May 9, 1944. J. A. JENSEN 2,348,692

HOSE REEL

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FIG. 2.

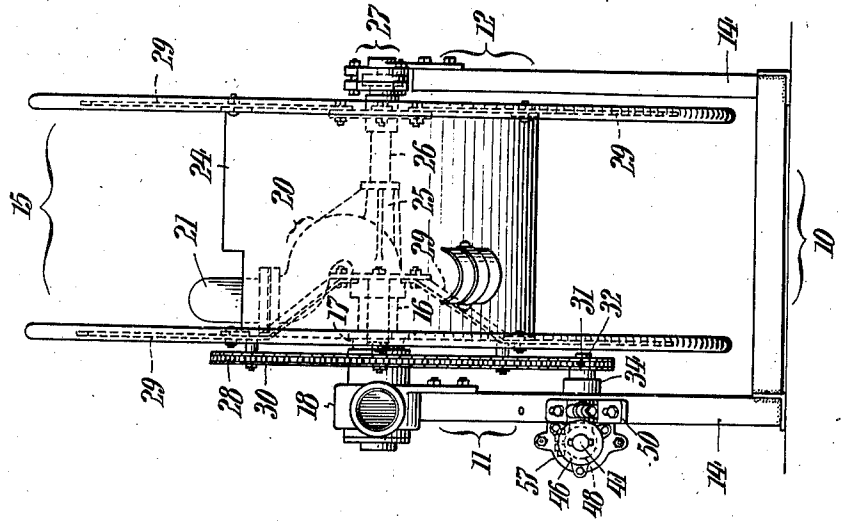
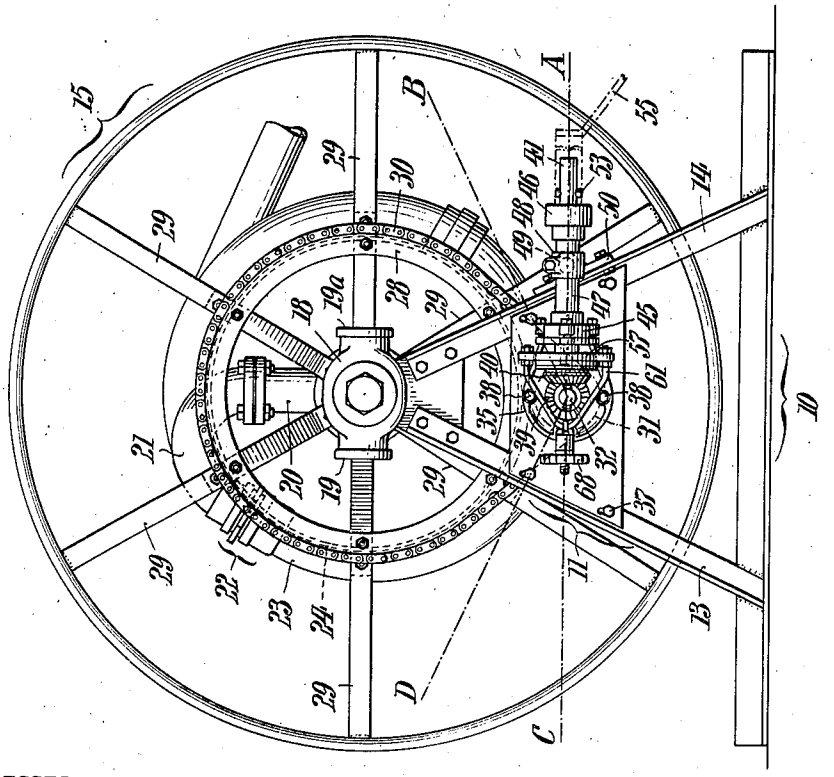


FIG. 1.



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FIG. 6.

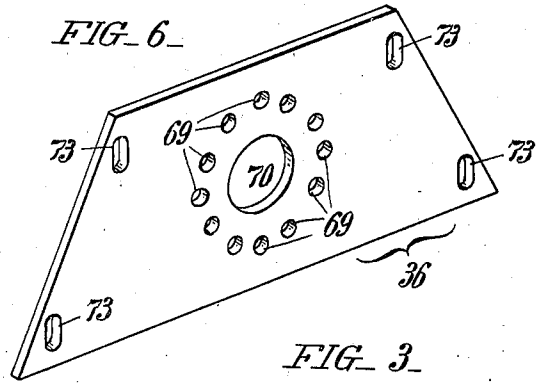


FIG. 5.

