Nov. 18, 1930. E. D. RATTIGAN 1,782,012

HYDRANT

Filed May 5, 1928

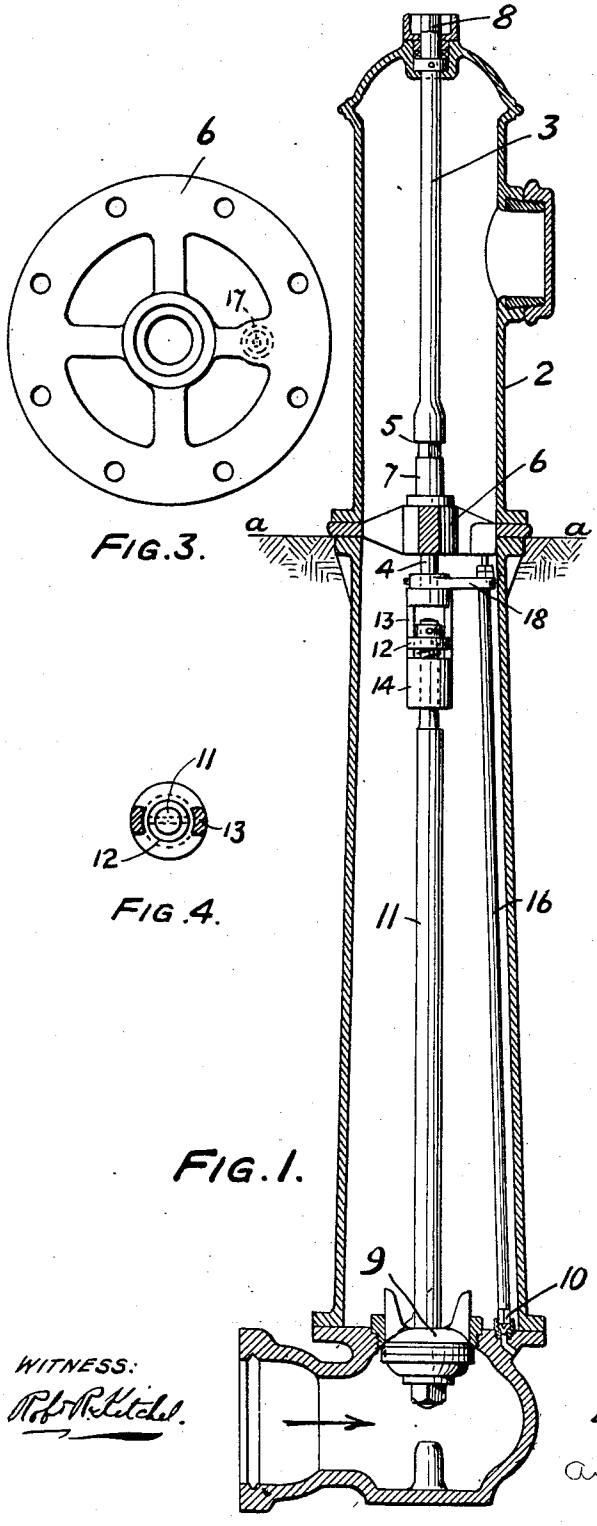

FIG. 1.

FIG. 4.

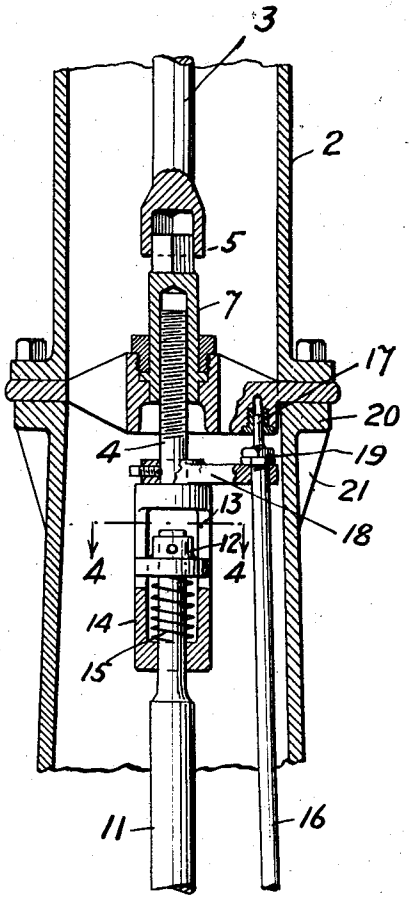

FIG. 2.

