May 9, 1939. H. G. DAVIS 2,157,887

AIR AND WATER SERVICE STATION

Filed Oct. 28, 1937 2 Sheets-Sheet 1

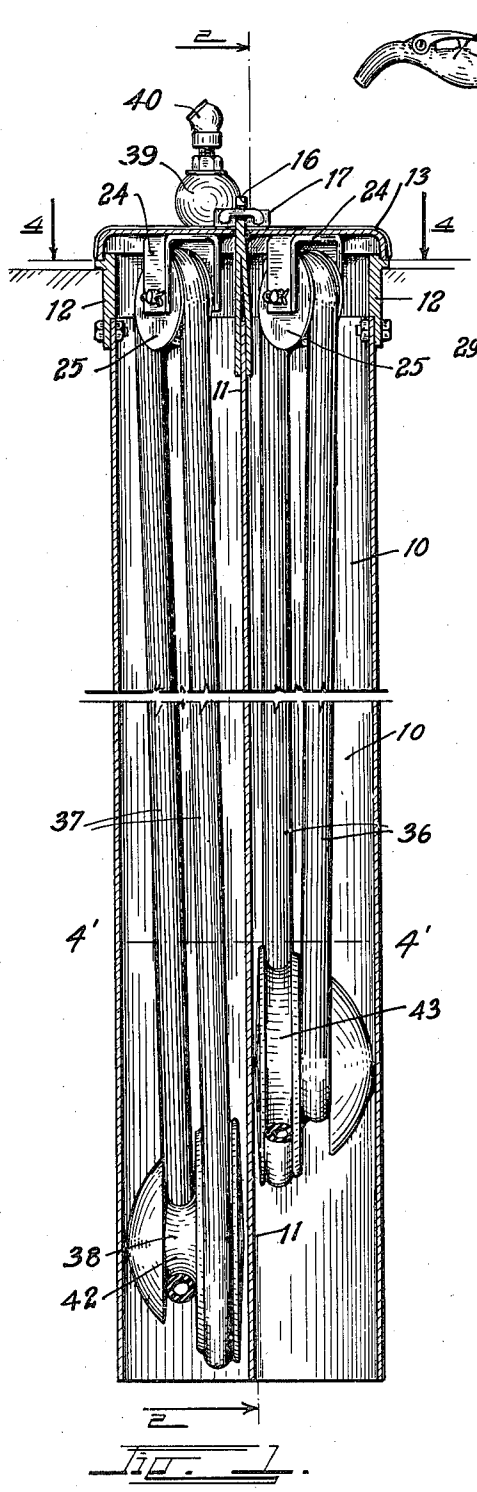


Fig. 1.

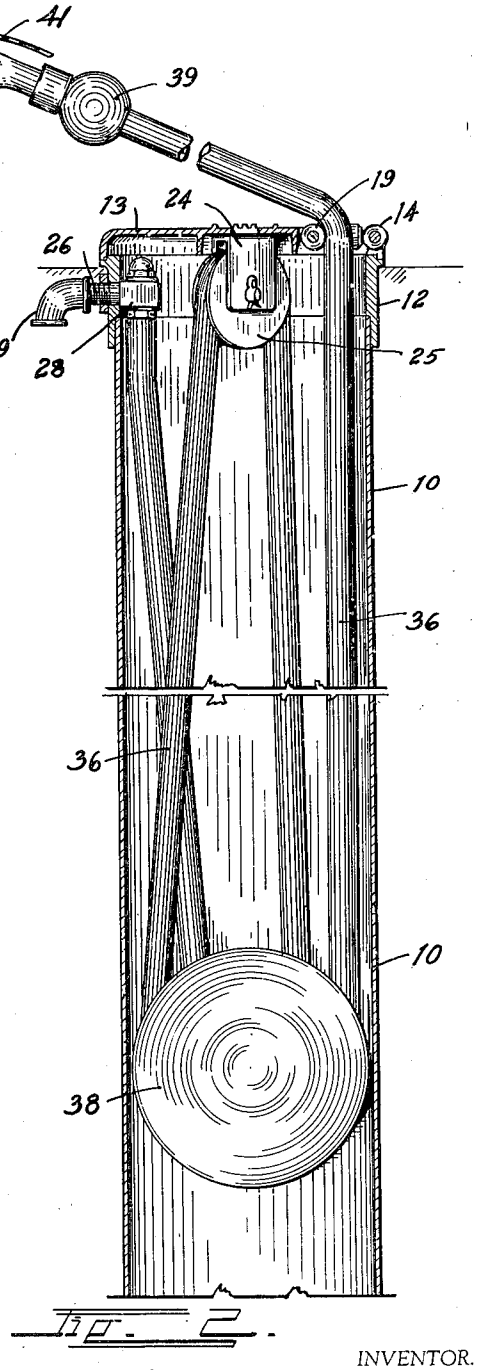


Fig. 2.