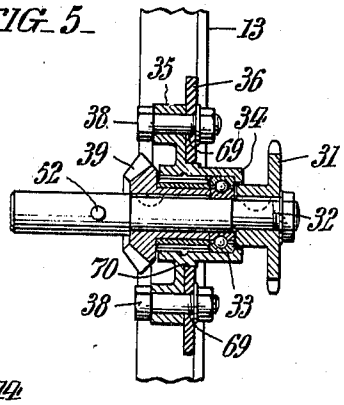


FIG. 3.

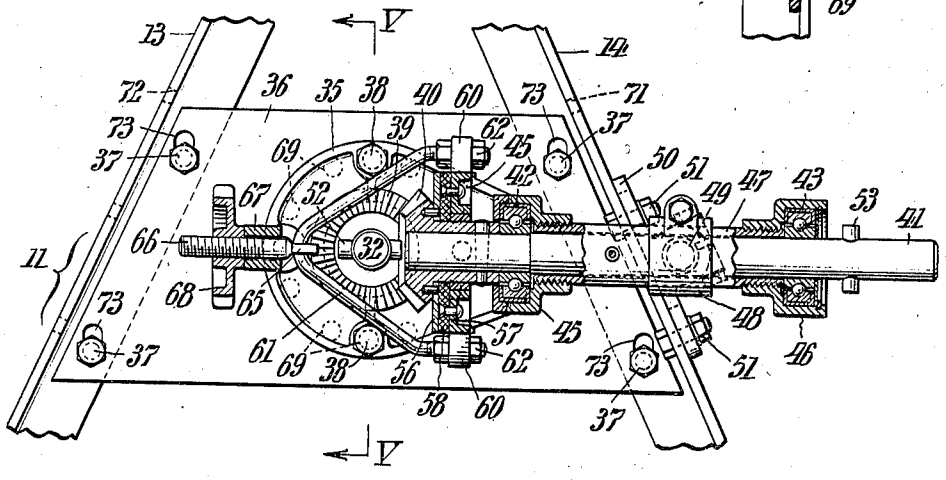
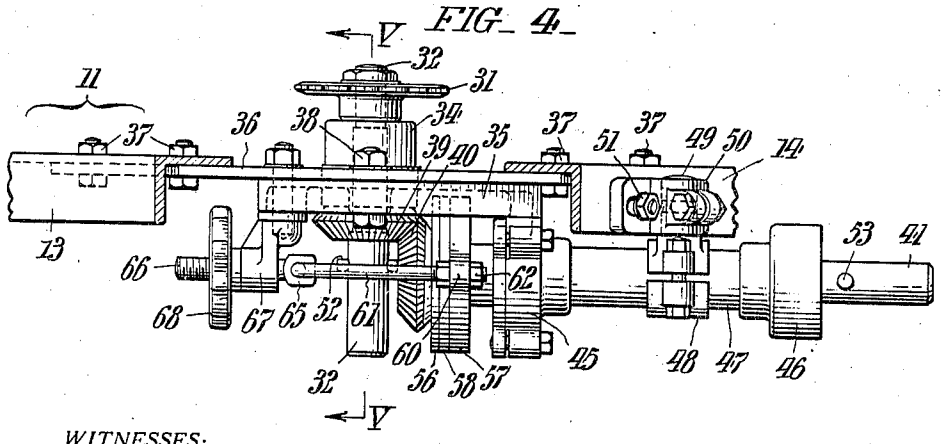


FIG. 4.



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UNITED STATES PATENT OFFICE

2,348,692

HOSE REEL

James A. Jensen, Philadelphia, Pa., assignor to Charles E. Frick, J. Rodman McCoy, John H. Jenson, James A. Jenson, Emerson F. Davis, executor and ancillary executor under the will of George M. Heller, deceased; Guy B. Frick, Charles E. Frick, Jr., G. Donald Whyte, and Fred J. Stackpole, copartners trading under the name of Philadelphia Valve Company, Philadelphia, Pa.

