Aug. 26, 1930. R. B. HILLS 1,774,141

SERVICE BOX

Filed March 14, 1928

FIG. 1

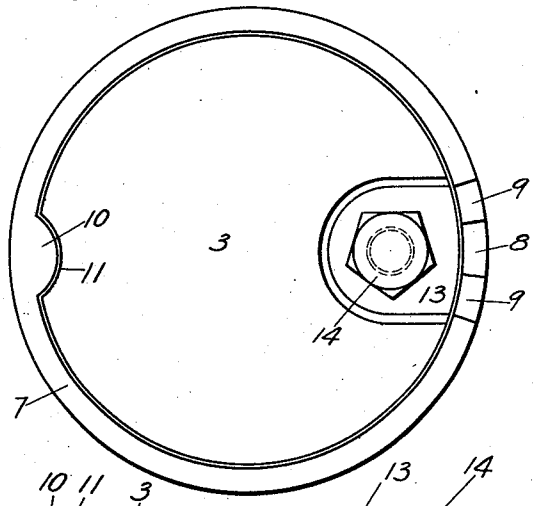


FIG. 2

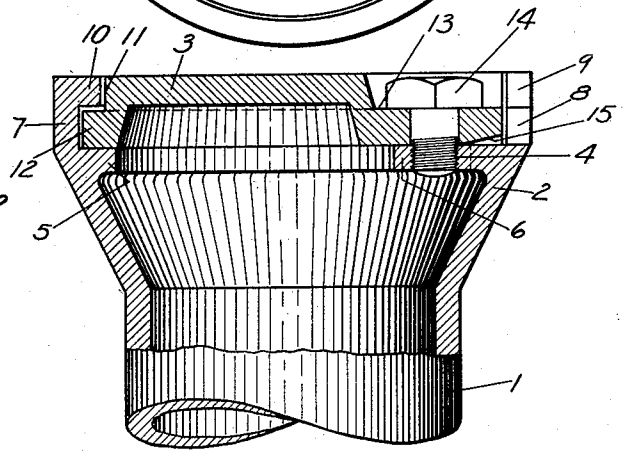
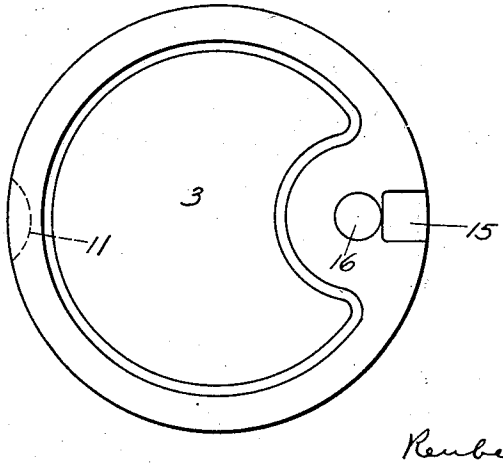


FIG. 3



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UNITED STATES PATENT OFFICE

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SERVICE BOX

Application filed March 14, 1928. Serial No. 261,619.

My invention relates to service boxes for inclosing and protecting the stems of street valves in water-supply systems, such boxes being located generally in side walks.

It is customary to provide the service pipes extending from street water mains to adjacent buildings with street shut-off valves, in order to enable the water department to shut off the water from each and every such building, and such valves are, as a rule, located in the ground under the side walks, and each must be provided with opening and closing means. To this end service boxes are provided in the side walks, with the tops of said boxes flush with the upper surfaces of the walks, and said boxes must be so constructed that they can be opened only with suitable implements which unauthorized persons would not be likely to carry. The primary object of my invention is, therefore, to provide a service box of this character which is comparatively simple and inexpensive, and capable of being opened readily by one whose duty it is to obtain access to the valve stem covered or inclosed by said box, but difficult to open by an unauthorized person unsupplied with the proper implements.

Another object is so to construct the box that dirt is prevented from working down around the cover into the interior of the body.

Still another object is to enable the cover of the box to be removed without difficulty in the event the same become tightly fixed in place by dirt or ice.

Other objects and advantages will appear in the course of the following description.

I attain the objects and secure the advantages of my invention by the means illustrated in the accompanying drawings, in which—

Figure 1 is a top plan of a service box which embodies a practical form of my invention; Fig. 2, a central, vertical section through said box, the lower portion of the same being broken off, and, Fig. 3, a bottom plan of the box cover.

Similar reference characters designate similar parts throughout the several views.

This box comprises a comparatively large, hollow or tubular member or pipe 1 which has a flaring or enlarged top 2 and a cover 3, together with a bolt 4. The pipe 1 is of sufficient length to extend downward into the ground a sufficient distance to inclose the stem, or at least the upper portion of said stem, of a shut-off valve. The pipe 1 with its enlarged top portion 2 may be termed a body, and, when the same is in place, the top of the rim thereof is flush with the upper surface of the side walk into which the box is set, and the upper surface of the cover 3 is also flush with said side-walk surface.

The flaring part 2 has an interior flange 5 to form a seat for the cover 3, and there is an inward extension or lug 6 from said flange on one side that is tapped to receive the bolt 4. Adjacent to the lug 6, in an annular rim 7 which forms the upper part of the flaring member 2, is a notch or recess 8 that opens through the top of said rim, and preferably has upwardly diverging sides 9 to facilitate introducing an implement from above into said recess. Extending inwardly from the upper part of the rim 7 opposite to the recess 8 is an overhanging lip 10.