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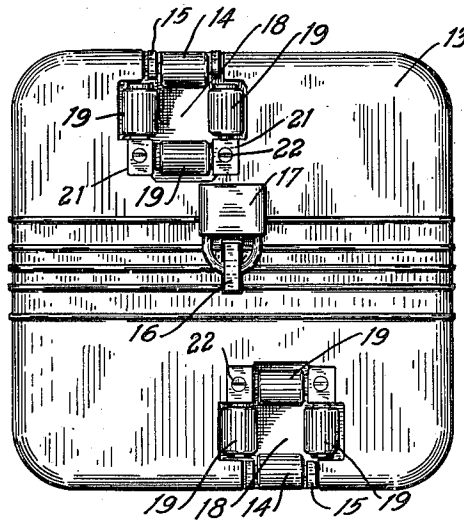


Fig. 3.

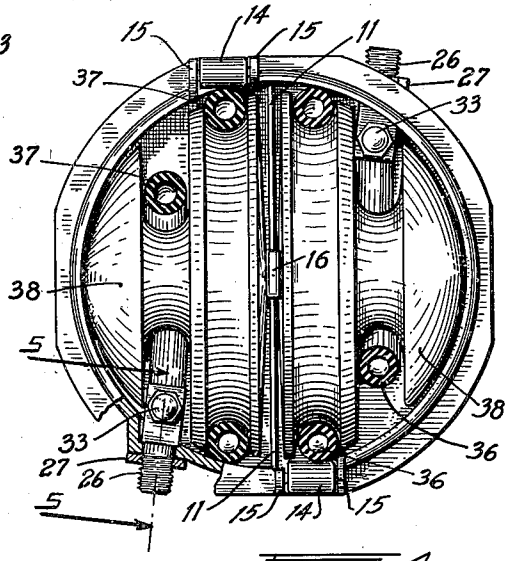


Fig. 4

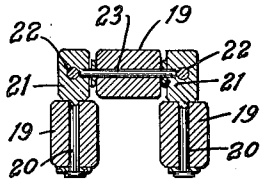


Fig. 6.

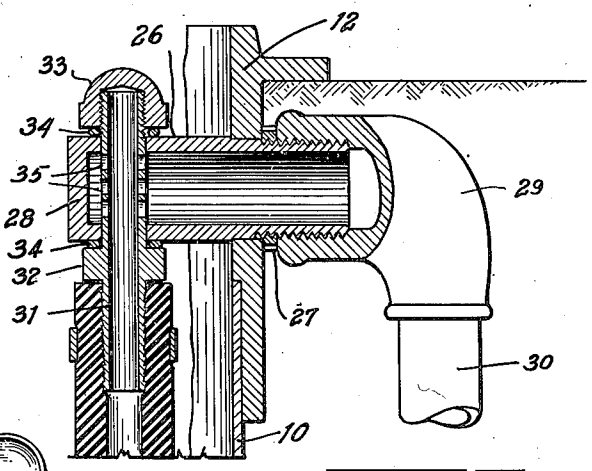


Fig. 5.

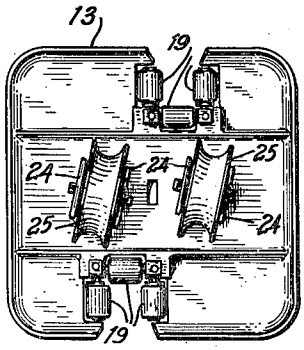


Fig. 7.

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UNITED STATES PATENT OFFICE

2,157,887

AIR AND WATER SERVICE STATION

Harold G. Davis, Denver, Colo.

