through a central hole in the side plate *d* of the reel, being placed in position from the inside and then secured by means of four set screws *e* passing through the side plate *d* into the casting *c*. The right-hand end of the casting *c*, as seen most clearly in Figure 3, forms the journal proper of the reel and is cast with two concentric passages both co-axial with the journal itself. The central passage *f* is intended to convey one solution and an outer passage *g* is intended to accommodate the second solution. A pipe *h* is screwed concentrically into the end of the journal and is connected to the supply pipe *b* by an elbow *k* and a union *l* which embodies some form of water-tight joint, allowing the pipe *b* and the elbow *k* to remain stationary,

while the pipe h rotates within it together with the journal c. Such a joint may be of well known construction.

The other solution passes in through the pipe a and the latter is screwed into a bearing member m within which the journal c is free to turn. In order to prevent leakage of the solution between the bearing m and the journal c, a pair of flanged plates n and o fit upon the journal c on either side of the bearing m, and between them and the bearing m there are respectively packing rings p, q which may be impregnated with graphite and grease. The plates n, o are flanged and can be drawn together by diametrically opposite bolts r, s so that the whole arrangement practically constitutes a double stuffing box preventing leakage. The connection between the pipe a and the outer concentric passage g is by way of ports t in the outer wall of the journal c.

As can be seen clearly in Figure 3, the two passages f and g within the side plate d turn radially outwards in opposite directions and within the open mouths of the passages f and g there are screwed respectively a pair of elbow pipes u and the two hose lines v, w are jointed to the elbow pipes u by means of unions x, y of ordinary construction.

The journal or spindle z at the opposite end of the hose reel is merely a plain spindle. The remote ends of the hose lines v, w are brought together in a junction near the discharge nozzle for the foam. Thus if one solution is a solution of sodium bicarbonate containing a foam producing agent, such as licorice or logwood extract, and the other solution is aluminium sulphate, the solutions flow continually to the hose lines quite separately, irrespective of the length of hose line which is being uncoiled and it is possible in this way to keep them apart and to prevent the formation of foam resulting from their interaction until they arrive near the ejection nozzle. Thus the necessity of driving the foam through a long pipe line, which not only affects detrimentally the quality of the foam, but requires considerably more power, is entirely avoided.

The construction described is merely by way of example and the invention is not limited to the precise construction shown. It may, for example, be arranged that the bearing member m is divided by a cross partition into two distinct elements to which the two liquid supplies may flow, in which case the passages f and g instead of being concentric might be segmental in cross section and arranged on opposite sides of the casting c.

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

1. A hose reel comprising a drum, side plates to said drum, journals extending beyond the drum at each end thereof, one of said journals having two separate and independent passages formed therein for the reception and delivery of two separate liquids.

2. A hose reel comprising a drum, side plates to said drum, journals extending beyond the drum at each end thereof, one of said journals having two separate and independent passages formed therein and extending radially outwards on the inner side of one of the side plates.

3. A hose reel comprising a drum, side plates to said drum, a spindle on which the drum rotates and having end portions extending beyond the drum and forming journals therefor, one of said journals being formed with two separate and independent passages, rotatable joint connections secured to the inlet ends of said passages, fixed supply pipes connected to said joint connections and hose pipes connected to the delivery ends of the passages.

4. A hose reel comprising a drum, side plates to said drum, journals extending beyond the drum at each end thereof, one of said journals being formed as a casting, provided with a pair of concentric and independent passages, an intermediate pipe secured to the journal and concentric with one of the passages and a water-tight jointing member rotatably connecting the intermediate pipe to a fixed supply pipe, a bearing rotatably mounted upon the journal and communicating with the other passage and a fixed supply pipe connected to said bearing.

5. A hose reel having a side plate formed with a hole therein, a casting secured to the side plate and having a horizontal portion protruding through said hole and formed with separate and independent passages, fixed supply pipes connected to said casting at the inlet ends of said passages, and hose pipes connected to said casting at the delivery ends of said passages.

6. A hose reel having a side plate, a casting with an outwardly flared portion connected to said plate and a horizontal portion forming a journal for the reel and passing through a hole formed in said side plate, said casting having separate and independent passages formed therein, fixed supply pipes connected to said casting at the inlet ends of the passages and hose pipes connected to said casting at the delivery ends of the passages.

7. A hose reel having a side plate with a hole formed therein, a casting formed with a pair of passages and having an outwardly flared portion secured to the side plate and a horizontal portion passing through the hole in the plate and forming a journal for the reel, a bearing member making a

fluid-tight joint with and rotatably mounted upon the horizontal portion of the casting and communicating with one of the passages, a fixed supply pipe connected to the bearing member, an intermediate pipe secured to the journal and communicating with the other passage, a second fixed supply pipe connected through a fluid-tight joint to the intermediate pipe, and hose pipes connected to the casting at the delivery ends of the passages.

In witness whereof I hereunto subscribe my name this 6th day of June, 1925.

HOWARD EDWIN BEDFORD.