Application April 25, 1942, Serial No. 440,493

5 Claims. (Cl. 74—385)

This invention relates to hose reels, and has reference more particularly to hose reels of the type intended for use on oil delivery trucks and the like. The placement of such reels in various positions and locations on the trucks makes necessary the disposal of the winding mechanisms in correspondingly different positions on them so that they may be readily actuated by the removable hand cranks ordinarily provided for the purpose. To meet these varying requirements, separate non-interchangeable brackets, etc. had to be provided heretofore for supporting the winding mechanisms depending on whether they were to be mounted at the left, right or face sides of the reel frames or standards. This was uneconomical not only from the standpoint of the need of such extra parts and the cost of producing them, but also by reason of the correspondingly numerous types of reels which had to be kept in stock by the manufacturer.

My invention has for its chief aim to overcome the drawbacks above pointed out, which desideratum I attain in practice as hereinafter more fully disclosed, through provision of a universal mounting for the reel driving mechanism which can be secured in different positions on the reel frames in order to adapt the reels for placement in any desired location on the trucks and at the same time render said mechanisms convenient of access for application to them of the actuating crank handles.

Other objects and attendant advantages will appear from the following detailed description of the attached drawings, wherein

Fig. 1 is a view in side elevation of a hose reel suitably embodying my invention.

Fig. 2 shows the elevation of the reel as it appears when viewed from the right in Fig. 1.

Fig. 3 is a fragmentary view on a larger scale corresponding to Fig. 1, with certain parts of the driving mechanism in section.

Fig. 4 is a plan view of the parts shown in Fig. 3.

Fig. 5 is a fragmentary cross section of the reel taken as indicated by the angled arrows V—V in Figs. 3 and 4; and

Fig. 6 is a perspective view of a mounting plate forming a part of the reel structure.

With more detailed reference first more particularly to Figs. 1 and 2 of these illustrations, it will be observed that the hose reel of my invention has an open rectangular base 10 formed from angle iron parts which may be riveted, welded or otherwise rigidly secured together. Rising from the opposite side rails of the base 10 are standards 11 and 12 whereof the side members or struts 13 and 14 are likewise in the form of angle bars appropriately secured at their bottom ends to said base. The axial or hub construction of the hose spool of the reel, which latter is comprehensively designated by the numeral 15, may be generally like that featured in U. S. Patent No. 1,992,750, granted to me on February 26, 1935. As herein more or less diagrammatically shown, it includes a short tube 16 (Fig. 2) which passes through a stuffing box 17 into a hollow bearing 18 at the top of the standard 11, said bearing having diametrically arranged fluid inlets 19, 19a for selective connection by pipe to the tank (not shown) of the truck. To the inner end of the tube 16 is attached an S or ogee fitting 20 with which is associated an elbow 21 for connection thereto by means of a coupling 22, of the hose 23 which is to be wound about the drum 24 of the spool 15. Suitably secured in a boss projection 25 on the fitting 20 in line with the spool axis is a trunnion 26 which is journaled in a bearing 27 at the top of the standard 12.

The driving mechanism for the spool 15 includes a sprocket annulus or ring 28 which is bolted or riveted fast to the spokes 29 of the spider at one side of said spool, and which is connected by a chain 30 with a sprocket pinion 31 at the inner end of a short transverse shaft 32 below said spool. As shown, the shaft 32 is journaled in a ball-bearing 33 housed within the hollow center boss 34 of a bearing member 35 which is mounted on a supporting plate 36 extending between and secured at its opposite ends to the struts 13 and 14 of the standard 11 by bolts 37, said bearing member being in turn secured to said plate by bolts 38 whereof there are three in number disposed in quadrant relation circumferentially of said boss. To the outer end of the shaft 32 is affixed a miter pinion 39 which meshes with a companion miter pinion 40 at the contiguous end of the shaft 41, the latter shaft being shown as horizontally arranged in a position A and extending rightward in Fig. 1. As shown in Fig. 3, the shaft 41 is journaled adjacent its ends in ball-bearings 42 and 43 whereof the first is housed in the cavity of a hollow outward projection 45 on the bearing element 35, while the second is housed in a bell 46 at the distal end of a tube 47 screwed laterally into said projection. Intermediate its ends, the tube 47 is supported by a clamp collar 48 whereof the lateral shank 49 revolvably engages in a winged bracket 50 secured by bolts 51 to the strut 14

of the standard 11. The short transverse shaft 32 (Figs. 4 and 5) and the longitudinal shaft 41 (Figs. 1 and 3) extend outwardly respectively beyond the miter pinion 39 and the bearing 43, and are provided at their outer ends with diametral key pins 52 and 53, for application, bayonet-lock fashion, of an actuating crank handle such as indicated at 55 in Fig. 1.