Application October 28, 1937, Serial No. 171,504

5 Claims. (Cl. 299—77)

This invention relates to an improved combined air and water station for garages, filling stations, and the like of the type illustrated in applicant's prior patents, Nos. 1,866,251 and 1,557,033.

The principal object of this invention is to provide a highly efficient device which will automatically retrieve two independent hoses so that it may be used for containing and protecting both the water and air hoses of a service station.

Other objects of the invention are: to eliminate the usual counterweights and lower pulleys usually employed in such a device and to combine the pulleys and weights in a single element; to provide means for locking the lid in place without the use of a hinge; to provide a novel connector for connecting the hoses to the service pipes which will prevent twisting strains in the hose; and to provide efficient means for preventing wear and tear upon the hoses as they are withdrawn through the lid.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawings which form a part thereof. Like numerals refer to like parts in all views of the drawings and throughout the description.

In the drawings:

Fig. 1 illustrates a vertical section through the improved service station taken on the center line of Fig. 2.

Fig. 2 is a similar section taken on the line 2—2, Fig. 1.

Fig. 3 is a plan view thereof with the hoses removed.

Fig. 4 is a horizontal section taken on the line 4—4, Fig. 1, with the hoses shown in section on the line 4'—4', Fig. 1.

Fig. 5 is a detail section through the service supply nipple taken on the line 5—5, Fig. 4.

Fig. 6 is a detail section through the lid hose rollers.

Fig. 7 is a bottom view of the lid.

The invention comprises: a vertical, cylindrical casing 10 equal to substantially one-fourth of the length of hose desired. The casing is divided into two semi-circular compartments by means of a flat central partition 11.

A cast ring flange 12 is bolted or otherwise secured to the top of the casing 10 for receiving a flanged lid 13, preferably square in shape. The ring flange 12 carries a pair of oppositely positioned rollers 14 mounted in suitable ears 15 formed on the ring flange 12. The central partition 11 terminates in a padlock hasp member 16 which passes through an opening in the lid 13 and which may be locked in place therein by a suitable padlock 17.

The lid 13 contains two hose notches 18 positioned opposite the flange rollers 14. Three lid rollers 19 are secured around each of the lid notches 18. Two of the lid rollers 19 are mounted upon studs 20 extending from attachment blocks 21 which are in turn bolted into notches in the lid 13 by means of suitable screws or bolts 22. The third roller 19 is mounted on a shaft 23 extending between the attachment blocks 21. Therefore, the three rollers are attached as a complete unit by means of the two screws 22. The open side of the notches 18, which are closed by the rollers 14 when the lid is in place, allows the hoses to be easily inserted in the lid without removing the nozzles therefrom.

The water, air, or other fluid to be dispensed is conducted into the casing 10 through a horizontal nipple 26 which is clamped to the casing wall by means of clamp nut 27. The inner extremity of the nipple 26 is closed by means of a head 28. The outer extremities of the nipples 26 are threaded to receive suitable pipe couplings, such as indicated at 29, for connection with a service pipe 30.

The hoses are connected to vertical hose nipple members 31 having wrench flanges 32 intermediate their extremities. Each hose nipple member passes completely through one of the horizontal nipples 26 and is locked therein by means of a cap nut 33 and is sealed thereto by means of suitable sealing washers 34. The nipple member 31 is perforated within the horizontal nipple 26, as shown at 35, to allow communication between the two. The member 31 is free to rotate within the member 26 until the nut 33 is tightened. This allows all of the twisting strains in the hose to be removed before the nipple members are locked in their final positions.

A pair of U-shaped hanger brackets 24 are secured to the bottom of the lid to support a pair of upper pulleys 25. The water hose is illustrated at 36 and the air hose at 37. The air hose termintes in the usual tire filling nozzle 40 and the water hose carries the usual water nozzle 41. These hoses extend downwardly from the nipple members 31, around a relatively small diameter hose groove 42 in a weight member 38, thence upwardly over one of the pulleys 25, thence again downwardly around a large diameter hose groove

43 in the weight member 38, thence upwardly through one of the hose notches 18 to the exterior. Both hoses are provided with rubber stop balls 39 which prevent them from being drawn through the hose grooves in the lid.