The cover 3 is circular, and is cut down from the top on one side to form a recess 11 to receive the lip 10, and provide below said recess a lip 12 to be received under said first-named lip. In the top of the cover 3 opposite to the recess 11 is a depression 13 to receive the head 14 of the bolt 4, and enable said head to be located below the top of said cover when said bolt is in place. The cover 3 below the depression 13 is bored to accommodate the bolt 4, such bore and the tapped opening in the lug 6 being in line with each other when the cover 3 is properly positioned on the flange 5. From the bore in the cover 3 for the bolt 4 the under side of said cover inclines upwardly and downwardly to the outer edge of the cover, as shown at 15. This inclined or bevel part 15 is in line with the notch 8, when the cover 3 is in proper position in the top of the body, and then affords space between said part and the adjacent part of the flange 5, for the introduction of the point of an implement beneath the edge of the cover. The bottom of the notch 8 is flush with the top of the flange 5.

Preferably the bolt 4 is provided with a

pentagonal head, as 14, in order to prevent said bolt from being removed with an ordinary wrench. With a wrench or implement designed especially to engage the head 14, however, the bolt 4 can be screwed in and out without difficulty.

The cover 3 is placed in position by first inserting the lip 12 beneath the lip 10, and then lowering said cover into a horizontal position on the flange 5. After this the bolt 4 is inserted in the opening in said cover and screwed down into the opening in the lug 6 until said bolt is tight. The cover 3 is now held securely in place in the top of the body by the bolt 4 and the lips 10 and 12, the head 14 of said bolt being in the depressed part 13 below the top surface of said cover.

In order to remove the cover it is first necessary to unscrew and remove the bolt 4; then the cover is tilted upwardly on the side opposite to that where the lip 12 is located fulcruming on said lip, until the latter clears the lip 10, when said cover is free to be taken from the body and laid on one side. In the event the interstices between contiguous parts of the body and cover be filled with dirt, or with ice, so that said cover can not be readily lifted from the flange 5, a suitable implement is inserted in the notch 8 and introduced beneath the beveled part 15 of the cover, and pressed downwardly at the outer end, after the bolt 4 has been removed, with the result that the cover is forced upwardly, breaking the dirt or ice seal, when it can be taken without further difficulty from the body.

As a matter of fact, it is almost always necessary to pry the cover 3 upwardly by introducing an implement beneath the beveled part 15, because there is no other way to obtain a hold on the cover of a character which would enable it to be lifted from its seat.

Sufficient clearance is left between the contiguous side edges of the cover 3 and rim 7 to enable the cover to be placed in position on the flange 5 and removed therefrom in the manner explained.

The flange 5 not only supports the cover 3, but prevents dirt and other matter from working down past the cover into the body below.

The bore in the cover 3 for the bolt 4 is designated by the numeral 16 in Fig. 3.

Minor changes in the shape, size, construction, and arrangement of some or all of the parts of this service box may be made, without departing from the spirit of my invention or exceeding the scope of what is claimed.

I claim:

1. In a service box of the class described comprising in combination, a member having a continuous wall to provide a tubular body, a member extending inwardly from all sides of said wall at a distance below the upper end thereof having an axial opening therethrough to form an internal rim extending around said wall providing an annular seat at the upper side thereof, a lug extending inwardly from said rim at one side of the body and a lip extending inwardly from the upper end of said wall at the opposite side of said body, the underside of said lip terminating at a distance above said seat to form a recess between the underside of said lip and said seat and the said lug being provided with a screw threaded opening, the said wall of the body at one side thereof being provided with a radial slot extending therethrough the lower end of which is flush with said seat and which extends upwardly therefrom throughout the length of the wall above said seat, a cover having peripheral seat portions at its under side for resting on the seat and lug of the body and being provided with a recess on its periphery at the upper side thereof to form a lip therebelow, which lip and recess co-operate with the lip and recess of the body when the cover is seated thereon to hold said cover and body against relative rotation, a bolt extending through said cover for engaging said screw threaded opening, the seat portion of the cover being provided with a radially extending groove which inclines upwardly with respect thereto and is disposed so as to align with said notch of the body wall when the cover is in place on the seat thereof, the said groove co-operating with the seat of the body to provide a tapering passageway at the underside of the cover for receiving an implement which may extend through said slot for separating said cover and body.

2. In a service box of the class described comprising in combination, a member having a continuous wall to provide a tubular body, a member extending inwardly from all sides of said wall at a distance below the upper end thereof having an axial opening therethrough to form an internal rim extending around said wall providing an annular seat at the upper side thereof, a lug extending inwardly from said rim at one side of the body and a lip extending inwardly from the upper end of said wall at the opposite side of said body, the underside of said lip terminating at a distance above said seat to form a recess between the underside of said lip and said seat and the said lug being provided with a screw threaded opening, the said wall of the body at one side thereof being provided with a radial slot extending therethrough the lower end of which is flush with said seat and which extends upwardly therefrom throughout the length of the wall above said seat, a cover having peripheral seat portions at its under side for resting on the seat and lug of the body and being provided with a recess on its periphery at the upper side thereof to form a lip therebelow, which lip and recess co-operate with the lip and

recess of the body when the cover is seated thereon to hold said cover and body against relative rotation, a bolt extending through said cover for engaging said screw threaded opening, the seat portion of the cover being provided with a radially extending groove which inclines upwardly with respect thereto and is disposed so as to align with said notch of the body wall when the cover is in place on the seat thereof, the said groove cooperating with the seat of the body to provide a tapering passageway at the underside of the cover for receiving an implement which may extend through said slot for separating said cover and body, the said slot in the wall of the body and the groove in the seat portion of the cover being disposed in alignment with the said lug of the body.

REUBEN B. HILLS.