

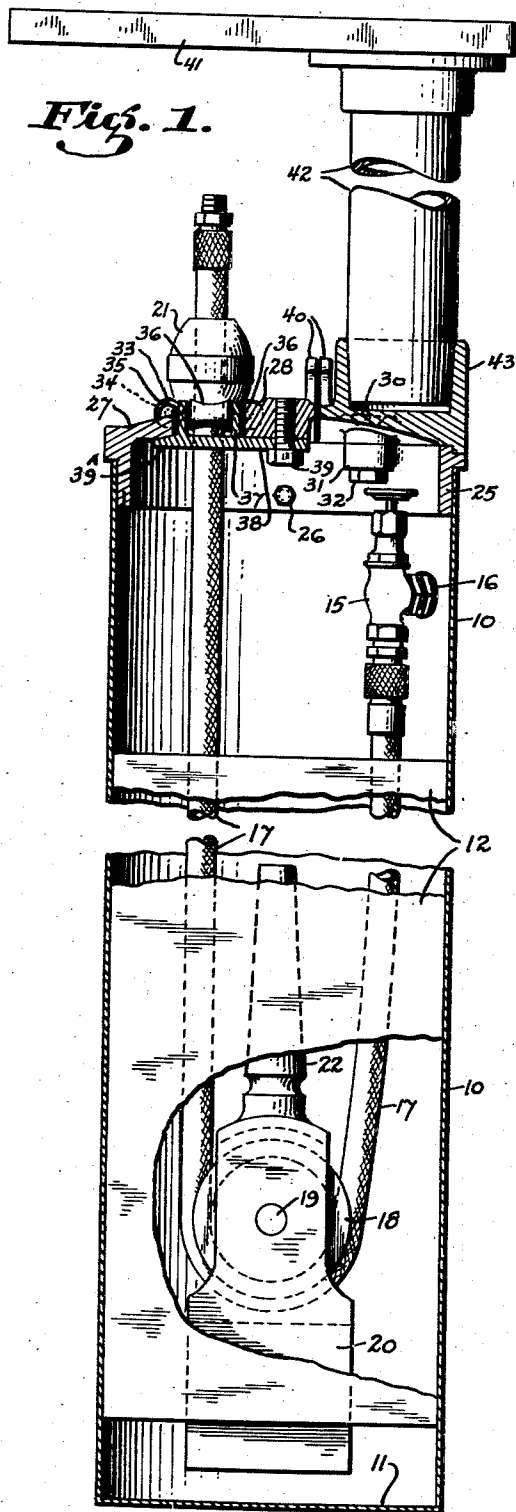
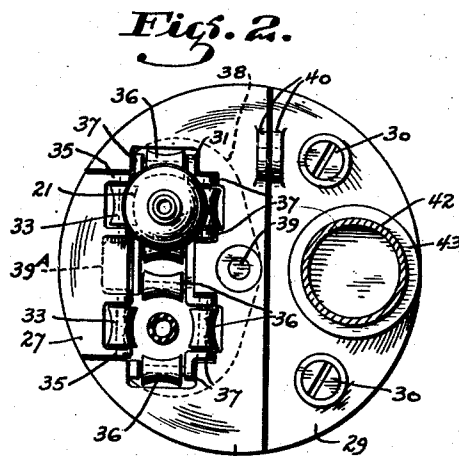
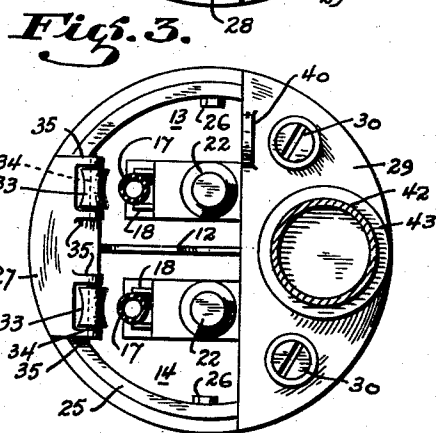
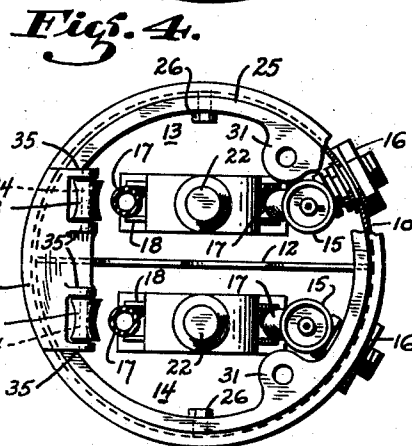
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HOSE WELL

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HOSE WELL

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4 Claims. (Cl. 299-78)

The present invention relates to hose wells, and particularly to a well and hose retrieving mechanism of the kind used in automobile service stations to house and protect air and water service hoses.