It is desired to call particular attention to the weight member 38. In the usual device of this character a heavy counter weight is suspended from a pair of pulleys mounted upon a pulley shaft. This has always been thought necessary since the two pulleys move at different speeds as the hose is withdrawn. In the present device, however, this difference in speeds has been accommodated by the difference in diameter between the large and small hose grooves, the latter being one-third the former in diameter. This allows the weight member 38 to ride upwardly evenly on the hose without slipping and without a tendency to twist, and all pulleys, pulley shafts, hangers, weights, etc. are eliminated. The weight members are formed with a semi-circular profile to fit snugly into the semi-circular cross section of the casing chambers so that they cannot turn or twist nor can they fall from the hoses. It is desired to call attention to the fact that there is an air chamber in the top of each of the vertical hose nipple members 31 above the perforations 35. This chamber has been found to form an expansion space or cushion which accommodates expansion of the water in the hoses and fittings in freezing weather so as to prevent bursting thereof.

The unitary shape and construction of the weight member allows two of them to operate in a single cylindrical casing of a size usually required for a single hose and weight of the ordinary design. The round shape with the strengthening partition allows much lighter metal to be used than in the usual rectangular box type of construction without sacrificing strength. The partition not only serves as a strengthening member but also acts as a guide to separate the two weight members and as a hasp support for attaching the lid.

The unique double nipple fitting also allows quick removal of the hose for replacement or for tightening of the hose fittings. By simply removing the cap nuts 33, the entire hose or its extremity can be lifted from the casing to allow easy access to the hose clamps.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A combined air and water station for automobile servicing comprising: a vertical casing; a lid on said casing provided with hose passages; a pulley attached below said lid; an intake nipple located adjacent the top of said casing; a hose secured at its one extremity to said nipple and extending first downwardly into said casing to form a first loop, thence upwardly over said pulley, thence again downwardly to form a second loop, thence upwardly through the hose opening in said lid; and a floating weight member suspended in said loops; said weight member having a groove of relatively large diameter for receiving said second hose loop and a groove of relatively small diameter for receiving said first hose loop, the diameters of said grooves being proportionate to the speed of travel of said loops as said hose is drawn from said casing.

2. A combined air and water station for automobile servicing comprising: a vertical cylindrical casing; a vertical, flat partition dividing said container into two vertical, semi-circular chambers; a lid closing said container; a pulley journalled on the under side of said lid over each chamber; a supply nipple entering each chamber adjacent the top thereof; a hose extending from each supply nipple first downwardly and upwardly to form a first loop, thence over one of said pulleys, thence downwardly and upwardly through said lid to form a second loop; and a weighted floating pulley member suspended in said loops at each side of said partition, said pulley member having a small diameter groove resting in the first loop and a large diameter groove resting in the second loop, the diameter of said small diameter groove being approximately one-third that of the large diameter groove.

3. A combined air and water station for automobile servicing comprising: a vertical cylindrical casing; a vertical, flat partition dividing said container into two vertical semi-circular chambers; a lid closing said container; a pulley journalled on the under side of said lid over each chamber; a supply nipple entering each chamber adjacent the top thereof; a hose extending from each supply nipple first downwardly and upwardly to form a first loop, thence over one of said pulleys, thence downwardly and upwardly through said lid to form a second loop; a weighted floating pulley member suspended in said loops at each side of said partition, said pulley member having a small diameter groove resting in the first loop and a large diameter groove resting in the second loop, the diameters of said grooves being proportionate to the speed of travel of said hose about said pulley member; and a rounded head on said pulley member imparting a semi-circular outline thereto so that each pulley member will fit snugly into its semi-circular chamber.

4. A combined air and water station for automobile servicing comprising: a vertical cylindrical casing; a vertical, flat partition dividing said container into two vertical, semi-circular chambers; a lid closing said container; a hasp member extending upwardly from said partition through said lid; and means for attaching a locking device to a hasp member above said lid.

5. In a service station of the class described, means for conducting fluid to a hose within a casing comprising: a horizontal nipple member extending through the wall of said casing; means for attaching a service pipe to the outer extremity of said horizontal nipple member, the inner extremity thereof being closed; a vertical tubular, open-ended nipple member; means on the lower extremity of said latter member for securing a hose thereon, the other extremity thereof extending through said first nipple member and being perforated within the latter; and a cap nut locking said second nipple member in said first nipple member and closing the open extremity of the former.

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