For the purpose of preventing the reel spool 15 from turning accidentally during travel of the truck on which it is carried, and also to prevent overrunning of the spool 15 as the hose is unwound, I have provided a brake means which includes a pair of opposing disks 56 and 57 whereof the first is secured to the back of the miter pinion 40, and whereof the other is freely mounted on the hub of said pinion and faced with suitable friction lining material 58. As best seen in Figs. 1 and 3, the disk 57 has a pair of radially projecting diametral ears 60 which are pierced for passage through them of the threaded ends of an angular yoke 61, clamp nuts shown at 62 being relied upon to secure the yoke ends to said ear. At its mid point, the yoke 61 is engaged in an eye 65 at the inner end of a screw bolt 66 supported with capacity for endwise adjustment in a lug 67 on the bearing member 35 previously referred to. A hand wheel 68 with its hub threadedly engaging the protruding outer end of the screw bolt 66, serves as a means for adjusting the brake disk 57 toward and away from the companion brake disk 56 through the medium of the yoke 61, in a manner which will be readily understood from Figs. 3 and 4.

In order that the reel may be adapted for placement in different positions and locations on the truck with the shaft 41 arranged in either of the positions B, C and D (Fig. 1) as well as in the position A in which it is illustrated, I have provided, in accordance with my invention, the mounting plate 36, see Fig. 6, with an annular series of holes 69 concentrically arranged about an opening 70 on the boss 34 of said member for selective use of the securing bolts 38. I have also made provisions whereby the bracket 50 for the clamp collar 48 may be differently placed in correspondence with the changed placement of the bearing member. For this purpose, it will be seen from Figs. 1, 2 and 3 that the struts 13 and 14 of the standard 11 are provided with suitably allocated additional holes 71 and 72 for passage of the bolts 51 used to secure the bracket 50. In this connection, it is to be noted that the holes 73 in the supporting plate 36 through which the piercing bolts 37 pass are vertically elongate. Accordingly the plate and all the parts of the reel actuating mechanism carried thereby can be vertically adjusted to take up the slack of the sprocket chain 30 when necessary or desirable.

Having thus described my invention, I claim:

1. Driving mechanism for a hose reel of the character described having a standard to support journals for a horizontal shaft whereon the reel is mounted, said mechanism including a transmission shaft disposed in parallel relation to the reel shaft at a level below the reel shaft and geared thereto; an actuating shaft at right angles to the transmission shaft; a pair of intermeshing bevel gears connecting the transmission and actuating shafts; a bearing member for the transmission and actuating shafts capable of being adjusted about the transmission shaft as an axis; and means for securing the bearing in adjusted positions to the standard.

2. The invention according to claim 1, in which the gearing between the reel and transmission shafts is in the form of a chain; and wherein the bearing member for the transmission and actuating shafts is also adjustable on the standard toward and away from the reel shaft for regulation of chain slack.

3. The invention according to claim 1, further including an adjustable brake means which is mounted on the actuating shaft and carried by the bearing member.

4. Driving mechanism for a hose reel of the character described having a standard to support journals for a horizontal shaft whereon the reel is mounted, said mechanism including a transmission shaft disposed in parallel relation to the reel shaft at a level below the reel shaft and geared thereto; an actuating shaft at right angles to the transmission shaft; a bearing member for the transmission and actuating shafts; a plate attached to the side of the standard; and means for securing the bearing member to the plate with capacity for angular adjustment about the transmission shaft as an axis.

5. The invention according to claim 4, in which the transmission shaft and the reel shaft are geared by a sprocket chain; and in which the plate is secured to the standard with capacity for up-and-down adjustment for regulation of the chain slack.

JAMES A. JENSEN.