Hose wells of the kind referred to generally comprise elongated casings adapted to be sunk below the surface of the ground to provide sub-surface compartments for the reception of hoses. The delivery ends of the hoses project through a cap on the upper end of the casing and any desired length of the hose may be withdrawn for use. Weights within the well serve to retrieve the withdrawn portions of the hoses when they are released.

It is to the hose well cap and the retrieving mechanism that the present invention is particularly directed, and it is the object of the invention to provide a hose well in which the cap and retrieving mechanism insure smooth, positive operation upon withdrawal and retrieving of the hoses.

Further objects of the invention are to provide a compact and convenient arrangement of anti-friction bearings with which the hose engages upon being withdrawn; to provide a cap in which leakage of water into the well is minimized; to provide means for insuring against breaking and damaging of the hose; and to provide means for conveniently locking the hose in the well beneath the cap when the hoses are not in service.

Further objects and advantages of the invention will be made apparent in the following specification, wherein one form of the invention is described in detail by reference to the accompanying drawing.

In the drawing—

Fig. 1 is a central vertical section of a hose well embodying the present invention;

Fig. 2 is a plan view of the hose well;

Fig. 3 is a view similar to Fig. 2 with a portion of the cap of the well removed; and

Fig. 4 is a similar view with a second portion of the cap removed.

As illustrated in Fig. 1 of the drawing, the well casing 10 is of cylindrical form with its lower end closed by an end member 11. The cylindrical form of casing is preferred because a conventional post-hole digger may be used in preparing a hole suitable for its reception, and because of its relatively high resistance against compression forces in case the earth about it settles and tends to press inwardly on its walls. The casing 10 is divided by an internal wall 12 to form two semi-cylindrical chambers, as indi-

cated at 13 and 14 in Fig. 3. This wall is illustrated as formed of a single sheet of material but may be made of spaced sheets to provide a narrow compartment for the reception of an electric heating element of conventional design for use in localities where there is danger of freezing temperatures damaging the water hose in the well.

Each of the chambers 13 and 14 encloses one of a pair of valves 15 supported by fittings 16 (see Fig. 4) which extend through the wall of the casing 10 for connection with conduits not shown which lead to sources of supply of compressed air and water. Depending from each of the valves 15 is a flexible hose 17 which passes under a sheave 18 journaled on a pin 19 which extends through a recess in a weight 20. The delivery ends of the hoses 17 extend through suitable openings in the cap of the cylinder and are provided with enlarged fittings 21 to prevent them from being withdrawn through the openings in the cylinder cap. When it is desired to use either of the hoses, the end which extends through the cap is withdrawn and as the hose passes over the sheave 18 it raises the weight 20 in the casing. The downward gravitational movement of the weight 20 serves to retract the hoses into the casing when the ends are released.

As the hoses are connected with the valves 15 in a manner to cause them to extend downwardly therefrom, there is a tendency upon withdrawing them from the casing too far to bend them too abruptly and cause weakening and breakage at their point of juncture with the valves. In order to prevent damaging the hoses in this manner, the distance that they may be withdrawn from the casing is limited by a stop member in the form of a rod 22 which extends upwardly from the upper end of each of the weights 20 so that upon upward movement of either of the weights, its rod 22 will strike against the under side of the cylinder cap and prevent further withdrawal of the hose before the inner end thereof has been caused to kink at its juncture with the valve 15.

The top closure of the casing 10 comprises an annular collar 25 fitting the upper end of the cylindrical casing, preferably internally as shown, and secured thereto by any suitable means such for example, as cap screws 26 threaded through the collar and projecting through registering openings in the casing wall. A closure cap supported by the collar 25 comprises separable sections 27, 28, and 29. The section 27 which is the smallest of the three cap sections, is permanently secured to the collar 25 and may, as illustrated,

be formed integrally therewith. The section 29 is also secured to the collar but is adapted to be removed to permit access to the valves 15 for the purpose of making repairs or replacements and to permit convenient removal of the weights 20 when necessary. This section is secured to the cap by some semi-permanent means, such, for example, as screws 30 which project downwardly through the cap and enter lugs 31 formed integrally with and projecting inwardly from the collar 25. The screws 30 may project through the lugs 31 and have nuts 32 threaded to their lower ends and accessible from the interior of the casing only in order to prevent their unauthorized removal.