WITNESS:

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UNITED STATES PATENT OFFICE

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HYDRANT

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Objects of the present invention are, first, to provide for inexpensive and quick repairs of hydrants broken by the impact of trucks, which is a frequent occurrence, or otherwise; second, to so construct and combine the valve gear and casing or housing that the valve gear is contained in operative condition in the buried portion of the housing so that the top portion of the housing above the ground can be removed by violence or otherwise and replaced without disturbing the buried portion of the housing and its contained mechanism; third, to provide that the projecting part of the housing shall be more easily broken than the buried portion of the housing; and fourth, to provide a hydrant especially useful as a street hydrant in that it can be readily repaired without excavation and without necessitating the maintenance of a supply of a large number of repair parts.

The invention comprises the improvements to be presently described and finally claimed.

In the following description reference will be made to the accompanying drawing forming part hereof and in which

Figure 1 is a central vertical section of a hydrant embodying features of the invention.

Fig. 2 is an enlarged sectional view of certain of the parts shown in Fig. 1.

Fig. 3 is a top or plan view of the rod guide shown in Figs. 1 and 2, and

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 2.

In the drawing 1 and 2 are the sections of a housing or casing. 3 and 4 are the sections of a valve rod and between these sections there is a slip coupling 5. 6 is a rod guide and it is arranged between the sections 1 and 2 of the housing and below the slip coupling 5. The valve rod 4 has screw thread engagement with a nut 7 revolubly mounted in the rod guide 6 and turnable by means of the section 3 of the valve rod, so that when the rod 3 is turned in one direction or the other as by means of a wrench or key applied to the end 8 of the rod, which projects through a packing or gland at the top of the housing 2, the rod 4 is drawn upward or pushed downward.

The valve mechanism shown on the drawing will now be described. 9 is the admission valve and it closes with the pressure in the main and opens against the pressure in the main. 10 is a drainage valve. The valve 10 is closed before the valve 9 is opened and the valve 9 is closed before the valve 10 is opened.

The stem 11 of the valve 9 has affixed to it the head 12 which is notched for the accommodation of the bars 13 of the barrel 14 fast to the rod 4 and provided with a seat for the spring 15 which operates between the head 12 and the barrel 14. The stem 16 of the valve 10 works in a cavity 17 provided in the rod guide 6. The arm 18 fast to the rod 4 has an opening through which the stem 16 passes for freedom of motion. The nuts 19 on the stem 16 serve to permit the arm 18 to lift the valve 10 but the valve 10 and its stem 16 close by gravity.

The hydrant is installed in the manner shown on the drawing so that the section 1 of the housing is buried beneath the ground level, generally indicated at *a*, and the section 2 of the housing is above the ground level, thus if the section 2 be run into by a truck or vehicle it will break at or above the ground level, the coupling 5 may disengage the section 4 of the rod leaving the latter in position in the rod guide and without disturbing the valve mechanism, consequently repairs can readily be made by the employment of a new section 2 of housing and a new section 3 of rod, if necessary. It follows from this that it is not necessary to carry a number of repair parts in stock and also that repairs can be made without excavation. To insure the described operation the flange 20 of the housing section 1 may be reinforced as indicated by the ribs 21 so as to make it stronger and consequently less subject to breakage than the flange and adjacent parts of the section of housing 2. As shown in Fig. 1 the admission valve 9 is closed, the drainage valve 10 is open and the spring 15 is under slight compression. To admit water the nut is turned in proper direction to push the section of rod 4 downward.

This moves the rod 18 downward permitting the valve 10 to close by gravity and

finally the top of the barrel presses upon the end of the stem 11, thus opening the valve 9. To turn off the supply of water the section of rod 3 is turned to move the rod 4 upward. The result of this is that the barrel traveling upward first by compressing the spring 15 closes the valve 9, and then, still traveling upward, lifts the arm 18 and valve 16 opening the overflow 10.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details of construction and arrangement and matters of mere form without departing from the spirit of the invention which is not limited to such matters or otherwise than the prior art and the appended claims may require.

I claim:

1. A hydrant comprising a sectional housing, a sectional valve rod having between its sections a detachable coupling, a rod guide clamped between the flat faces of flanges provided on the sections of the housing, main valve mechanism, the lower section of the valve rod attached at one end to the main valve and guided at the other end by the rod guide, a lost motion connection for vertical movement between the lower and the adjacent section of the rod, an auxiliary valve having a stem guided in said rod guide, and a connection for actuating said auxiliary valve attached to said adjacent section of the valve rod above the lost motion connection.

2. A hydrant comprising two flanged sections forming a housing, a rod guide clamped between and in facial contact with the flanges on said housing and having an enlarged central portion, a sectional valve rod extending through said rod guide, a slip coupling between sections of said rod in one section of said housing, a lost motion connection between sections of said rod in the second section of said housing, and a valve in the second section of said housing.

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