The central section 28 is only temporarily secured to the collar 25 by means presently to be described so that it may be readily removed when it is desired to store the hoses entirely within the well and lock them in an inaccessible position, as may be desired after business hours or when the service station is closed. To facilitate withdrawal of the hoses 17, anti-friction rollers are provided to circumscribe openings in the cap through which the hoses are withdrawn. One side of each of the openings, which are generally rectangular in shape, is formed on the permanent cap section 27, while the other three sides of the openings are formed in the removable cap section 28, so that upon removal of this section, the ends of the hoses may be removed from the openings and let down into the well.

The anti-friction rollers on the side of the openings formed on section 27 are shown at 33 and are journaled on pins 34 which are supported in bearing lugs 35 cast integrally with and projecting upwardly from the cap section 27. The remaining rollers 36, of which there are three for each of the openings, are in accordance with the present invention supported between pairs of bearing lugs 37, all six pairs of which are formed as a part of a roller-supporting plate 38 (see Figs. 1 and 2). This plate 38 is disposed beneath the removable cap section 28 and has an inwardly projecting portion which is perforated for the reception of a cap screw 39 passing upwardly through the plate and threaded into a suitable opening in the removable section 28. This cap screw thus supports the plate 38 with respect to the section 28. The plate 38 also has an outwardly projecting tongue 39A which underlies the inner edge of the permanent cap section 27.

The top of the removable section 28 and the top of the section 29 are provided with upwardly extending lugs 40 which have registering perforations through which a pin, padlock, or other securing means may be inserted. When the removable section 28 is in place, the tongue 39A underlying the section 27 and the pin or padlock through the perforated lugs 40 serve to lock the section 28 against removal. This prevents unauthorized tampering when the hoses are in service and when the hoses are out of service, that is to say, when the section 28 has been removed and the delivery ends of the hoses let down into the well, the section 28 may be replaced and locked to prevent access to the hoses.

The plate 38 which supports the bearing lugs 37 for the rollers 36 may be removed by removal of the single cap screw 39 so that upon wear or breakage of any of these rollers or their bearings, a new set of six rollers may be installed in a single operation. This is an advantage because of the close proximity of the rollers and their bearings

to each other and the consequent difficulty in making repairs.

The entire top surface of the cap which is formed by the separate sections 27, 28, and 29 is formed with sufficient curve or slope, as indicated in Fig. 1, so that moisture will tend to drain away from the openings through which the hoses extend instead of draining toward said openings and eventually flowing into the casing. As it is undesirable that any appreciable quantity of moisture be allowed to enter the casing, further precaution is taken against rain or snow falling directly on top of the casing by the provision of a roof or table 41 supported directly above the cap of the well on an upright post 42, the lower end of which is received in a socket 43 which is formed integrally with the cap section 29. This socket may be internally threaded and a thread provided on the lower end of the post 42, but it is preferable that a slight taper connection be made to facilitate removal of the table 41 and post 42 when it is desired to remove the cap section 29. This table 41 serves not only to protect the well from moisture but may be used to support a cash drawer or to support receptacles for cloths or tools used in the ordinary servicing of an automobile.

While the present invention has been more or less specifically described for purposes of illustration, it is to be understood that various changes may be resorted to in the construction and arrangement of its several parts within the scope of the appended claims.

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

1. In a hose well having a casing for the reception of service hoses, a cap for the upper end of said casing and comprising an annulus secured to the casing, a cap section formed integrally with said annulus, a second cap section secured to the annulus by means accessible from the interior of the casing, and a third cap section having a portion underlying the first named cap section, and means by which it may be locked to said second cap section.

2. In combination with a hose well comprising a casing adapted to be sunk into the ground and to contain air and water valves and service hoses leading therefrom, a cap forming a closure for the upper end of said casing and having openings through which said hoses may be withdrawn, said cap comprising separate sections one of which normally overlies said valves and carries a socket, a table supporting post set in said socket, a table fixed on said post in sheltering position over the cap, and another of said cap section being readily removable to permit the hoses to be stored within the casing.

3. In a hose well the combination of a casing adapted to be sunk into the ground and to contain service hoses, a sectional cap for the casing, one section having an opening for the passage of the hoses, a plate on the underside of said section and carrying a plurality of anti-friction rollers around the hoses, and which rollers protrude upwardly through the said opening in the section, and a single securing means accessible from the interior of the well only for securing said plate to the underside of the section.

4. In a hose well having a casing for the reception of service hoses, a cap for the upper end of said casing comprising an annular portion secured to said casing, a cap section formed integrally with said annulus, a second cap section secured to said annular portion by means ac-

cessible from the interior of said casing, hose-bearing rollers rotatably mounted on said cap section, a third cap section, a bearing plate secured thereto from within said casing by a single bolt and having a tongue underlying said first 5 named cap section, a plurality of hose-bearing

rollers rotatably mounted on said bearing plate, and means formed on said third cap section for locking said third cap section to said second cap section.

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